भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड
भारत सरकार का उपक्रम
कोच्चि रिफ़ाइनरी

BHARAT PETROLEUM CORPORATION LIMITED
A Govt. of India Enterprise
Kochi Refinery

KR.HSE.ENV.05. HSSE.HECCR/01/2026/ J-11011/43/2016 - IA-II (I)
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 Nos. J-11011/43/2016-IA-II (I) dated **20.10.2016;** issued to the **"Motor Spirit Block Project"** of M/s Bharat Petroleum Corporation Ltd, Kochi at Ambalamugal".

Please find the enclosed compliance reports on the various conditions extended by MoEF &CC, pertaining to the half year period from **1st October 2025 to 31st March 2026** for the said project.

Thanking you,

Very truly yours
For BPCL Kochi Refinery.

Suresh K S
Dy. General Manager (HSE - Environment)

Encl:
1. Six Monthly Compliance Report
2. Stack Emission Details
3. Ambient Air Details
4. Treated Water effluent discharge report

CC:

1.
The Member Secretary
Central Pollution Control Board
Parivesh Bhawan
East Arjun Nagar, New Delhi- 110032

2.
The Member Secretary
Kerala State Pollution Control Board
Plamoodu Junction
Pattom Palace, Thiruvananthapuram - 695 004

Compliance Status of Environmental Clearance conditions for installation of "Motor Spirit Block Project" at BPCL – Kochi Refinery, project accorded by EC No. J-11011/43/2016-IA-II (I) dated **20.10.2016**

Status of the project: Project commissioned in 2021		
	COMMENTS	**Compliance Status as on 31.03.2026**
SPECIFIC CONDITIONS:		
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 18th March 2008.	Complied. BPCL Kochi Refinery complies with the environmental standards applicable to the Petroleum Oil Refinery Industry notified under the Environment (Protection) Rules, 1986, vide G.S.R. 186(E) dated 18th March 2008, as amended from time to time. Emission and effluent standards are monitored regularly, and all applicable pollution control systems are operated and maintained to ensure continued compliance with the prescribed norms.
ii	Continuous on - line stack monitoring for SO2, NOx and CO of all the stack shall be carried out.	Complied. Online Continuous Emission Monitoring Systems (CEMS) have been installed on all applicable stacks for continuous monitoring of SO_2, NO_x, and CO. The monitoring data are transmitted to the KSPCB and CPCB servers, and emissions are maintained within the prescribed statutory limits.
iii	The process emissions [SO_2 NOx, HC (Methane & Non-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, 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. Process emissions are monitored regularly and maintained within the standards prescribed under the Environment (Protection) Act, 1986. Continuous emission monitoring and periodic monitoring of VOCs, benzene, methane, and non-methane hydrocarbons are carried out, and fugitive emissions are controlled through the LDAR programme. Appropriate corrective actions are taken in the event of any malfunction of pollution control systems to ensure continued compliance with the prescribed standards.
iv	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	LDAR program is being conducted in regular interval and records are keeping. A list of all potential HC/VOC emission points like flanges, valve

	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.	gland, pump seal etc. in MSBP has been identified. Leak Detection and repair program to detect and control HC/VOC emissions is in place for MSBP units. A well-defined preventive maintenance schedule for pumps, valves, pipelines as being practiced in our running plants is implemented for MSBP. Gas detectors are provided at strategic locations for detecting leakages.
v	SO_2 emissions after expansion from the plant shall not exceed 1579 kg/hr. and further efforts shall be made for reduction of SO_2 load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H_2S emissions. The overall sulphur recovery efficiency of Sulphur Recovery Unit with tail gas treating shall not be less than 99.9%.	Complied. Sulphur rich off gases from new project unit is treated in the existing Sulphur recovery units (SRU). BPCL-KR is complied with the SO_2 emissions limit of 1579 Kg/ Hr. New GT and HRSG envisaged in project proposals have been dropped during detailed engineering stage based on steam and power optimization. Power requirement is drawn from the state grid. One of the stacks is therefore eliminated. Process heaters have been designed for LNG firing; LNG firing provision is provided to MSBP heaters to reduce SO2 emission.
vi	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 includes sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, by-product (elemental sulphur), atmospheric emissions etc.	Complied-Sulphur balance is being maintained in Refinery on monthly data basis as part of environmental monitoring.
vii	Flare gas recovery system shall be installed.	New Flare system was proposed in the project report. However, based on inputs from selected Process Licensor, mitigated flare load is found to be less, hence Flare load from MSBP is connected to existing flare system. A Flare gas recovery system is commissioned as part of the Integrated Refinery Expansion Project (IREP). This has been communicated to MoEF&CC vide letter dated 11th December 2018 and 5th July 2019.

viii	Ambient air quality monitoring stations, {PM10, PM2.5, SO2, NOx, H2S, mercaptan, non-methane-HC and Benzene} shall be set up in the complex in consultation with Kerala State Pollution Control Board (KSPCB), based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modelling exercise to represent short terms GLCs.	6 nos. of AAQMS are installed at different locations inside / outside refinery premises and are online monitored by PCB. KSPCB visited BPCL-KR to identify additional requirement of AAQMS as part of MSBP and recommended that 2 manual sample points would be sufficient in addition to 6 No's of existing AAQMS. The same was updated in the MSBP plot plan and sent to KSPCB, Trivandrum for approval. KSPCB vide letter ref PCB/ HO/ HWM/ 416/ 90 dated 20/ 01/ 2020 approved the same. An Annual Rate contract is in place for carrying out sampling and analysis of ambient air quality within the Refinery.
ix	Total water requirement from River Periyar after implementation of IREP and BS VI project shall not exceed 1372.2 m3/hr. and prior permission shall be obtained from the competent authority.	Total freshwater requirement for MSBP will be 125M3/hr. Govt.of Kerala has given approval for drawing maximum of 3083.3m3/hr. water from river Periyar. The total freshwater requirement for BPCL KR post MSBP will be limited within 3083.3 m3/ hr. The number 1372.2 M 3/ hr. seems to have come in place of 3083.3M3/hr as an error in the Environmental Clearance Letter. This was intimated to MoEF&CC along with minor design changes in detailed engineering phase. Letter in this regard has been submitted to MoEF&CC dated 11th December2018 and 5th July 2019. Acknowledgement received from MoEF&CC dated 11.9.2019
x	As proposed, Industrial effluent generation shall not exceed 5.6 m3/hr. from proposed expansion and treated in the effluent treatment plant. Treated effluent shall be recycled/reused within the factory premises. Domestic sewage shall be treated in sewage treatment plant (STP).	All effluent generated is being treated in the existing refinery ETP. There will be no untreated effluent discharge from MSBP complex. Domestic sewage is treated in existing refinery STP.
xi	Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.	Complied. Oil catchers/oil traps have been provided at all potential oil-contaminated locations in the rain/storm water drainage system. These are regularly inspected, cleaned, and maintained to prevent oil contamination of storm water and nearby water bodies.

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.	Complied. The project is operated in compliance with all the stipulations and conditions prescribed by the Kerala State Pollution Control Board (KSPCB), the Government of Kerala, and other applicable statutory authorities.
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.	Noted. Reference on minor changes in the EC has been communicated to MoEF&CC vide letter dated 11th December 2018 and 5th July 2019. Acknowledgement received from MoEF&CC dated 11.9.2019.
iii	The locations of ambient air quality monitoring stations shall be decided in consultation with the KSPCB 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.	6 nos. of AAQMS are already installed at different locations inside refinery premises and are online monitored by PCB. KSPCB visited BPCL-KR to identify additional requirement of AAQMS as part of MSBP and recommended that 2 manual sample points would be sufficient in addition to 6 No's of existing AAQMS. The same was updated in the MSBP plot plan and sent to KSPCB, Trivandrum for approval. KSPCB vide letter ref PCB/ HO/ HWM/ 416/90 dated 20/ 01/ 2020 provided their consent. An Annual Rate Contract is in place for carrying out sampling and analysis of ambient air quality within refinery.
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).	To minimize Sound, engineering practice has incorporated in the design as prescribed under EPA rules. Equipment selection has been done taking into consideration of restricting noise levels to acceptable limits. A continuous Noise monitoring station has been installed near to MSBP based on the recommendation from the State PCB. The recorded values are well within the limit as per norms.
v	The Company shall harvest rainwater from the rooftops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water	Facilities are made for diverting rainwater from roof tops to recharge ground water.

vi	During transfer of materials, spillages shall be avoided, and garland drains be constructed to avoid mixing of accidental spillages with domestic wastewater and storm water rains.	Drains are constructed for each unit and separate storm water drain is constructed outside unit periphery to avoid mixing of accidental spillages with storm water.
vii	Usage of Personnel Protection Equipment by all employees/ workers shall be ensured.	Usage of PPEs within plant area is already enforced in BPCL KR.
viii	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Complied. Regular training on the safe handling of chemicals, occupational health and safety, and emergency response is imparted to employees. Periodic medical examinations are conducted in accordance with statutory requirements and the refinery's occupational health policies.
ix	The company shall also comply with the environmental protection measures and safeguards proposed in the project report submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of Environmental management, risk mitigation measures and public hearing relating to the project shall be implemented.	Complied-All recommendations of EIA study are complied. Operation phase - Facilities for detection and monitoring of emissions are installed and put online for all MSBP units. As part of Environmental Management Plan, saplings are planted to increase green cover, facilities for rain water harvesting are made and sampling stations are added for monitoring air quality. All effluents is being treated in existing ETP.
x	The company shall undertake CSR activities and all relevant measures for improving the socio-economic conditions of the surrounding area.	BPCL undertakes CSR activities every year as per Government guidelines. Various activities are carried out to improve socio-economic condition of area near to project site.
xi	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	As part of eco-development, BPCL has been acquired around 52 acres of land in the east & north side of MSBP site, which is utilized as green cover. MSBP project is an eco-development measure as the auto fuel quality will comply with BS-VI standards. Sulphur in MS will reduce from 50 ppm to 10 ppm with resulting reduction in vehicular pollution.
xii	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	BPCL-KR is having a separate Environment Management cell to carry out environmental management and monitoring functions. BPCL-KR also has well equipped Centralized Quality Control Laboratory. The same facility is utilized for MSBP.
xiii	The company shall earmark sufficient funds for recurring cost per annum to implement the	Industrial and domestic effluents from MSBP is treated in existing treatment

	conditions stipulated by the Ministry of Environmental and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.	Plants. Incremental cost for yearly operation has been budgeted. A list of all potential HC/VOC emission points like flanges, valve gland, pump seal etc. in MSBP has been identified. Leak Detection and repair program to detect and control HC/VOC emissions is in place for all the units in MSBP.
xiv	A copy of the clearance letter shall be sent by the project proponent to be concerned Panchayat, Zila Parisad/Municipal Corporation, Urban local Body and the local NGO, if any, from who suggestions/ representations, if any, were received while processing the proposal.	BPCL-KR has complied with this condition.
xv	The project Proponent shall also submit Six monthly reports on the status of compliance of the stipulated Environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective regional office of MoEF, the respective Zonal Office of CPCB and the Kerala State Pollution Control Board. A copy of Environmental clearance and six-monthly compliance status report shall be posted on the website of the company.	Six-monthly compliance reports are submitted in December (for the period April to September) and in June (for the period October to March). These reports are submitted to the Regional Office of the MoEF&CC and are also uploaded on the BPCL website.
xvi	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the Kerala 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	Complied. The Environmental Statement (Form-V) for each financial year ending 31st March is prepared and submitted to the Kerala State Pollution Control Board (KSPCB) in accordance with the provisions of the Environment (Protection) Rules, 1986, as amended from time to time. The Environmental Statement is also uploaded on the company's website for public access, in compliance with the Environmental Clearance condition.
xvii	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	BPCL- KR has complied with this condition.
xviii	The project authorities shall inform the regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project	The board approval for the MSBP project was obtained on 24/02/2016. The date of start of project is considered from the environmental clearance on 20th October 2016.

Air Quality data for the period 1st APRIL 2025 to 30th 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 Annual 50	No limits are prescribed	Daily 80 Annual 40	Daily 400 Annual 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annual 60	Daily 60 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 Annual 50	No limits are prescribed	Daily 80 Annual 40	Daily 400 Annual 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annual 60	Daily 60 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 Annual 50	No limits are prescribed	Daily 80 Annual 40	Daily 400 Annual 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annual 60	Daily 60 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 1st APRIL 2025 to 30th 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 Annual 50	No limits are prescribed	Daily 80 Annual 40	Daily 400 Annual 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annual 60	Daily 60 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 Annual 50	No limits are prescribed	Daily 80 Annual 40	Daily 400 Annual 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annual 60	Daily 60 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 Annual 50	No limits are prescribed	Daily 80 Annual 40	Daily 400 Annual 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annual 60	Daily 60 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 1st APRIL 2025 to 30th 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 30th 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	**BPCL Kochi Refinery** **Post Bag No.2, Ambalamugal, Kochi, Kerala**
2. Authorisation No. (CTO) and date of Issue	1. **PCB/HO/EKM-II/ICO-R/03/2022**dated **05.02.2022**, for the IREP units. 2. **PCB/HO/EKM-2/ICO-R/07/2023**dated **08.08.2023**, for the Old Refinery units 3. **KSPCB/ER1/ICO/10039049/2023**dated **23/09/2023** for the Shore Tank Farm project. 4. **KSPCB/ER2/ICO/10034459/2023**dated **18/10/2023** for Heat Traced Pipeline project. 5. **PCB/HO/EKM-II/ICO-R/05/2022,** dated **31/03/2022** for PDPP 6. **PCB/HO/EKM-II/ICO-R/06/2022**dated **07/04/2022** for Motor Spirit Block project.
7. Name of the occupier / authorised person and full address with telephone no., fax number and e-mail	**Chacko. M Jose** **Executive Director - BPCL Kochi Refinery** Post Bag No.2, Ambalamugal, Kochi Ph: 0484-2722061 Extn: 1102 Fax: 0484 2721095
8. Production during the year (product wise), wherever applicable: **Total Feed charge 17656031 MT**	

Bharat Petroleum Corporation Limited
Kochi Refinery

Part A - To be filled by hazardous waste generators.

Part - A	To be filled by Hazardous category wise		
1	Total quantity Generated: Waste Category wise		
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
15	Chemical / Oil Sludge from ETP	1-35.3	8373.82
		Total (MT)	11014.805

** Not Classified as Hazardous waste

Bharat Petroleum

Bharat Petroleum Corporation Limited
Kochi Refinery

Part - A (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
		TOTAL	2640.985

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

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 a er 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

QUALITY CONTROL DEPARTMENT
BPCL-KOCHI REFINERY, AMBALAMUGAL

BOREWELL WATER TEST REPORT

Bore well Water-16
Date of Sample: 10.02.2026
Date of Testing: 13.02.2026

KR. TECH.QC.26. BWEL.WATR

Sl No	Test Parameters	Unit	Method	Result	Acceptable limit
1	pH	-	IS 3025 (P:11)	7.3	6.5 – 8.5
2	Oil	mg/L	IS 3025 (P:39)	Nil	nil
	Metals				
3	Silver (as Ag)	mg/L	IS13428 Annex J	BDL (MDL=0.005)	0.1 (Max)
4	Aluminium (as Al)	mg/L	IS 3025 (P:55)	BDL(MDL=0.002)	0.03 (Max)
5	Boron (as B)	mg/L	IS 3025 (P:57)	BDL(MDL=0.01)	0.5 (Max)
6	Barium (as Ba)	mg/L	IS13428 Annex F	BDL(MDL=0.01)	0.7 (Max)
7	Calcium (as Ca)	mg/L	IS 3025 (P:40)	19	75 (Max)
8	Cadmium (as Cd)	mg/L	IS 3025 (P:41)	BDL(MDL=0.001)	0.003 (Max)
9	Chromium (as Cr)	mg/L	IS 3025 (P:52)	BDL(MDL=0.01)	0.05 (Max)
10	Copper (as Cu)	mg/L	IS 3025 (P:42)	BDL(MDL=0.01)	0.05 (Max)
11	Iron (as Fe)	mg/L	IS 3025 (P:53)	0.09	0.3 (Max)
12	Magnesium (as Mg)	mg/L	IS 3025 (P:46)	2.9	30 (Max)
26	Manganese (as Mn)	mg/L	IS 3025 (P:59)	BDL(MDL=0.01)	0.1 (Max)
13	Nickel (as Ni)	mg/L	IS 3025 (P:54)	BDL(MDL=0.01)	0.02 (Max)
14	Molybdenum (as Mo)	mg/L	IS 3025 (P:02)	BDL (MDL=0.002)	0.07 (Max)
15	Lead (as Pb)	mg/L	IS 3025 (P:47)	BDL(MDL=0.01)	0.01 (Max)
16	Zinc (as Zn)	mg/L	IS 3025 (P:49)	0.02	5 (Max)
17	Arsenic (as As)	mg/L	IS 3025 (P:37)	BDL(MDL0.005)	0.01 (Max)
18	Mercury (as Hg)	mg/L	IS 3025 (P:48)	BDL(MDL0.0001)	0.001(Max)
19	Selenium (as Se)	mg/L	IS 3025 (P:56)	BDL(MDL=0.001)	0.1 (Max)
20	Antimony (as Sb)	mg/L	APHA:3113B	BDL(MDL=0.001)	Max0.1

BDL: Below Detection Limit
MDL: Minimum Detection Limit

Jayendran Nair M K
Manager (Quality Control)

QUALITY CONTROL DEPARTMENT
BPCL-KOCHI REFINERY, AMBALAMUGAL

BOREWELL WATER TEST REPORT

Bore well Water-26
Date of Sample: 09.01.2026
Date of Testing: 12.01.2026

KR. TECH.QC.26. BWEL.WATR

Sl No	Test Parameters	Unit	Method	Result	Acceptable limit
1	pH	-	IS 3025 (P:11)	7.2	6.5 – 8.5
2	Oil	mg/L	IS 3025 (P:39)	Nil	nil
	Metals				
3	Silver (as Ag)	mg/L	IS13428 Annex J	BDL (MDL=0.005)	0.1 (Max)
4	Aluminium (as Al)	mg/L	IS 3025 (P:55)	BDL(MDL=0.002)	0.03 (Max)
5	Boron (as B)	mg/L	IS 3025 (P:57)	BDL(MDL=0.01)	0.5 (Max)
6	Barium (as Ba)	mg/L	IS13428 Annex F	BDL(MDL=0.01)	0.7 (Max)
7	Calcium (as Ca)	mg/L	IS 3025 (P:40)	24	75 (Max)
8	Cadmium (as Cd)	mg/L	IS 3025 (P:41)	BDL(MDL=0.001)	0.003 (Max)
9	Chromium (as Cr)	mg/L	IS 3025 (P:52)	BDL(MDL=0.01)	0.05 (Max)
10	Copper (as Cu)	mg/L	IS 3025 (P:42)	BDL(MDL=0.01)	0.05 (Max)
11	Iron (as Fe)	mg/L	IS 3025 (P:53)	0.14	0.3 (Max)
12	Magnesium (as Mg)	mg/L	IS 3025 (P:46)	2.7	30 (Max)
26	Manganese (as Mn)	mg/L	IS 3025 (P:59)	BDL(MDL=0.01)	0.1 (Max)
13	Nickel (as Ni)	mg/L	IS 3025 (P:54)	BDL(MDL=0.01)	0.02 (Max)
14	Molybdenum (as Mo)	mg/L	IS 3025 (P:02)	BDL (MDL=0.002)	0.07 (Max)
15	Lead (as Pb)	mg/L	IS 3025 (P:47)	BDL(MDL=0.01)	0.01 (Max)
16	Zinc (as Zn)	mg/L	IS 3025 (P:49)	0.03	5 (Max)
17	Arsenic (as As)	mg/L	IS 3025 (P:37)	BDL(MDL0.005)	0.01 (Max)
18	Mercury (as Hg)	mg/L	IS 3025 (P:48)	BDL(MDL0.0001)	0.001(Max)
19	Selenium (as Se)	mg/L	IS 3025 (P:56)	BDL(MDL=0.001)	0.1 (Max)
20	Antimony (as Sb)	mg/L	APHA:3113B	BDL(MDL=0.001)	Max0.1

BDL: Below Detection Limit
MDL: Minimum Detection Limit

Jayendran Nair M K
Manager (Quality Control)

QUALITY CONTROL DEPARTMENT
BPCL-KOCHI REFINERY, AMBALAMUGAL

BOREWELL WATER TEST REPORT

Bore well Water-12
Date of Sample: 28.01.2026
Date of Testing: 31.01.2026

KR. TECH.QC.26. BWEL.WATR

Sl No	Test Parameters	Unit	Method	Result	Acceptable limit
1	pH	-	IS 3025 (P:11)	6.9	6.5 – 8.5
2	Oil	mg/L	IS 3025 (P:39)	Nil	nil
	Metals				
3	Silver (as Ag)	mg/L	IS13428 Annex J	BDL (MDL=0.005)	0.1 (Max)
4	Aluminium (as Al)	mg/L	IS 3025 (P:55)	BDL(MDL=0.002)	0.03 (Max)
5	Boron (as B)	mg/L	IS 3025 (P:57)	BDL(MDL=0.01)	0.5 (Max)
6	Barium (as Ba)	mg/L	IS13428 Annex F	BDL(MDL=0.01)	0.7 (Max)
7	Calcium (as Ca)	mg/L	IS 3025 (P:40)	18	75 (Max)
8	Cadmium (as Cd)	mg/L	IS 3025 (P:41)	BDL(MDL=0.001)	0.003 (Max)
9	Chromium (as Cr)	mg/L	IS 3025 (P:52)	BDL(MDL=0.01)	0.05 (Max)
10	Copper (as Cu)	mg/L	IS 3025 (P:42)	BDL(MDL=0.01)	0.05 (Max)
11	Iron (as Fe)	mg/L	IS 3025 (P:53)	0.11	0.3 (Max)
12	Magnesium (as Mg)	mg/L	IS 3025 (P:46)	3.0	30 (Max)
26	Manganese (as Mn)	mg/L	IS 3025 (P:59)	BDL(MDL=0.01)	0.1 (Max)
13	Nickel (as Ni)	mg/L	IS 3025 (P:54)	BDL(MDL=0.01)	0.02 (Max)
14	Molybdenum (as Mo)	mg/L	IS 3025 (P:02)	BDL (MDL=0.002)	0.07 (Max)
15	Lead (as Pb)	mg/L	IS 3025 (P:47)	BDL(MDL=0.01)	0.01 (Max)
16	Zinc (as Zn)	mg/L	IS 3025 (P:49)	0.03	5 (Max)
17	Arsenic (as As)	mg/L	IS 3025 (P:37)	BDL(MDL0.005)	0.01 (Max)
18	Mercury (as Hg)	mg/L	IS 3025 (P:48)	BDL(MDL0.0001)	0.001(Max)
19	Selenium (as Se)	mg/L	IS 3025 (P:56)	BDL(MDL=0.001)	0.1 (Max)
20	Antimony (as Sb)	mg/L	APHA:3113B	BDL(MDL=0.001)	Max0.1

BDL: Below Detection Limit
MDL: Minimum Detection Limit

Jayendran Nair M K
Manager (Quality Control)

QUALITY CONTROL DEPARTMENT
BPCL-KOCHI REFINERY, AMBALAMUGAL

BOREWELL WATER TEST REPORT

Bore well Water-44
Date of Sample: 07.11.2025
Date of Testing: 10.11.2025

KR. TECH.QC.26. DRINK.WATR

Sl No	Test Parameters	Unit	Method	Result	Acceptable limit
1	pH	-	IS 3025 (P:11)	6.9	6.5 – 8.5
2	Oil	mg/L	IS 3025 (P:39)	nil	nil
	Metals				
3	Silver (as Ag)	mg/L	IS13428 Annex J	BDL (MDL=0.005)	0.1 (Max)
4	Aluminium (as Al)	mg/L	IS 3025 (P:55)	BDL(MDL=0.002)	0.03 (Max)
5	Boron (as B)	mg/L	IS 3025 (P:57)	BDL(MDL=0.01)	0.5 (Max)
6	Barium (as Ba)	mg/L	IS13428 Annex F	BDL(MDL=0.01)	0.7 (Max)
7	Calcium (as Ca)	mg/L	IS 3025 (P:40)	20	75 (Max)
8	Cadmium (as Cd)	mg/L	IS 3025 (P:41)	BDL(MDL=0.001)	0.003 (Max)
9	Chromium (as Cr)	mg/L	IS 3025 (P:52)	BDL(MDL=0.01)	0.05 (Max)
10	Copper (as Cu)	mg/L	IS 3025 (P:42)	BDL(MDL=0.01)	0.05 (Max)
11	Iron (as Fe)	mg/L	IS 3025 (P:53)	0.12	0.3 (Max)
12	Magnesium (as Mg)	mg/L	IS 3025 (P:46)	1.9	30 (Max)
26	Manganese (as Mn)	mg/L	IS 3025 (P:59)	BDL(MDL=0.01)	0.1 (Max)
13	Nickel (as Ni)	mg/L	IS 3025 (P:54)	BDL(MDL=0.01)	0.02 (Max)
14	Molybdenum (as Mo)	mg/L	IS 3025 (P:02)	BDL (MDL=0.002)	0.07 (Max)
15	Lead (as Pb)	mg/L	IS 3025 (P:47)	BDL(MDL=0.01)	0.01 (Max)
16	Zinc (as Zn)	mg/L	IS 3025 (P:49)	0.03	5 (Max)
17	Arsenic (as As)	mg/L	IS 3025 (P:37)	BDL(MDL0.005)	0.01 (Max)
18	Mercury (as Hg)	mg/L	IS 3025 (P:48)	BDL(MDL0.0001)	0.001(Max)
19	Selenium (as Se)	mg/L	IS 3025 (P:56)	BDL(MDL=0.001)	0.1 (Max)
20	Antimony (as Sb)	mg/L	APHA:3113B	BDL(MDL=0.001)	Max0.1

BDL: Below Detection Limit
MDL: Minimum Detection Limit

Jayendran Nair M K
Manager (Quality Control)

QUALITY CONTROL DEPARTMENT
BPCL-KOCHI REFINERY, AMBALAMUGAL

BOREWELL WATER TEST REPORT

Bore well Water-31
Date of Sample: 11.10.2025
Date of Testing: 13.10.2025

KR. TECH.QC.26. DRINK.WATR

Sl No	Test Parameters	Unit	Method	Result	Acceptable limit
1	pH	-	IS 3025 (P:11)	7.4	6.5 – 8.5
2	Oil	mg/L	IS 3025 (P:39)	Nil	nil
	Metals				
3	Silver (as Ag)	mg/L	IS13428 Annex J	BDL (MDL=0.005)	0.1 (Max)
4	Aluminium (as Al)	mg/L	IS 3025 (P:55)	BDL(MDL=0.002)	0.03 (Max)
5	Boron (as B)	mg/L	IS 3025 (P:57)	BDL(MDL=0.01)	0.5 (Max)
6	Barium (as Ba)	mg/L	IS13428 Annex F	BDL(MDL=0.01)	0.7 (Max)
7	Calcium (as Ca)	mg/L	IS 3025 (P:40)	22	75 (Max)
8	Cadmium (as Cd)	mg/L	IS 3025 (P:41)	BDL(MDL=0.001)	0.003 (Max)
9	Chromium (as Cr)	mg/L	IS 3025 (P:52)	BDL(MDL=0.01)	0.05 (Max)
10	Copper (as Cu)	mg/L	IS 3025 (P:42)	BDL(MDL=0.01)	0.05 (Max)
11	Iron (as Fe)	mg/L	IS 3025 (P:53)	0.09	0.3 (Max)
12	Magnesium (as Mg)	mg/L	IS 3025 (P:46)	2.8	30 (Max)
26	Manganese (as Mn)	mg/L	IS 3025 (P:59)	BDL(MDL=0.01)	0.1 (Max)
13	Nickel (as Ni)	mg/L	IS 3025 (P:54)	BDL(MDL=0.01)	0.02 (Max)
14	Molybdenum (as Mo)	mg/L	IS 3025 (P:02)	BDL (MDL=0.002)	0.07 (Max)
15	Lead (as Pb)	mg/L	IS 3025 (P:47)	BDL(MDL=0.01)	0.01 (Max)
16	Zinc (as Zn)	mg/L	IS 3025 (P:49)	0.04	5 (Max)
17	Arsenic (as As)	mg/L	IS 3025 (P:37)	BDL(MDL0.005)	0.01 (Max)
18	Mercury (as Hg)	mg/L	IS 3025 (P:48)	BDL(MDL0.0001)	0.001(Max)
19	Selenium (as Se)	mg/L	IS 3025 (P:56)	BDL(MDL=0.001)	0.1 (Max)
20	Antimony (as Sb)	mg/L	APHA:3113B	BDL(MDL=0.001)	Max0.1

BDL: Below Detection Limit
MDL: Minimum Detection Limit

Jayendran Nair M K
Manager (Quality Control)

Stack Emission Data as per On-line Analyzer data _October 2025											
Sl. No.	Stack Name	Flow rate (Nm^3/hr)	PM (mg/Nm^3)	NOx (mg/Nm^3)	Units Run (max)	PM (kg/hr)	NOx (kg/hr) (kg/hr)	CO (mg/Nm^3)	CO (kg/hr)	SO2 (mg/Nm3)	SO2 (kg/hr)
		Avg. Value			Hrs						
1	KH01B (KHDS)	22953	3.322	12.597	744	0.08	0.29	60.785	1.40	9.005	0.21
2	FH01 (FCCU)	24235	0.98	46.424	744	0.02	1.13	6.519	0.16	8.877	0.22
3	FH03/COB (FCCU)	84321	32.085	18.283	744	2.71	1.54	127.232	10.73	3.837	0.32
4	CH21 (CDU - II)	90531	0	92.874	744	0.00	8.41	1.981	0.18	21.534	1.95
5	CH22 (CDU - II)	33510	0	88.092	744	0.00	2.95	1.616	0.05	14.113	0.47
6	CH223 (CDU - II)	50563	1.241	31.127	744	0.06	1.57	0.965	0.05	18.428	0.93
7	DD-H01 (DHDS)	25998	4.499	42.552	744	0.12	1.11	4.593	0.12	24.767	0.64
8	DS-X-002 (SRU - 01)	29135	31.268	159.726	744	0.91	4.65	92.959	2.71	3449.454	100.50
9	DSX 301 (SRU - 02)	14151	23.498	50.565	744	0.33	0.72	152.278	2.15	4377.371	61.94
10	BS-101 (Biturox)	14174	9.49	37.276	744	0.13	0.53	4.27	0.06	5.199	0.07
11	VH H01/02 (VGO HDS)	52233	6.098	8.881	744	0.32	0.46	40.641	2.12	39.567	2.07
12	NHT CCR - 01	104483	8.883	2.864	744	0.93	0.30	42.609	4.45	30.06	3.14
13	UB07 (Boiler)	111963	12.239	41.826	744	1.37	4.68	10.925	1.22	41.957	4.70
14	UB08 (Boiler)	29524	20.19	0.976	744	0.60	0.03	4.903	0.14	13.049	0.39
15	UB09 (Boiler) (UX200)	30622	15.701	45.913	744	0.48	1.41	7.316	0.22	59.55	1.82
16	UB 10 (Boiler)	40255	6.984	53.269	744	0.28	2.14	0	0.00	152.28	6.13
17	UB 11 (Boiler)	71246	34.391	273.132	744	2.45	19.46	9.476	0.68	638.447	45.49
18	HRSG 1 (CPP - 01)	161184	0	43.769	744	0.00	7.05	1.932	0.31	2.755	0.44
19	GT2/HRSG -02 (CPP - 02)	151867	2.352	110.26	744	0.36	16.74	6.859	1.04	0	0.00
20	SRU III Train A (IS LZ 102)	91703	17.542	1.822	744	1.61	0.17	139.219	12.77	1201.139	110.15
21	SRU III Train B (IS LZ 202)	90130	13.363	19.996	744	1.20	1.80	100.811	9.09	1131.278	101.96
22	CDU-III (ICH 101/102)	252659	1.637	1.142	744	0.00	0.29	57.211	14.45	32.896	8.31
23	DHDT (IGH 101/102)	58678	1.785	5.427	744	0.00	0.32	34.319	2.01	8.206	0.48
24	VGO-HDT (IVH 101/201)	54092	1.412	2.69	744	0.08	0.15	38.706	2.09	22.867	1.24
25	PFCCU-Heater (IFH 002)	21661	0	9.18	744	0.00	0.20	27.952	0.61	8.604	0.19
26	PFCCU-Regen. (IFLS 001)	170940	22.463	159.197	744	3.84	27.21	10.892	1.86	13.478	2.30
27	DCU-1 (IDH 101)	77894	2.272	2.269	744	0.18	0.18	40.697	3.17	11.383	0.89
28	DCU-2 (IDH 102)	77012	2.455	1.499	744	0.19	0.12	35.165	2.71	9.173	0.71
29	HRSG 3 (IUS HRSG 05LZ554)	161009	3.45	5.289	744	0.56	0.85	60.735	9.78	0.886	0.14
30	HRSG 4 (IUS HRSG 05LZ554)	142276	1.52	4.905	744	0.22	0.70	68.441	9.74	3.525	0.50
31	HRSG-5 (IUS HRSG 05LZ554)	143306	60.806	13.662	744	8.71	1.96	1.08	0.15	2.67	0.38
32	UB 12 (Boiler) (IUS UB12 LZ08)	122932	2.543	6.246	744	0.31	0.77	91.626	11.26	35.784	4.40
33	UB 13 (Boiler) (IUS UB12 LZ08)	123507	3.182	7.343	744	0.39	0.91	84.597	10.45	39.485	4.88
34	NHT -Isom. (NH-2/ H H 101)	53005	0	62.931	744	0.00	3.34	0	0.00	0	0.00
35	PWI LS 110 (PDPP INC - 01)	70957	0.507	1.825	744	0.04	0.13	0.6	0.04	0.364	0.03
36	LS021A (PDPP INC - 02)	71924	0	0.236	744	0.00	0.02	2.81	0.20	0	0.00
37	MSBP _ HOH	158034	0.831	26.806	744	0.13	4.24	5.376	0.85	20.032	3.17
38	MRH 01/02/03/04 (MSBP _ CCR)	96064	2.145	1.136	744	0.21	0.11	51.243	4.97	8.051	0.78
						28.81	118.61		124.01		471.93
						PM (kg/hr)	NOx (kg/hr)		CO (kg/hr)		SO2 (kg/hr)

राजेंद्र प्रसाद के जी RAJENDRA PRASAD K G
सहायक प्रबंधक एचएसई (पर्यावरण)
Asst. Manager HSE (Environment)
भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड
BHARAT PETROLEUM CORPORATION LTD.
कोच्चि रिफ़ाइनरी KOCHI REFINERY
अम्बलमुगल Ambalamugal-682 302
एरणाकुलम ज़िला Ernakulam Dist., केरल Kerala

15/11/25

Stack Emission Data as per On-line Analyzer data _November 2025										
Sl. No.	Stack Name	Flow rate (Nm^3/hr) Avg. Value	PM (mg/Nm^3)	NOx (mg/Nm^3)	PM (kg/hr)	NOx (kg/hr) (kg/hr)	CO (mg/Nm^3)	CO (kg/hr)	SO2 (mg/Nm3)	SO2 (kg/hr)
1	KH01B (KHDS)	22953	3.347	16.038	0.08	0.37	74.886	1.72	3.38	0.08
2	FH01 (FCCU)	24235	0.98	48.019	0.02	1.16	6.182	0.15	6.178	0.15
3	FH03/COB (FCCU)	84321	34.488	33.073	2.91	2.79	37.064	3.13	13.808	1.16
4	CH21 (CDU - II)	90531	0	81.084	0.00	7.34	1.526	0.14	48.73	4.41
5	CH22 (CDU - II)	33510	0	85.106	0.00	2.85	2.161	0.07	35.459	1.19
6	CH223 (CDU - II)	50563	0.95	38.128	0.05	1.93	0.448	0.02	50.444	2.55
7	DD-H01 (DHDS)	25998	4.389	40.415	0.11	1.05	4.163	0.11	23.015	0.60
8	DS-X-002 (SRU - 01)	29135	34.018	101.224	0.99	2.95	49.141	1.43	1526.153	44.46
9	DSX 301 (SRU - 02)	14151	22.827	62.835	0.32	0.89	190.134	2.69	4849.267	68.62
10	BS-101 (Biturox)	14174	11.126	33.852	0.16	0.48	3.173	0.04	7.449	0.11
11	VH H01/02 (VGO HDS)	52233	2.466	6.77	0.13	0.35	17.118	0.89	36.433	1.90
12	NHT CCR - 01	104483	8.674	2.56	0.91	0.27	45.296	4.73	9.324	0.97
13	UB07 (Boiler)	111963	12.635	39.833	1.41	4.46	13.377	1.50	47.771	5.35
14	UB08 (Boiler)	29524	17.897	0.136	0.53	0.00	10.812	0.32	0	0.00
15	UB09 (Boiler) (UX200)	30622	0.505	0.561	0.02	0.02	3.064	0.09	0	0.00
16	UB 10 (Boiler)	40255	3.962	3.368	0.16	0.14	9.186	0.37	17.901	0.72
17	UB 11 (Boiler)	71246	30.516	272.575	2.17	19.42	9.743	0.69	660.408	47.05
18	HRSG 1 (CPP - 01)	161184	0	34.775	0.00	5.61	1.535	0.25	0	0.00
19	GT2/HRSG -02 (CPP - 02)	151867	2.352	119.343	0.36	18.12	3.915	0.59	0	0.00
20	SRU III Train A (IS LZ 102)	91703	17.273	1.468	1.58	0.13	132.867	12.18	1654.632	151.73
21	SRU III Train B (IS LZ 202)	90130	13.71	2.85	1.24	0.26	118.84	10.71	1459.125	131.51
22	CDU-III (ICH 101/102)	252659	1.613	0.9	0.00	0.23	56.17	14.19	40.142	10.14
23	DHDT (IGH 101/102)	58678	0	5.677	0.00	0.33	32.537	1.91	11.508	0.68
24	VGO-HDT (IVH 101/201)	54092	1.442	2.538	0.08	0.14	35.245	1.91	16.171	0.87
25	PFCCU-Heater (IFH 002)	21661	0	14.205	0.00	0.31	24.619	0.53	3.886	0.08
26	PFCCU-Regen. (IFLS 001)	170940	25.717	173.429	4.40	29.65	4.663	0.80	7.42	1.27
27	DCU-1 (IDH 101)	77894	2.395	4.934	0.19	0.38	36.073	2.81	8.952	0.70
28	DCU-2 (IDH 102)	77012	0	4.463	0.00	0.34	51.879	4.00	15.402	1.19
29	HRSG 3 (IUS HRSG 05LZ554)	161009	3.619	4.787	0.58	0.77	61.053	9.83	1.063	0.17
30	HRSG 4 (IUS HRSG 05LZ554)	142276	1.509	4.431	0.21	0.63	69.092	9.83	5.107	0.73
31	HRSG-5 (IUS HRSG 05LZ554)	143306	62.895	13.726	9.01	1.97	0.255	0.04	2.163	0.31
32	UB 12 (Boiler) (IUS UB12 LZ08)	122932	2.532	7.996	0.31	0.98	93.019	11.44	32.555	4.00
33	UB 13 (Boiler) (IUS UB12 LZ08)	123507	3.414	7.355	0.42	0.91	87.255	10.78	38.439	4.75
34	NHT -Isom. (NH-2/ H H 101)	53005	0	68.465	0.00	3.63	1.452	0.08	0	0.00
35	PWI LS 110 (PDPP INC - 01)	70957	0.579	1.79	0.04	0.13	0.545	0.04	0.309	0.02
36	LS021A (PDPP INC - 02)	71924	0	0.236	0.00	0.02	2.808	0.20	0	0.00
37	MSBP _HOH	158034	0.853	25.477	0.13	4.03	3.168	0.50	17.345	2.74
38	MRH 01/02/03/04 (MSBP _ CCR)	96964	2.141	1.051	0.21	0.10	51.446	4.99	8.811	0.85
					28.73	**115.13**		**115.70**		**491.08**
					PM (kg/hr)	NOx (kg/hr)		CO (kg/hr)		SO2 (kg/hr)

Agnihotra Prasad
Asst. Mgr.
BPCL. KR.

Stack Emission Data as per On-line Analyzer data _December 2025										
Sl. No.	Stack Name	Flow rate (Nm^3/hr)	PM (mg/Nm^3)	NOx (mg/Nm^3)	PM (kg/hr)	NOx (kg/hr) (kg/hr)	CO (mg/Nm^3)	CO (kg/hr)	SO2 (mg/Nm3)	SO2 (kg/hr)
		Avg. Value								
1	KH01B (KHDS)	22953	3.658	15.666	0.08	0.36	97.219	2.23	4.208	0.10
2	FH01 (FCCU)	24235	0.98	49.271	0.02	1.19	3.51	0.09	4.604	0.11
3	FH03/COB (FCCU)	84321	30.693	36.051	2.59	3.04	40.98	3.46	33.166	2.80
4	CH21 (CDU - II)	90531	0	85.738	0.00	7.76	1.693	0.15	30.79	2.79
5	CH22 (CDU - II)	33510	0	85.424	0.00	2.86	2.302	0.08	20.898	0.70
6	CH223 (CDU - II)	50563	2.033	34.749	0.10	1.76	0.177	0.01	18.961	0.96
7	DD-HO1 (DHDS)	25998	3.515	43.046	0.09	1.12	4.438	0.12	22.14	0.58
8	DS-X-002 (SRU - 01)	29135	0	82.69	0.00	2.41	46.429	1.35	1668.75	48.62
9	DSX 301 (SRU - 02)	14151	24.015	56.06	0.34	0.79	170.176	2.41	4955.548	70.13
10	BS-101 (Biturox)	14174	15.154	23.944	0.21	0.34	2.73	0.04	3.873	0.05
11	VH H01/02 (VGO HDS)	52233	2.708	7.41	0.14	0.39	15.916	0.83	37.028	1.93
12	NHT CCR - 01	104483	8.388	3.152	0.88	0.33	49.614	5.18	25.438	2.66
13	UB07 (Boiler)	111963	10.351	34.709	1.16	3.89	4.706	0.53	4.034	0.45
14	UB08 (Boiler)	29524	34.646	6.664	1.02	0.20	4.269	0.13	67.172	1.98
15	UB09 (Boiler) (UX200)	30622	1.747	7.648	0.05	0.23	0	0.00	3.501	0.11
16	UB 10 (Boiler)	40255	11.636	68.799	0.47	2.77	34.935	1.41	277.56	11.17
17	UB 11 (Boiler)	71246	30.995	258.61	2.21	18.42	9.82	0.70	678.117	48.31
18	HRSG 1 (CPP - 01)	161184	0	37.327	0.00	6.02	0.941	0.15	7.584	1.22
19	GT2/HRSG -02 (CPP - 02)	151867	2.353	128.844	0.36	19.57	2.108	0.32	0	0.00
20	SRU III Train A (IS LZ 102)	91703	17.216	1.259	1.58	0.12	119.549	10.96	1336.219	122.54
21	SRU III Train B (IS LZ 202)	90130	13.433	2.536	1.21	0.23	109.668	9.88	1520.423	137.04
22	CDU-III (ICH 101/102)	252659	1.758	0.744	0.00	0.19	52.914	13.37	33.254	8.40
23	DHDT (IGH 101/102)	58678	0.19	6.621	0.00	0.39	32.746	1.92	10.007	0.59
24	VGO-HDT (IVH 101/201)	54092	1.102	2.792	0.06	0.15	33.215	1.80	19.03	1.03
25	PFCCU-Heater (IFH 002)	21661	0	4.732	0.00	0.10	31.287	0.68	5.706	0.12
26	PFCCU-Regen. (IFLS 001)	170940	19.634	134.152	3.36	22.93	2.608	0.45	11.617	1.99
27	DCU-1 (IDH 101)	77894	2.437	14.027	0.19	1.09	32.468	2.53	11.828	0.92
28	DCU-2 (IDH 102)	77012	-2.738	1.832	-0.21	0.14	42.886	3.30	10.572	0.81
29	HRSG 3 (IUS HRSG 05LZ554)	161009	3.766	3.967	0.61	0.64	64.988	10.46	1.627	0.26
30	HRSG 4 (IUS HRSG 05LZ554)	142276	1.516	3.156	0.22	0.45	85.96	12.23	2.203	0.31
31	HRSG-5 (IUS HRSG 05LZ554)	143306	61.405	13.71	8.80	1.96	0.62	0.09	2.967	0.43
32	UB 12 (Boiler) (IUS UB12 LZ08)	122932	2.504	12.483	0.31	1.53	90.928	11.18	33.896	4.17
33	UB 13 (Boiler) (IUS UB12 LZ08)	123507	3.467	7.711	0.43	0.95	93.556	11.55	39.342	4.86
34	NHT -Isom. (NH-2/ H H 101)	53005	-1.427	72.111	-0.08	3.82	3.577	0.19	-1.603	-0.08
35	PWI LS 110 (PDPP INC - 01)	70957	0.721	1.763	0.05	0.13	0.511	0.04	0.28	0.02
36	LS021A (PDPP INC - 02)	71924	0	0.229	0.00	0.02	2.811	0.20	0	0.00
37	MSBP _ HOH	158034	0.807	23.38	0.13	3.69	3.743	0.59	17.617	2.78
38	MRH 01/02/03/04 (MSBP _ CCR)	96964	1.962	1.287	0.19	0.12	50.069	4.85	4.537	0.44
					26.57	**112.11**		**115.45**		**481.29**
					PM (kg/hr)	NOx (kg/hr)		CO (kg/hr)		SO2 (kg/hr)

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Stack Emission Monitoring Report for the Month of Dec 2025

ULR No. TC148142500007836F-7838F, 7841F-78443F, 7850F-7851F, 7908F-7911F, 7947F-7948F, 7970F-7971F

Issued To
M/s Bharat Petroleum Corporation Limited
Kochi Refinery
Ambalamugal, Kochi, Pin-682 302

Issue Date: 20-12-2025
Ref. No.: PO. No. 4601005329 dated 07.03.2024
Sampling done by: Nitya Laboratories

Sl. No:	Stack / Unit	Date of Monitoring / Sampling	Time of Monitoring	Lab Id. Code / No:	Analysis Started on (date)	Analysis completed on (date)
1	GT1/HRSG -01 (CPP - 01)	05-12-2025	11:40 AM	S/12/01	15-12-2025	19-12-2025
2	UB 10 (Boiler) (IUS UB12 LZ08)	05-12-2025	01:55 PM	S/12/02	15-12-2025	19-12-2025
3	UB-07 (BOILER)	05-12-2025	03:10 PM	S/12/03	15-12-2025	19-12-2025
4	HRSG 4 (IUS HRSG 05LZ554)	06-12-2025	10:10 AM	S/12/04	15-12-2025	19-12-2025
5	HRSG 3 (IUS HRSG 05LZ554)	06-12-2025	11:40 AM	S/12/05	15-12-2025	19-12-2025
6	HRSG 5 (IUS HRSG 05LZ554)	06-12-2025	03:00 PM	S/12/06	15-12-2025	19-12-2025
7	UB-12 (BOILER) (IUS-UB-12-LZ-08)	08-12-2025	11:25 AM	S/12/07	15-12-2025	19-12-2025
8	UB-13 (BOILER) (IUS-UB-12-LZ-08)	08-12-2025	02:10 PM	S/12/08	15-12-2025	19-12-2025
9	DS-X-301 (SRU - 02)	10-12-2025	09:30 AM	S/12/09	15-12-2025	19-12-2025
10	SRU III Train A (IS LZ 102)	10-12-2025	10:45 AM	S/12/10	15-12-2025	19-12-2025
11	SRU III Train B (IS LZ 202)	10-12-2025	12:50 PM	S/12/11	15-12-2025	19-12-2025
12	DS-X-002 (SRU-01)	10-12-2025	02:40 PM	S/12/12	15-12-2025	19-12-2025
13	PFCCU-Heater (IFH 002)	11-12-2025	10:50 AM	S/12/13	15-12-2025	19-12-2025
14	PFCCU-Regen. (IFLS 001)	11-12-2025	02:20 PM	S/12/14	15-12-2025	19-12-2025
15	VGO-HDT(Vacuum Gas Oil Hydro Treater) (IVH 101/201)	11-12-2025	03:25 PM	S/12/15	15-12-2025	19-12-2025
16	UB 11 (Boiler)	12-12-2025	10:20 AM	S/12/16	15-12-2025	19-12-2025
17	DD-HO1 (DHDS)	12-12-2025	11:40 AM	S/12/17	15-12-2025	19-12-2025

Instruments used for Monitoring				
Stack Monitoring kit, with all assembly Make: Enviro Instruments	Calibrated on	05-03-2025	Calibration due on	06-03-2026

TC-14814

(CHECKED BY)
(SANDEEP SAINI)

Authorised
(AUTHORISED SIGNATORY)
(RAVINDER MITTAL)

NOTE: [illegible]

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Stack Emission Monitoring Report for the Month of Dec 2025

ULR No. TC148142500007836F-7838F, 7841F-7843F, 7850F-7851F, 7908F-7911F, 7947F-7948F, 7970F-7971F

Issued To
M/s Bharat Petroleum Corporation Limited
Kochi Refinery
Ambalamugal, Kochi, Pin-682 302

Issue Date: 20-12-2025
Ref. No.: PO. No. 4601005329 dated 07.03.2024
Sampling done by: Nitya Laboratories

Sl. No:	Stack / Unit	Date of Sampling	Ambient Air Temp.	Sampling Temp. (0C)	Flow rate Result (Nm3/Hr)	PM (mg/Nm3)	H2S (mg/Nm3)
1	GT1/HRSG -01 (CPP - 01)	05-12-2025	26	128	334208.0	8.8	N.A.
2	UB 10 (Boiler) (IUS UB12 LZ08)	05-12-2025	26	48	291045.5	11.5	N.A.
3	UB-07 (BOILER)	05-12-2025	26	112	243060.1	19.5	N.A.
4	HRSG 4 (IUS HRSG 05LZ554)	06-12-2025	26	148	241316.8	12.8	N.A.
5	HRSG 3 (IUS HRSG 05LZ554)	06-12-2025	26	74	320190.6	13.9	N.A.
6	HRSG 5 (IUS HRSG 05LZ554)	06-12-2025	26	76	313278.0	18.4	N.A.
7	UB-12 (BOILER) (IUS-UB-12-LZ-08)	08-12-2025	26	49	289669.2	18	N.A.
8	UB-13 (BOILER) (IUS-UB-12-LZ-08)	08-12-2025	25	41	323809.0	16	N.A.
9	DS-X-301 (SRU - 02)	10-12-2025	26	598	48906.8	8.4	4.2
10	SRU III Train A (IS LZ 102)	10-12-2025	25	267	127464.9	11.8	3.8
11	SRU III Train B (IS LZ 202)	10-12-2025	25	298	111846.0	12.9	4.1
12	DS-X-002 (SRU-01)	10-12-2025	24	590	47686.4	11.5	N.A.
13	PFCCU-Heater (IFH 002)	11-12-2025	25	259	77490.1	5.9	N.A.
14	PFCCU-Regen. (IFLS 001)	11-12-2025	25	211	299582.6	7.8	N.A.
15	VGO-HDT(Vacuum Gas Oil Hydro Treater)	11-12-2025	25	165	135365.6	7.4	N.A.
16	UB 11 (Boiler)	12-12-2025	24	40	330438.6	10.5	N.A.
17	DD-HO1 (DHDS)	12-12-2025	24	110	71282.4	8.7	N.A.

TC-14814

(CHECKED BY)
(SANDEEP SAINI)

Authorised
(AUTHORISED SIGNATORY)
(RAVINDER MITTAL)

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Stack Emission Monitoring Report for the Month of Dec 2025

Test Report No.: 202512050110-126
Issue Date: 20-12-2025

Issued To
M/s Bharat Petroleum Corporation Limited
Kochi Refinery
Ambalamugal, Kochi, Pin-682 302

Ref. No.: PO. No. 4601005329 dated 07.03.2024
Sampling done by: Nitya Laboratories

Sl. No:	Stack / Unit	Date of Sampling	Ambient Air Temp.	Sampling Temp. (0C)	Flow rate Result (Nm3/Hr)	SO2 (mg/Nm3)	NOx (mg/Nm3)	CO (mg/Nm3)	Ni + V (mg/Nm3)	O^2 %
1	GT1/HRSG -01 (CPP - 01)	05-12-2025	26	128	334208.0	12.5	25.7	45.9	ND (DL-0.5)	6.9
2	UB 10 (Boiler) (IUS UB12 LZ08)	05-12-2025	26	48	291045.5	12.5	9.2	7.8	ND (DL-0.5)	7.1
3	UB-07 (BOILER)	05-12-2025	26	112	243060.1	108	116	7.5	ND (DL-0.5)	6.6
4	HRSG 4 (IUS HRSG 05LZ554)	06-12-2025	26	148	241316.8	4.5	19.1	5.6	ND (DL-0.5)	7.9
5	HRSG 3 (IUS HRSG 05LZ554)	06-12-2025	26	74	320190.6	8.6	42.6	4.8	ND (DL-0.5)	7.5
6	HRSG 5 (IUS HRSG 05LZ554)	06-12-2025	26	76	313278.0	0.0	13.8	5.8	ND (DL-0.5)	6.9
7	UB-12 (BOILER) (IUS-UB-12-LZ-08)	08-12-2025	26	49	289669.2	123	156.6	5.4	ND (DL-0.5)	7.0
8	UB-13 (BOILER) (IUS-UB-12-LZ-08)	08-12-2025	25	41	323809.0	8.1	7.9	5.1	ND (DL-0.5)	6.7
9	DS-X-301 (SRU - 02)	10-12-2025	26	598	48906.8	1310	34.2	146	ND (DL-0.5)	7.8
10	SRU III Train A (IS LZ 102)	10-12-2025	25	267	127464.9	1169	11.5	5.9	ND (DL-0.5)	6.7
11	SRU III Train B (IS LZ 202)	10-12-2025	25	298	111846.0	1210	18.6	4.2	ND (DL-0.5)	6.1
12	DS-X-002 (SRU-01)	10-12-2025	24	590	47686.4	1190	33.2	149	ND (DL-0.5)	7.9
13	PFCCU-Heater (IFH 002)	11-12-2025	25	259	77490.1	18.5	14.3	8.5	ND (DL-0.5)	7.1
14	PFCCU-Regen. (IFLS 001)	11-12-2025	25	211	299582.6	13.8	20.5	53.7	ND (DL-0.5)	7.6
15	VGO-HDT(Vacuum Gas Oil Hydro Treater) (IVH 101/201)	11-12-2025	25	165	135365.6	9.5	19.7	2.8	ND (DL-0.5)	6.2
16	UB 11 (Boiler)	12-12-2025	24	40	330438.6	110	196.3	9	ND (DL-0.5)	6.9
17	DD-HO1 (DHDS)	12-12-2025	24	110	71282.4	6.8	51.8	0.0	ND (DL-0.5)	8.1

(CHECKED BY)
(SANDEEP SAINI)

NITYA LABORATORIES
Authorised
(AUTHORISED SIGNATORY)
(RAVINDER MITTAL)

Stack Emission Data as per On-line Analyzer data _February 2026										
Sl. No.	Stack Name	Flow rate (Nm^3/hr) Avg. Value	PM (mg/Nm^3)	NOx (mg/Nm^3)	PM (kg/hr)	NOx (kg/hr)	CO (mg/Nm^3)	CO (kg/hr)	SO2 (mg/Nm3)	SO2 (kg/hr)
1	KH01B (KHDS)	22953	3.492	15.702	0.08	0.36	89.326	2.05	0.944	0.02
2	FH01 (FCCU)	24235	0.98	37.135	0.02	0.90	7.684	0.19	9.73	0.24
3	FH03/COB (FCCU)	84321	31.413	37.614	2.65	3.17	47.503	4.01	10.648	0.90
4	CH21 (CDU - II)	90531	0	78.25	0.00	7.08	3.815	0.35	28.001	2.53
5	CH22 (CDU - II)	33510	0	73.291	0.00	2.46	7.559	0.25	11.124	0.37
6	CH223 (CDU - II)	50563	5.053	32.469	0.26	1.64	0	0.00	11.672	0.59
7	DD-HO1 (DHDS)	25998	3.341	44.462	0.09	1.16	7.61	0.20	2.029	0.05
8	DS-X-002 (SRU - 01)	29135	0	106.769	0.00	3.11	18.682	0.54	2545.794	74.17
9	DSX 301 (SRU - 02)	14151	26.096	42.055	0.37	0.60	114.5	1.62	3432.98	48.58
10	BS-101 (Biturox)	14174	10.908	18.222	0.15	0.26	3.371	0.05	2.789	0.04
11	VH H01/02 (VGO HDS)	52233	15.775	6.454	0.82	0.34	16.183	0.85	46.22	2.41
12	NHT CCR - 01	104483	8.126	1.396	0.85	0.15	53.761	5.62	6.405	0.67
13	UB07 (Boiler)	111963	10.961	9.385	1.23	1.05	3.742	0.42	5.376	0.60
14	UB08 (Boiler)	29524	39.035	0.131	1.15	0.00	44.361	1.31	37.449	1.11
15	UB09 (Boiler) (UX200)	30622	2.317	94.418	0.07	2.89	51.446	1.58	11.013	0.34
16	UB 10 (Boiler)	40255	6.792	0	0.27	0.00	11.805	0.48	22.479	0.90
17	UB 11 (Boiler)	71246	32.386	181.534	2.31	12.93	7.239	0.52	358.445	25.54
18	HRSG 1 (CPP - 01)	161184	0	2.118	0.00	0.34	2.926	0.47	5.269	0.85
19	GT2/HRSG -02 (CPP - 02)	151867	2.246	112.342	0.34	17.06	2.841	0.43	0	0.00
20	SRU III Train A (IS LZ 102)	91703	16.918	1.4	1.55	0.13	84.404	7.74	1188.537	108.99
21	SRU III Train B (IS LZ 202)	90130	13.438	2.167	1.21	0.20	105.698	9.53	1322.654	119.21
22	CDU-III (ICH 101/102)	252659	1.512	5.83	0.00	1.47	56.957	14.39	33.192	8.39
23	DHDT (IGH 101/102)	58678	1.184	5.357	0.00	0.31	31.761	1.86	2.712	0.16
24	VGO-HDT (IVH 101/201)	54092	0.866	4.023	0.05	0.22	29.228	1.58	16.15	0.87
25	PFCCU-Heater (IFH 002)	21661	0	27.209	0.00	0.59	15.285	0.33	7.361	0.16
26	PFCCU-Regen. (IFLS 001)	170940	17.931	29.696	3.07	5.08	4.142	0.71	16.253	2.78
27	DCU-1 (IDH 101)	77894	1.449	3.544	0.11	0.28	42.74	3.33	20.155	1.57
28	DCU-2 (IDH 102)	77012	0	0.177	0.00	0.01	51.384	3.96	15.205	1.17
29	HRSG 3 (IUS HRSG 05LZ554)	161009	4.223	2.392	0.68	0.39	43.508	7.01	1.444	0.23
30	HRSG 4 (IUS HRSG 05LZ554)	142276	3.01	3.758	0.43	0.53	77.73	11.06	9.559	1.36
31	HRSG-5 (IUS HRSG 05LZ554)	143306	55.483	13.897	7.95	1.99	0.339	0.05	2.101	0.30
32	UB 12 (Boiler) (IUS UB12 LZ08)	122932	2.571	7.006	0.32	0.86	105.179	12.93	24.619	3.03
33	UB 13 (Boiler) (IUS UB12 LZ08)	123507	2.944	6.345	0.36	0.78	88.513	10.93	27.423	3.39
34	NHT -Isom. (NH-2/ H H 101)	53005	0	57.705	0.00	3.06	1.186	0.06	4.449	0.24
35	PWI LS 110 (PDPP INC - 01)	70957	0.533	1.833	0.04	0.13	0.616	0.04	0.384	0.03
36	LS021A (PDPP INC - 02)	71924	0	0.241	0.00	0.02	2.899	0.21	0	0.00
37	MSBP _ HOH	158034	0.808	26.672	0.13	4.22	5.971	0.94	15.03	2.38
38	MRH 01/02/03/04 (MSBP _ CCR)	96964	2.008	2.053	0.19	0.20	49.731	4.82	6.244	0.61
					26.75	75.96		112.39		414.77
					PM (kg/hr)	NOx (kg/hr)		CO (kg/hr)		SO2 (kg/hr)

Stack Emission Data as per On-line Analyzer data _March 2026											
Sl. No.	Stack Name	Flow rate (Nm^3/hr)	PM (mg/Nm^3)	NOx (mg/Nm^3)	Units Run (max)	PM (kg/hr)	NOx (kg/hr)	CO (mg/Nm^3)	CO (kg/hr)	SO2 (mg/Nm3)	SO2 (kg/hr)
		Avg. Value			Hrs						
1	KH01B (KHDS)	22953	3.251	19.22	744	0.07	0.44	75.668	**1.74**	8.858	0.20
2	FH01 (FCCU)	24235	0.98	27.598	720	0.02	0.67	16.056	**0.39**	12.273	0.30
3	FH03/COB (FCCU)	84321	38.149	21.543	720	3.22	1.82	22.083	**1.86**	14.831	1.25
4	CH21 (CDU - II)	90531	0	101.877	720	0.00	9.22	1.789	**0.16**	49.664	4.50
5	CH22 (CDU - II)	33510	0	88.289	720	0.00	2.96	2.787	**0.09**	36.453	1.22
6	CH223 (CDU - II)	50563	4.03	38.089	720	0.20	1.93	0	**0.00**	32.436	1.64
7	DD-HO1 (DHDS)	25998	2.919	39.278	720	0.08	1.02	8.261	**0.21**	30.602	0.80
8	DS-X-002 (SRU - 01)	29135	30.543	185.836	720	0.89	5.41	49.478	**1.44**	2975.483	86.69
9	DSX 301 (SRU - 02)	14151	27.184	46.987	720	0.38	0.66	109.288	**1.55**	4700.816	66.52
10	BS-101 (Biturox)	14174	13.452	27.038	720	0.19	0.38	4.718	**0.07**	9.68	0.14
11	VH H01/02 (VGO HDS)	52233	19.155	8.736	720	1.00	0.46	40.172	**2.10**	41.093	2.15
12	NHT CCR - 01	104483	8.199	0.665	720	0.86	0.07	39.939	**4.17**	44.04	4.60
13	UB07 (Boiler)	111963	13.79	60.357	720	1.54	6.76	8.564	**0.96**	139.01	15.56
14	UB08 (Boiler)	29524	102.66	2.79	720	3.03	0.08	29.237	**0.86**	109.81	3.24
15	UB09 (Boiler) (UX200)	30622	0.681	123.218	720	0.02	3.77	43.699	**1.34**	94.714	2.90
16	UB 10 (Boiler)	40255	5.83	0.651	720	0.23	0.03	6.591	**0.27**	-5.685	-0.23
17	UB 11 (Boiler)	71246	41.183	154.804	720	2.93	11.03	11.872	**0.85**	517.685	36.88
18	HRSG 1 (CPP - 01)	161184	0	26.747	720	0.00	4.31	1.563	**0.25**	12.084	1.95
19	GT2/HRSG -02 (CPP - 02)	151867	2.247	135.654	720	0.34	20.60	0	**0.00**	32.676	4.96
20	SRU III Train A (IS LZ 102)	91703	17.351	2.18	720	1.59	0.20	63.281	**5.80**	796.469	73.04
21	SRU III Train B (IS LZ 202)	90130	13.545	2.167	720	1.22	0.20	124.606	**11.23**	1551.014	139.79
22	CDU-III (ICH 101/102)	252659	1.401	6.403	720	0.00	1.62	53.004	**13.39**	35.236	8.90
23	DHDT (IGH 101/102)	58678	0.605	7.95	720	0.00	0.47	33.425	**1.96**	1.783	0.10
24	VGO-HDT (IVH 101/201)	54092	1.126	5.339	720	0.06	0.29	29.5	**1.60**	17.948	0.97
25	PFCCU-Heater (IFH 002)	21661	0	29.053	720	0.00	0.63	14.234	**0.31**	7.826	0.17
26	PFCCU-Regen. (IFLS 001)	170940	17.047	15.209	720	2.91	2.60	4.449	**0.76**	14.232	2.43
27	DCU-1 (IDH 101)	77894	1.445	2.384	720	0.11	0.19	44.727	**3.48**	26.343	2.05
28	DCU-2 (IDH 102)	77012	0	10.824	720	0.00	0.83	47.201	**3.64**	13.717	1.06
29	HRSG 3 (IUS HRSG 05LZ554)	161009	4.639	2.725	720	0.75	0.44	122.824	**19.78**	25.824	4.16
30	HRSG 4 (IUS HRSG 05LZ554)	142276	3.252	6.538	720	0.46	0.93	23.723	**3.38**	4.41	0.63
31	HRSG-5 (IUS HRSG 05LZ554)	143306	52.109	15.047	720	7.47	2.16	4.5	**0.64**	1.944	0.28
32	UB 12 (Boiler) (IUS UB12 LZ08)	122932	2.57	4.68	720	0.32	0.58	96.226	**11.83**	38.547	4.74
33	UB 13 (Boiler) (IUS UB12 LZ08)	123507	3.033	7.682	720	0.37	0.95	103.111	**12.73**	46.524	5.75
34	NHT -Isom. (NH-2/ H H 101)	53005	0	51.556	720	0.00	2.73	2.437	**0.13**	9.062	0.48
35	PWI LS 110 (PDPP INC - 01)	70957	0.47	1.839	720	0.03	0.13	0.631	**0.04**	0.399	0.03
36	LS021A (PDPP INC - 02)	71924	0	0.251	720	0.00	0.02	2.92	**0.21**	0	0.00
37	MSBP _ HOH	158034	0.833	29.503	720	0.13	4.66	9.615	**1.52**	20.061	3.17
38	MRH 01/02/03/04 (MSBP _ CCR)	96964	1.97	2.595	720	0.19	0.25	42.109	**4.08**	8.363	0.81
						30.65	**91.49**		**114.82**		**483.83**
						PM (kg/hr)	NOx (kg/hr)		CO (kg/hr)		SO2 (kg/hr)