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/01/2025/EC No: J-11011/26/2013-IA II (I)
30.06.2025

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: MoEF&CC letter no. J-11011/26/2013-IA II (I) dated 12th May 2015 granting Environmental Clearance for **Propylene Derivatives Petrochemical Project (PDPP)** by Bharat Petroleum Corporation Limited, Kochi Refinery, Ambalamugal, Ernakulam District, Kerala:

Please find enclosed the compliance reports on the various conditions laid down by MoEF &CC, pertaining to the half year period from **1st October 2024 to 31st March 2025** for the said project.

Thanking you,

Very truly yours
For BPCL Kochi Refinery

Roshan Shihab P M
General Manager (HSE)

Encl: 1. Six Monthly Compliance Report
Cc:

1. The Member Secretary
   Central Pollution Control Board
   Parivesh Bhawan
   East Arjun Nagar
   Delhi - 110 032

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

3 The Member Secretary (Industry –II), Ministry of Environment, Forest & Climate Change
Indira Gandhi Paryavaran Bhavan, Jorbagh Road, New Delhi - 110003

Compliance Report of stipulated Environmental Clearance (EC) conditions for the
Propylene Derivatives Petrochemical Project (PDPP) of BPCL-Kochi Refinery
EC clearance - J-11011/26/2013-IA II (I) dated 12th May 2015.
1st October 2024 to 31st March 2025

Sl No	Conditions	Status as on 31.03.2025
A.	**SPECIFIC CONDITIONS**	
1.	M/s BPCL shall comply with new standards/norms for Oil Refinery Industry and petrochemical industry notified under the Environment (Protection) Rules, 1986.	The project / facility is complying with applicable standards and norms for Oil Refinery Industry and petrochemical industry notified under the Environment (Protection) Rules, 1986.
2.	Continuous on-line stack monitoring for SO_2 NO_x and CO of all the stacks shall be carried out. Low NO_x burners shall be installed.	There are no fired heaters or fired boilers in the project facility, Waste Incinerators installed in the complex are having low NO_x Burners. Stack analysers are commissioned, calibrated, and ensured to be in working condition, Continuous on-line stack monitoring is ensured.
3.	The emission standards prescribed by the MoEF under Environment (Protection) Act for petrochemical industry shall be strictly followed. At no time, the emission levels shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Stack emissions shall be monitored regularly.	There are no fired process heaters /fired boilers in the PDPP Project. Two (2) Nos. of waste incinerators installed in the facility are designed to consume clean fuels like vaporized LPG/LNG. The incinerators are operating complying with the prescribed emission standards. Stack emissions are also monitored regularly.
4.	Leak Detection and Repair program shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be	Detailed leak detection and repair (LDAR) program for monitoring and repair of VOC leak points, leak detection and repair survey are already identified, the frequency of monitoring of leaks and schedule of repairs of leak will be as per CPCB guidelines for LDAR program/OISD 224 guidelines. Plant-wise PM check schedule for the periodic preventive monitoring of the Rotary Equipment is followed. All storage tank breathing vents are routed to incinerator as per design. Gas detectors are already

Sl No	Conditions	Status as on 31.03.2025
	provided at strategic locations.	provided at strategic locations. To reduce fugitive emissions of volatile organic compounds from the complex. 1. Seal less canned pumps are installed in organic liquid services 2. Special gland packing material provided in valves to reduce fugitive / VOC emissions from glands. Hydrocarbon, toxic gases, and VOC detectors are installed in the complex. Total number of 351 gas detectors and 8 VOC detectors are installed in the complex.
5.	Total SO_2 emissions after implementation of PDPP including IREP SHALL NOT EXCEED 1561.4 Kg/hr.	The fuel for firing in Incinerators is vaporized LPG / LNG with very low sulphur content. The SO_2 emissions after implementation of PDPP including IREP is not exceeding 1561.4 kg/hr. **Note:** It has been revised after next project (MSBP) as 1579 kg/hr.
6.	Continuous monitoring system for VOCs at all important places/areas shall be ensured. When monitoring results indicate above the permissible limits, effective measures shall be taken immediately.	Photo ionization detectors (fixed VOC meters) installed at eight (8) important locations in and around the PDPP units/other facilities for continuous monitoring of VOCs. These detector readings are being monitored and generation of alarm is configured in case of detection at ppm level.
7.	Ambient air quality monitoring stations (PM_{10}, $PM_{2.5}$, SO_2, NO_x, H_2S, mercaptan, non-methane-HC and Benzene) shall be set up in the complex in consultation with Kerala State Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modelling exercise to represent short term GLCs.	One AAQMS for continuous monitoring of SO2, NO-NO2, NOX, NH3, CO, OZONE, HC, H2S, MERCAPTAN, VOC, PM 10 (SPM), PM 2.5 (RSPM) and meteorological data etc.is already installed and powered ON at the location approved by Kerala State Pollution Control Board. Continuous monitoring is ensured. The same is being connected to display board which is positioned facing public road for visibility.
8.	Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry on 16th November 2009 and trend	Ambient air quality data monitoring has started from new AAQMS installed in the complex along with existing AAQMS stations available around the

Compliance Report of stipulated Environmental Clearance (EC) conditions for the
Propylene Derivatives Petrochemical Project (PDPP) of BPCL-Kochi Refinery
EC clearance - J-11011/26/2013-IA II (I) dated 12th May 2015.
1st October 2024 to 31st March 2025

Sl No	Conditions	Status as on 31.03.2025
	analysis w.r.t. past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.	refinery. Manual air quality monitoring is being done by NABL accredited lab and the same is ensured with NAAQES standards.
9.	The gaseous emission from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Besides, acoustic enclosure/silencer shall be installed wherever noise levels exceed the limit.	Complied. Gaseous emissions from DG sets are designed to be dispersed through stack heights as per CPCB standards. DG sets are operated only on extreme emergency conditions. Acoustic enclosure is installed for DG set.
10.	Total freshwater requirement from Kochi Refinery for PDPP shall not exceed 493 m^3/hr and prior permission shall be obtained from the concerned agency. No ground water shall be used.	The total freshwater requirement will be less than 493 m^3/hr which is within the total sanctioned quantity of 3083.3 m^3/hr for integrated refinery complex by Govt. of Kerala.
11.	Industrial effluent shall be treated in the effluent treatment plant. Treated effluent shall be recycled/reused in the existing cooling tower. As proposed, high COD effluent shall be incinerated. Water quality of treated effluent shall be monitored regularly. Online water monitoring system shall be installed for important parameters.	Industrial effluents are incinerated or treated in ETP and majority of the treated effluent is recycling through RO based DM plant and if any balance quantity, disposing through existing outlets. Also, online water monitoring facility available at existing refinery effluent outlet. Water streams quality measuring analysers have been installed.
12.	Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.	Oil catchers/oil traps provided at necessary locations. Also, rain / storm water outlet from each area is routed to retention pond, where quality of water is analysed and ensured before routing to outlet.

Compliance Report of stipulated Environmental Clearance (EC) conditions for the
Propylene Derivatives Petrochemical Project (PDPP) of BPCL-Kochi Refinery
EC clearance - J-11011/26/2013-IA II (I) dated 12th May 2015.
1st October 2024 to 31st March 2025

Sl No	Conditions	Status as on 31.03.2025
13.	Incinerator designed shall be as per CPCB guidelines.	Two incinerators installed within the PDPP complex to ensure final effluent /emission quality as per CPCB guidelines. The stacks are well connected to CPCB site and statutory monthly monitoring is being done and reporting to KSPCB.
14	The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October 1994 and January 2000. Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time.	Stipulations under these both rules are being strictly complied. Disposal of Hazardous waste ensured complying with Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules. Reports are regularly submitting to the KSPCB.
15	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.	Oil spillage prevention is taken care at the design stage itself. Adequate facilities are made to prevent or contain oil spillage / storm water contamination for PDPP complex.
16	The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).	Complied with the points mentioned in CREP which is applicable to PDPP project.
17	To prevent fire and explosion of oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.	PDPP facility is designed as per OISD & PESO guidelines and the facilities satisfy separation distances as specified by OISD standards 118 /other applicable and relevant conditions of Petroleum rules. PESO approval for commissioning of process units and related facilities are obtained, PESO storage license for all applicable products and intermediates obtained based on completion and site inspection by PESO/OISD officials.

Compliance Report of stipulated Environmental Clearance (EC) conditions for the
Propylene Derivatives Petrochemical Project (PDPP) of BPCL-Kochi Refinery
EC clearance - J-11011/26/2013-IA II (I) dated 12th May 2015.
1st October 2024 to 31st March 2025

Sl No	Conditions	Status as on 31.03.2025
18	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented. Accordingly, provision of budget to be kept.	All recommendations mentioned in rapid risk assessment report implemented. Quantitative risk assessment also conducted, and all recommendations implemented at applicable stages of project. Emergency Response and Disaster Management Plan prepared including scenarios identified during risk assessment report.
19	All the issues raised, and commitment made during the public hearing/consultation meeting held on 23rd December 2014 shall be satisfactorily implemented. Accordingly, provision of budget to be kept.	BPCL-KR has complied with commitment made during the public hearing/consultation meeting held on 23rd December 2014.
20	At least 2% of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on local needs and action plan with financial and physical breakup/details should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.	Complied
21	Green belt shall be developed at least in 40 acres of land in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines.	Green belt development completed for the project. All plant species are in growing stage. One more green park developed and named as ECO PARK in the PDPP area.

Sl No	Conditions	Status as on 31.03.2025
22	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied. All necessary infrastructure, labour camps, medical facilities arranged during construction, pre-commissioning activities.

B.	**GENERAL CONDITIONS:**	
1.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.	BPCL-KR is adhering to the stipulations made by KSPCB, State Govt. and other statutory bodies. Consent to Operate obtained from KSPCB, Consent No: **PCB/HO/EKM-II/ICO-R/05/2022, dated 31/03/2022**
2.	No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Complied.
3	The project authorities must strictly comply with the rules and regulations under manufacture, Storage and import of Hazardous Chemical Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained,	For this project, BPCL-KR has obtained necessary approvals from Kerala Factories & Boilers, Chief Controller of Explosives, Fire Safety Inspectorate etc. wherever required. BPCL-KR is complied with the rules and regulations under manufacture, Storage and import of Hazardous Chemical Rules, 2000. PESO prior approval was obtained for overall plot

	wherever applicable.	plan, overall area classification, fire fighting water layout, equipment layout of individual facilities inside the complex vide. Letter P 5(2)496 /Refinery - dated 07-12-2016. Process units commissioning approval obtained from PESO vide following letters, P 5(2)496 /Refinery II dated 04-08-2020, P 5(2)496 /Refinery II dated 16-12-2020, and P 5(2) 496 /Refinery II dated 28-01-2020 PESO License for storage was obtained as applicable under Storage License numbers P/HQ/KL/15/1336 (P485172) & P/HQ/KL/15/1337 (P485168). Kerala Factories and Boilers had accorded permit to construct the facility vide. Permit number 109/2019 Doc No.T3/10811/2019/F&B/R Dis, Dated 08-05-2019 After completion, Factory license was amended by Kerala Factories and Boilers including PDPP project facilities. Amendment of factory license including PDPP project, Permit No.109/2019; Amendment letter dated 16-Sept-2020. NOC was obtained from Kerala Fire and Rescue department for the facility. D1-7904/2016 - Dtd.14.12.2018 from regional fire office Ernakulam, Kerala.
4	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 (daytime) and 70 dBA (night-time).	Noise control measures including acoustic hoods and silencers, enclosures on all sources of noise generation are installed as per design of the facility. Regular monitoring of Noise levels at boundary areas conducted by dedicated team to ensure the same. Also, one continuous noise monitoring station installed at peripheral boundary area as per the recommendation of KSPCB. The overall noise level is limited at the boundary as prescribed under EPA rules/ SPCB advisory.
5	A separate Environmental Management Cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	BPCL-KR is having a separate Environment Management section to carry out environmental management and monitoring functions. We have well equipped Centralized Quality Control Laboratory for PDPP project related monitoring activities.

6	Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.	BPCL-KR has earmarked adequate funds for environment pollution control measures. The funds are utilized for installing, operating, and maintaining 1. Conventional and Submerged type, liquid, and gaseous waste incinerators online to meet final effluent quality. 2. AAQMS station and monitoring facilities online 3. VOC meters for continuous monitoring of volatile emissions. 4. LDAR (Leak Detection and Repair) program is also operational in the complex. Greenbelt development and maintenance activities are also ensured.
7	The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Six monthly compliance reports being submitted by BPCL-KR at stipulated interval.
8	A copy of clearance letter shall be sent by the proponent to concern Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body, and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the Company by the proponent.	BPCL-KR has complied with this condition. Copies of clearance letter was sent to all local bodies.
9	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, PM10, PM2.5, SO2, NOx, HC (Methane of Non-methane), VOCs (ambient levels as	Six monthly compliance reports being submitted without fail by BPCL-KR after receipt of the Environmental Clearance for the PDPP project. The same being sent to the Regional Office of MoEFCC and uploaded in the BPCL website. The criteria pollutant levels namely, PM10, PM2.5, SO2, NOx, HC, VOCs being monitored utilizing a combination of - Approx.350 Nos. of HC/Hydrogen /other

	well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	detectors installed /continuously monitored in the complex. - 8 Nos. of Photo ionization detectors installed for continuous VOC detection - AAQMS station at location approved by KSPCB. - Regular AAQ monitoring is being conducted and report submitted to SPCB on monthly basis. Display of ambient air quality at a convenient location near the main gate of the company in the public domain is commissioned.
10	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry/CPCB/SPCB shall monitor the stipulated conditions.	Six monthly compliance reports were submitted by BPCL-KR after receipt of the Environmental Clearance for the PDPP project. The same was sent to the Regional Office of MoEF&CC and uploaded in the BPCL website.
11	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the Project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	Complied. Environmental statement is being submitted before Sept. 30th of every year.
12	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of	BPCL-KR has complied with this condition.

	the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and the copy of the same shall be forwarded to the Regional Office.	
13	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Investment clearance from Board obtained on 03.12.2014 and land development started subsequently project has been commissioned.

KR.HSE.ENV.05. HSSE.HECCR/01/2025/ J-11011/43/2016 - IA-II (I)
30.06.2025

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 enclosed the compliance reports on the various conditions laid down by MoEF &CC, pertaining to the half year period from **1st October 2024 to 31st March 2025** for the said project.

Thanking you,

Very truly yours
For BPCL Kochi Refinery.

Roshan Shihab P M
General Manager (HSE)

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 31.03.2025**
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.	BPCL-KR has complied with all conditions stipulated in this notification.
ii	Continuous on - line stack monitoring for SO2, NOx and CO of all the stack shall be carried out.	Complied. Continuous online monitoring of S02, NOx and CO is being carried out for 2 new stacks in the MSB project.
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.	Measurement and detection devices for HC, H2S etc. put online in plant area. Complied.
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 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.	LDAR program is being conducted in regular interval and records are keeping. 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 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%.	Sulphur rich off gases from new project units is treated in the existing Sulphur recovery units. BPCL-KR will comply with the S02 emissions limit of 1579 Kg/ Hr. New GT and HRSG envisaged in project proposal has 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 heater 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.	Sulphur balance is being maintained at Refinery on regular basis.
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 already 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.	Closed drainage system is provided for tank drains. Oil catchers with traps provided in oil water sewer system.

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. BPCL-KR will always adhere to the stipulations made by KSPCB, State Govt. and other statutory bodies.
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.	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	6 nos. of AAQMS are already installed at different locations inside refinery premises and are online monitored by PCB. KSPCB visited BPCL-KR to

	direction as well as where maximum ground level concentrations are anticipated.	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.
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.	BPCL-KR conducts periodic training on health, safety, and environment to cover all employees. Pre-employment and routine periodical medical examinations are also undertaken.
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.	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 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.	Industrial and domestic effluents from MSBP is treated in existing treatment 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	Environmental statement for the Refinery is submitted annually, this statement has

	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	included the details of MSBP facilities also.
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 October 2024 to 31st March 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 Annua l 50	Daily 80 Annua l 40	Daily 80 Annua l 40	Daily 400 Annua l 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annua l 60	Daily 60 Annual 40
Oct-24	16.1	4.6	38.0	17.4	1.7	0.0	0.1	0.4	33.9	21.6
Nov-24	27.7	7.4	26.7	29.9	1.9	0.0	0.1	0.2	66.1	49.7
Dec-24	49.2	10.2	25.2	24.5	2.2	0.0	0.0	0.0	84.9	52.3
Jan-25	40.2	6.9	27.1	26.0	1.5	0.0	0.0	0.7	107.9	70.7
Feb-25	20.6	8.3	23.4	21.0	0.7	0.0	0.0	0.0	88.0	58.6
Mar-25	6.3	1.0	24.0	23.1	0.6	0.0	0.0	0.0	58.6	35.2

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 Annua l 50	Daily 80 Annua l 40	Daily 80 Annua l 40	Daily 400 Annua l 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annua l 60	Daily 60 Annual 40
Oct-24	51.0	21.2	8.0	0.0	2.0	0.0	0.0	0.0	38.4	16.2
Nov-24	20.8	0.6	7.6	0.0	0.8	0.0	0.0	0.0	54.2	37.7
Dec-24	39.0	0.6	10.4	0.0	0.9	0.0	0.0	0.0	56.5	41.5
Jan-25	51.5	0.7	5.7	0.0	0.9	0.0	0.0	0.0	89.8	59.1
Feb-25	51.8	1.2	12.8	0.7	1.0	0.0	0.0	0.0	76.7	40.3
Mar-25	39.3	0.4	14.7	2.7	0.8	0.0	0.0	0.0	52.7	33.4

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 Annua l 50	Daily 80 Annua l 40	Daily 80 Annua l 40	Daily 400 Annua l 100	8 hrs - 2 4 hrs - 4	Daily 05 Annual 05	No limits are prescribed		Daily 100 Annua l 60	Daily 60 Annual 40
Oct-24	43.6	16.4	19.4	0.0	0.9	0.0	0.0	0.9	23.2	20.0
Nov-24	45.0	14.3	17.7	0.0	1.1	0.0	0.0	0.9	48.4	41.5
Dec-24	51.9	20.5	22.8	0.1	1.3	0.0	0.0	0.0	49.5	43.7
Jan-25	12.8	5.4	32.8	0.0	1.5	0.0	0.0	0.0	71.8	62.0
Feb-25	40.8	12.8	18.2	0.0014	1.2	0.0	0.0	0.0	62.6	40.7
Mar-25	24.0	8.3	18.5	0.0	0.8	0.0	0.0	0.0	38.8	32.5

Air Quality data for the period 1st October 2024 to 31st March 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	Daily 80 Annual 40	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
Oct-24	14.2	20.1	20.8	11.1	1.0	0.00	0.0	0.0	33.8	23.5
Nov-24	14.7	22.0	24.1	9.8	0.8	0.00	0.0	0.0	66.2	48.4
Dec-24	27.0	12.0	28.5	13.2	0.9	0.0	0.0	0.0	67.3	51.1
Jan-25	48.4	1.5	31.6	17.0	0.8	0.0	0.0	0.0	81.2	52.2
Feb-25	36.40	0.00	19.90	15.60	0.90	0.00	0.0	0.0	79.00	26.40
Mar-25	33.7	0.5	25.7	11.3	0.9	0.0	0.0	0.0	51.4	25.5

AAQMS - NIIT 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	Daily 80 Annual 40	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
Oct-24	4.0	1.5	4.3	3.7	0.7	0.0	6.4	7.9	58.0	15.49
Nov-24	4.9	2.02	4.93	2.88	1.23	0.00	1.37	8.9	82.72	48.58
Dec-24	4.8	2.0	4.9	2.7	1.3	0.0	8.4	4.0	78.0	41.7
Jan-25	4.5	2.2	4.9	2.9	10.7	0.0	6.9	2.1	146.4	40.9
Feb-25	4.90	2.80	4.90	2.80	0.20	0.00	2.10	2.0	105.10	44.40
Mar-25	5.2	2.5	6.1	2.3	0.1	0.00	3.5	6.0	89.3	25.8

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	Daily 80 Annual 40	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
Oct-24	10.6	0.0	37.2	2.3	3.4	0.0	0.0	0.0	24.9	33.0
Nov-24	11.7	0.0	51.4	0.47	3.6	0.0	0.0	0.0	67.4	22.4
Dec-24	12.6	0.0	8.3	0.8	3.8	0.0	0.0	0.0	61.8	39.8
Jan-25	13.4	0.0	12.9	2.0	3.7	0.0	0.0	0.0	89.1	66.9
Feb-25	13.0	0.0	14.4	1.8	0.0	0.0	0.0	0.0	70.7	52.8
Mar-25	12.5	0.0	13.2	0.2	0.0	0.0	0.0	0.0	39.2	26.9

Water discharge Quality data for the period 1st October 2024 to 31st March 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**
Oct-24	7.2	13.1	42.9	3.1	0.40	15.8	0.1
Nov-24	7.11	13.34	40.8	3.07	0.40	15.4	0.15
Dec-24	7.24	13.26	41.77	3.05	0.40	17.71	0.15
Jan-25	7.24	13.26	41.77	3.05	0.40	17.71	0.15
Feb-25	7.41	13.92	43.37	3.05	0.40	16.81	0.15
Mar-25	7.42	13.5	42.71	3.05	0.40	17.23	0.15