



KR.PET.5.EC

20th Mar.2020

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

Kind Attn: Shri. E Thirunavukkarasu – Scientist D

Dear Sir,

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

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

Dear sir/madam,

With reference to the aforementioned letter, please find enclosed **revised** six monthly compliance report for the period 1st April 2019 to 30st Sept 2019 on various conditions laid down by MoEF&CC.

Please refer email reply from your good office (mail id Regional Office Bangalore rosz.bng-mefcc@gov.in) subjected ([EXT] Re: HALF YEARLY COMPLIANCE REPORT (HYCR) for EC No: F.No.J-11011/26/2013 - IA II (I) Dt-12-May-2015 dt; 24.12.2019 **asking for a revised submission, to our original submission of six monthly compliance** via email subjected - HALF YEARLY COMPLIANCE REPORT (HYCR) for EC No : F.No.J-11011/26/2013 - IA II (I) Dt-12-May-2015 – submission date 24.12.2019. **Attached as Annexure-1.**

Hereby submitting the **revised compliance report** against above referred environment clearance for your kind review and upload in PARIVESH portal.

Thanking you,

Very truly yours

For BPCL Kochi Refinery

SREERAM A N

GM (Project Technical & Petchem)

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

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

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

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

S.No. as per Env.Ltr.No. J-1101126/2013-IA II (I), Dtd.: 12/05/2015	COMMENTS	Compliance Status
SPECIFIC CONDITIONS:		
I	M/s BPCL shall comply with new standards/norms for Oil Refinery Industry and petrochemical Industry notified under the Environment (Protection) Rules, 1986.	The project / facility is under construction/precommissioning stage, compliance report including parameter monitoring (ambient air quality, noise levels etc.) will be submitted after startup of the complex. Startup of units are targeted on a phased manner from May 2020 to July 2020
ii	Continuous on-line stack monitoring for SO ₂ , NO _x and CO of all the stacks shall be carried out. Low NO _x burners shall be installed.	Incinerators are having low NO _x burners. Continuous on-line stack monitoring will be ensured. (Stack Monitoring reports will be submitted after startup of Incinerators in the complex. The project / facility is under construction/precommissioning stage. Detailed compliance report including actual data of continuous on-line stack monitoring for SO ₂ , NO _x and CO of all the stacks will be submitted after the startup of complex targeted during the period of May-2020 to July 2020.

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

S.No. as per Env.Ltr.No. J-11011126/2013-IA II (I), Dtd.: 12/05/2015	COMMENTS	Compliance Status
iii	<p>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.</p>	<p>There are no process heaters in the PDPP Project. Waste incinerators are designed to consume clean fuels like vaporized LPG/LNG as fuel. The incinerators are designed to comply with the prescribed emission standards. Compliance report as per environment standards will be submitted after startup of the incinerators in the complex. Startup of complex targeted during the period of May-2020 to July 2020.</p>
iv	<p>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.</p>	<p>Leak Detection and Repair program starting from fugitive emissions survey to status update and final reporting will be implemented by availing the services of an expert consultant. Detailed leak detection and repair program for monitoring and repair of VOC leak points, leak detection and repair survey are already identified, the frequency of monitoring of leaks and schedule of repairs of leak will be as per CPCB guidelines Tendering for an expert and approved agency</p>

Revised Report on the status of Compliance of stipulated Environmental Conditions; PDDP Project BPCL-KR – Period Apr 19 to Sept 19.

S.No. as per Env.Ltr.No. J-11011/26/2013-IA II (I), Dtd.: 12/05/2015	COMMENTS	Compliance Status
V	Total SO ₂ emissions after implementation of PDDP including IREP SHALL NOT EXCEED 1561.4 Kg/hr.	<p>for conducting field survey is in progress.</p> <p>Target date for implementation – First quarter after startup of the complex – targeted during the period – May-2020 to July 2020.</p> <p>Plant-wise PM check schedule for the periodic health check-up of the Rotary Equipment is prepared.</p> <p>All storage tank breathing vents are routed to incinerator as per design.</p> <p>Gas detectors are already provided at strategic locations.</p> <p>Inorder to reduce fugitive emissions of volatile organic compounds from the complex.</p> <ol style="list-style-type: none"> 1. Magnetically coupled sealless pumps are installed in VOC liquid services 2. Special gland packings are provided in valves to reduce emission from glands. <p>The fuel for firing in Incinerators is vaporized LPG/LNG. The SO₂ emissions will not exceed 1561.4 kg/hr.</p>

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

S.No. as per Env.Ltr.No. J-11011/26/2013-IA II (I), Dtd.: 12/05/2015	COMMENTS	Compliance Status
vi	Continuous monitoring system for VOCs at all important places/areas shall be ensured. When monitoring results indicate above the permissible limits, effective measures shall be taken immediately.	<p>The compliance report against this target will be submitted after startup of the complex (Target – May- 2020 – July 2020)</p> <p>8 number of photo ionization detectors are being procured /installed at important locations identified including process units, tank farms and product loading areas. Most densely piped area in the unit at grade level & near pump houses of Tank farms.</p> <p>Continuous monitoring of VOCs will be ensured at following locations where continuous human occupancy is expected.</p> <ol style="list-style-type: none"> 1. Plant area (3 Nos.) 2. Intermediates tankage area of Plants (3 Nos.) 3. Product loading areas (Truck /drum filling 2 Nos.) <p>The detectors will be available during operation phase of the complex for continuous monitoring of VOC fugitive emissions from various components in the complex.</p>

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

S.No. as per Env.Ltr.No. J-11011/26/2013-IA II (I), Dtd.: 12/05/2015	COMMENTS	Compliance Status
vii	<p>Ambient air quality monitoring stations (PM₁₀, PM_{2.5}, SO₂, NO_x, H₂S, mercaptan, non-methane-HC and Benzene) shall be set up in the complex in consultation with Kerala State Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs.</p>	<p>Targeted date for startup is May-2020-July 2020 in a phased manner.</p> <p>1 – No of AAQMS STATION and DISPLAY SYSTEM for continuous monitoring of SO₂, NO-NO₂ –NO_x, NH₃,CO,OZONE, HC,H₂S, MERCAPTAN,BTX,VOC,PM 10 (SPM), PM 2.5 (RSPM) and meteorological data etc is being installed at the location approved by Kerala State Pollution Control Board.</p> <p>(Standalone analyzers with auto calibration, span check with self-diagnosis capabilities and failure alarm. With data logging and report generation capabilities)</p> <p>The display board is being positioned facing PWD road at main entrance of the complex. The station /connectivity to PCB servers and display for public awareness will be completed before the start-up of the complex targeted on a phased manner during May-2020 – July 2020.</p>
viii	<p>Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry on 16th November, 2009 and trend analysis</p>	<p>Ambient air quality data & trend analysis monitoring has not started yet since the</p>

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	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.	complex is still in construction /precommissioning phase. The AAQMS station is yet to be commissioned. Data logs including trends will be submitted along with compliance reports immediately after the startup of the complex planned on a phased manner during the period of May 2020 to July 2020.
ix	The gaseous emission from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. 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. The facility is under construction stage. Emission data for respective periods will be attached along with compliance reports after the startup of the process units & incinerators which is being targeted on a phased manner during the period May-2020 to July 2020.
x	Total fresh water requirement from Kochi Refinery for PDPP shall not	The total fresh water requirement will be 493

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	exceed 493 m ³ /hr and prior permission shall be obtained from the concerned agency. No ground water shall be used.	m ³ /hr which is within the total sanctioned quantity of 3083.3 m ³ /hr for refinery by Govt of Kerala. The actual consumption for the complex has not started since the facility is under construction /precommissioning stage.
xi	Industrial effluent shall be treated in the effluent treatment plant. Treated effluent shall be recycled/reused in the existing cooling tower. As proposed, high COD effluent shall be incinerated. Water quality of treated effluent shall be monitored regularly. Online water monitoring system shall be installed for important parameters.	High COD effluent will be incinerated. Effluent will be routed to IREP ETP for final treatment & disposal. There will be no treated effluent discharge from PDPP complex.
xii	Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.	Oil catchers/oil traps at possible locations provided
xiii	Incinerator designed shall be as per CPCB guidelines.	Two numbers Incinerator (Acrylic acid & Acrylates unit) is considered within the PDPP complex is designed as per CPCB guidelines
xiv	The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time.	Disposal of Hazardous waste contract with third party disposal agency finalized.
xv	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.	Oil spillage prevention is taken care at the design stage itself. However inside the refinery complex, adequate facilities are maintained to

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S.No. as per Env.Ltr.No. J-11011/26/2013-IA II (I), Dtd.: 12/05/2015	COMMENTS	Compliance Status
xvi	The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).	prevent and contain oil spillage. Hence the same shall be implemented for PDPP complex also. Complied to the points mentioned in CREP that is applicable for PDPP project
xvii	To prevent fire and explosion of oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.	PDPP facility is designed as per OISD & PESO guidelines and the facilities satisfy separation distances as specified by OISD and relevant Petroleum rules. PESO approval for the facility is being obtained on a phased manner based on completion and site inspection by PESO officials.
xviii	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented. Accordingly, provision of budget to be kept.	Emergency Disaster Control Plan is being updated based on the recommendations of risk assessment report. The draft report is under approval stage and will be completed before startup of the complex.
xix	All the issues raised and commitment made during the public hearing/consultation meeting held on 23 rd December 2014 shall be satisfactorily implemented. Accordingly, provision of budget to be kept.	BPCL-KR has complied with the issues mentioned in the minutes of meeting published in the EIA report
xx	At least 2% of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on local	Action plan prepared and already submitted with the previous compliance report.

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	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.	
xxi	Green belt shall be developed at least in 40 acres of land in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines.	Green belt is being developed in 40 acres of land in and around the plant premises
xxii	The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental protection (CREP).	Complied to the points mentioned in CREP that is applicable for PDPP project
GENERAL CONDITIONS:		
i	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.	BPCL-KR will adhere to the stipulations made by KSPCB, State Govt. and other statutory bodies. Consent to Operate obtained from KERALA - SPCB Consent No: PCB/HO/EKM-2/ICO/09/2019 - Dated 20-08-2019
ii	No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those	Complied.

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iii	<p>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.</p> <p>The project authorities must strictly comply with the rules and regulations under manufacture, Storage and import of Hazardous Chemical Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.</p>	<p>BPCL-KR has obtained approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc wherever required. BPCL-KR will comply with the rules and regulations under manufacture, Storage and import of Hazardous Chemical Rules, 2000. PESO approval obtained for plot plan and other drawings as required.</p> <p>PESO storage license was obtained partly for the facility based on completion and site inspection by PESO officials. The pending approvals are in application stage.</p>
iv	<p>The overall noise levels in the 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).</p>	<p>The overall noise level are limited at the fence as prescribed under EPA rules/ SPCB advisory.</p> <p>Continuous operation of the plants and facility is yet to commence. The facility is under</p>

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V	A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	BPCL-KR is having a separate Environmental Management cell to carry out environmental management and monitoring functions. We have well equipped Centralised Quality Control Laboratory. The same facility will be utilized for PDPP also. BPCL-KR has earmarked adequate funds for environment pollution control measures.
vi	Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.	BPCL-KR has earmarked adequate funds for environment pollution control measures.
vii	The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Six monthly compliance reports will be submitted on 1 st December (for the period 1 st April to 30 th September) and on 1 st June (for the period 1 st Oct to 31 st March) by BPCL-KR
viii	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the Company by the proponent.	BPCL-KR has complied with this condition. Copies of clearance letter was sent to all local bodies.

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S.No. as per Env.Ltr.No. J-11011126/2013-IA II (I), Dtd.: 12/05/2015	COMMENTS	Compliance Status
ix	<p>The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely: PM10, PM2.5, SO2, NOx, HC (Methane of Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>	<p>Six monthly compliance reports will be submitted on 1st December (for the period 1st April to 30th September) and on 1st June (for the period 1st Oct to 31st March) by BPCL-KR after receipt of the Environmental Clearance for the PDPP project. The same will be sent to the Regional Office of MoEF and also uploaded in the website.</p> <p>The criteria pollutant levels namely; PM10, PM2.5, SO2, NOx, HC (Methane of Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>
X	<p>The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry/CPCB/SPCB shall monitor the stipulated conditions.</p>	<p>Six monthly compliance reports will be submitted on 1st December (for the period 1st April to 30th September) and on 1st June (for the period 1st Oct to 31st March) by BPCL-KR after receipt of the Environmental Clearance for the PDPP project. The same will be sent to the Regional Office of MoEF and also uploaded in the website.</p>
xi	<p>The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the Project proponent to the concerned State Pollution Control Board as</p>	<p>BPCL-KR will comply. Environment statement will be submitted once</p>

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	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.	the facility is ready based on operational data.
xii	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at website of the Ministry of Environment and Forests at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and the copy of the same shall be forwarded to the Regional Office.	BPCL-KR has complied with this condition.
xiii	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Investment clearance from Board obtained on 03.12.2014 and land development started subsequently