



KR.HSE.ENV.05. HSSE.HECCR/01/2023/ J-16011/38/2003-IA-III & 810/SEIAA/EC3/2306/2015  
25.06.2023

To

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

Dear Sir,

**Sub: Submission of Half yearly Environmental Compliance report\_ Environmental Clearance issued by the Ministry of Environment, Forests and Climate Change**

**Ref: (1) EC No. J-16011/38/2003-IA-III 12.8.2004** issued to the project "Development of crude oil Receipt facilities (CORE), Facilities include Single point Mooring (SPM), Submarine Pipe lines from SPM to Shore Tank Farm (STF), and Pipe line from STF to Kochi Refinery (KR) for M/s Bharat Petroleum Corporation Ltd- Kochi Refinery (Formerly Kochi Refinery Limited)"

**(2) Environmental Clearance No: 810/SEIAA/EC3/2306/2015** dated **05-01-2016** EC was issued for the installation of additional tanks to store crude oil in special economic zone at Puthuvypin, to Kochi Refinery (KR).

With reference to the above, we would like to appraise the following points:

1. The project has been commissioned in 2006.
2. The crude oil receipt facilities for receiving Petroleum crude oil at Single point mooring facility and transporting the same to refinery storage tanks. This facility does not have any other operation other than transport of crude oil into refinery tanks. Hence there is no continuous emission/effluent generation from this facility.

Please find enclosed the compliance reports on the various conditions laid down by MoEF &CC, pertaining to the half year period from **1<sup>st</sup> October 2022 to 31<sup>st</sup> March 2023** for the Project mentioned in the Ref. 2 above. The data on ambient and storm water details for the above said period are given as Annexure-I.

Thanking you,

Very truly yours  
For BPCL Kochi Refinery

**Ramachandran. M.K.**  
**General Manager (HSE) - in charge**

- Encl: 1. Six Months Compliance Report  
2. Annexure -1: (Ambient Air Details & Quality of Storm water)

Cc:

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

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

**Compliance status of Environmental Clearance conditions for crude oil receipt facilities (core), which includes single point mooring (SPM), submarine pipeline from SPM to shore tank farm (STF) and pipeline from STF to KR for M/s Kochi Refineries Ltd. accorded by J-16011/38/2003-IA-III dt.12.8.2004**

**Status of the project: Project commissioned in 2006**

<b>Sl. No.</b>	<b>Conditions</b>	<b>Status as on 31.03.2023</b>
(i)	All the conditions stipulated by Kerala Pollution Control Board vide letter No. PCB/CE/EK/595/2003 dated 05.12.03 shall be effectively implemented.	Complied.
(ii)	All the conditions stipulated by Forest & Environment Department; Govt. of Kerala vide their letter No. 65/B1/2004/CZMA dated 31.03.2004 shall be effectively implemented. The project shall be implemented in such a manner that no portion of the project site should be located in CRZ-I (i) and no damage is caused to the mangroves or other sensitive coastal eco-systems due to project activities.	Complied.
(iii)	It shall be ensured that there is no displacement of people, houses, or fishing activity as a result of the project.	Complied
(iv)	It shall be ensured that due to the project, there is no adverse impact on the drainage of the area and recharge of groundwater. No groundwater should be tapped in the project area falling in Coastal Regulation Zone.	Complied
(v)	The project proponents must make necessary arrangements for disposal of solid wastes and for the treatment of effluents/liquid wastes. It must be ensured that the effluents / liquid wastes are not discharged into the backwater.	As it is only a storage facility, normally there is no liquid effluent generation from the facility. An ETP is set up to handle effluents generated if any. Oily sludge generated in the crude tanks is subjected to oil recovery and sludge cake disposed-off to TSDF.
(vi)	The camps of labour shall be kept outside the Coastal Regulation Zone area. Proper arrangements for cooking fuel shall be made for the labour during construction phase to ensure that mangroves are not cut /destroyed for this purpose.	Complied during the project construction phase.

Sl. No.	Conditions	Status as on 31.03.2023
(vii)	Regular drills should be conducted to check the effectiveness of the on-site Disaster Management Plan. The recommendations made in the Environmental Management Plan and Disaster Management Plan, as contained in the Environmental Impact Assessment and Risk Analysis reports of the project, shall be effectively implemented and adequate budgetary provisions may be made for the same. Details in this regard may be furnished to this Ministry.	Regular Drills are being conducted. Fire Emergency drills once in every month and on-site mock drill in every six months.  Recommendations of the EIA and Risk analysis reports have been implemented
(viii)	The entire stretch of the pipelines shall be buried underground except at the booster pumping station, which will be properly fenced, and the station would be manned round the clock. The buried lines will be protected with anticorrosive coal tar-based coating. The coating will be tested by high voltage detector in accordance with prescribed standards.	Pipelines are laid underground with Coal Tar Enamel (CTE) / 3LP (3 Layer Polyethylene) coating. Further, these buried pipelines are provided Cathodic protection and regular monitoring of the voltage is being done. Crude in transit storage and booster pump facilities are manned round the clock.
(ix)	Markers shall be installed at every 30 m to indicate the position of the line.	Complied
(x)	The smooth and safe operation of the system will be ensured by incorporating a computerized SCADA (Supervisory Control and Data Acquisition) system.	More advanced Computerized PLC system implemented.
(xi)	There should be display boards at critical locations along the pipeline viz. road/rail/river crossings giving emergency instructions as well as contact details of Kochi Refineries Limited. (Now BPCL –KR).	Complied
(xii)	During operation phase, proper precautions should be taken to avoid any oil spills and no oily wastes shall be discharged into the water bodies.	Complied Proper precautions are taken to avoid any oil discharge into water bodies.
(xiii)	It shall be ensured that the mangroves along with proposed alignment of the pipeline, if any shall not be adversely affected due to the project.	Ensured.

Sl. No.	Conditions	Status as on 31.03.2023
(xvi)	Storage of petroleum products shall be permitted within the provisions of the CRZ Notification, 1991 and its subsequent amendments.	Complied
(xv)	The impact of oceanographic parameters on the sub-sea pipeline such as buckling, slope stability, prediction of marine growth, local bad effects, pipeline spanning, liquefaction, etc. shall be studied.	It was taken care during the pipeline design by M/s. INTEC, Malaysia, based on Geo-technical studies and the subsea pipelines were laid incorporating all these safe guards.

**Compliance status of Environmental Clearance No: 810/SEIAA/EC3/2306/2015 dated 05-01-2016, issued for the installation of additional tanks to store crude oil in special economic zone at Puthuvypin, to Kochi Refinery (KR) for M/s Bharat Petroleum Corporation Ltd- Kochi Refinery. (An extension facility of J-16011/38/2003-IA-III dt.12.8.2004, which includes single point mooring (SPM), submarine pipe line from SPM to shore tank farm (STF) and pipeline from STF to Kochi Refinery)**

**Status of the project: Project commissioned in 2018**

Sl. No.	Conditions	Status as on 31.03.2023
(i)	Rainwater harvesting system should be installed as per the prevailing provisions of KMBR / KPBR, unless and otherwise specified elsewhere.	Green belt along with rainwater collection channel available for entire STF.
(ii)	Environment monitoring cell as agreed under the affidavit filed by the proponent should be formed and made functional.	Complied; HSE (Environment) section
(iii)	Suitable avenue trees should be planted along either side of tarred road and parking areas if any; inclusive of approach road and internal roads.	Complied
(iv)	The project shall incorporate devices for solar energy generation and utilization to the maximum possible extent with the possibility of contributing the same to the National grid in future.	Solar streetlights are fixed inside STF. Solar power mega projects are on construction stage.
(v)	Safety measures should be implemented as per Fire & Safety regulations.	Complied

Sl. No.	Conditions	Status as on 31.03.2023
(vi)	The conditions specified in the Companies Act 2013, should be observed for Corporate Social Responsibility	Complied
(vii)	The proponent shall plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.	Complied
(viii)	Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating the activity.	Complied
(ix)	All other statutory clearances should be obtained as applicable, by project proponent from the respective competent authorities including that for blasting and storage of explosives.	All applicable statutory clearances are obtained from respective authorities.
(x)	In case of any changes in the scope of the project, the project would require a fresh appraisal by this authority.	N.A.
(xi)	The authority deserves the right to add additional safeguard measures, subsequently, if found necessary and to take action including revoking of the environmental clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.	Concurred
(xii)	The stipulations by Statutory Authorities under different Acts and notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act 1986, the Public Liability (Insurance) Act 1991, and EIA notification 2006.	Concurred
(xiii)	The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and newspaper) shall be in the vernacular language informing that the project has been accorded environmental clearances and copies of clearance letters are available with the Dept. of Environment and Climate Changes, Govt. of Kerala and also be seen on the website of the authority, <a href="http://www.seiaakerala.org">www.seiaakerala.org</a> . The advertisement should be within 10 days from the date of receipt of the clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.	Complied.

<b>Sl. No.</b>	<b>Conditions</b>	<b>Status as on 31.03.2023</b>
(xiv)	A copy of the clearance shall be sent by the proponent to the concerned local Panchayth / District Panchayathu / Municipality / Corporation / Urban local body and also to the local NGO, If any; from whom any suggestions / representations, if any, were received while processing the proposal. The Environmental clearance shall also be put on website of the company by the proponent.	Complied.
(xv)	The proponent shall submit half-yearly reports on the status of compliance of the stipulated EC conditions including results of the monitored data (both in hard copies as well as by e – mail) and upload the status of compliance of the stipulated EC conditions, including results of the monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the respective regional office of the MoEF&CC, Govt. of India and also to the Directorate of Environment and Climate Change, Govt. of Kerala.	Complied.
(xvi)	The details of the Environment clearance should be prominently displayed in a metallic board, of 3ft. x 3 ft. with green background and yellow letters I Times New Roman font of size not less than 40.	Complied.
(xvii)	The proponent should provide notarized affidavit (indicating the number and date of EC proceedings) that all the conditions stipulated in the EC shall be scrupulously followed.	Complied.

<b>Sl. No.</b>	<b>Specific Conditions</b>	<b>Status as on 31.03.2023</b>
(i)	Constant vigil shall be maintained to prevent Oil spillage in any form to the back waters.	Complied.
(ii)	All safety measures to deal such any situation shall be properly maintained strictly adhering the relevant rules and protocols.	Complied.
(iii)	The mitigation measures proposed in EIA reports during the construction and implementation period shall be strictly followed.	Complied

Sl. No.	Specific Conditions	Status as on 31.03.2023
(iv)	The entire stretch of the pipeline shall be buried under ground except at the booster pumping station which will be properly fenced, and the station would be manned round the clock. The buried lines should be protected with anti-corrosive collar-based coating. The coating should be tested with high voltage detector in accordance with prescribed standards.	N.A. for STT 15 (All lines are above ground)
(v)	Markers shall be installed at every 30 m to indicate the position of the line.	N.A. for STT 15 (All lines are above ground)
(vi)	The smooth and safe operation of the system will be ensured by incorporating a computerized SCADA (Supervisory Control and Data Acquisition) system.	Computerized control system implemented.
(vii)	There should be display boards at critical locations along the pipeline viz. road/rail/river crossings giving emergency instructions as well as contact details of Kochi Refineries Limited. (Now BPCL –KR).	Complied
(viii)	It shall be ensured that the mangroves along with proposed alignment of the pipeline, if any shall not be adversely affected due to the project.	Ensured.
(ix)	Storage of petroleum products shall be permitted within the provisions of the CRZ Notification, 1991 and its subsequent amendments.	Complied
(x)	The impact of oceanographic parameters on the sub-sea pipeline such as buckling, slope stability, prediction of marine growth, local bad effects, pipeline spanning, liquefaction, etc. shall be studied.	N.A. for STT 15. It was taken care during the pipeline design by M/s. INTEC, Malaysia, based on Geo-technical studies and the subsea pipelines were laid incorporating all these safe guards.

Annexure - 1

STF Storm Water Quality data & AAQMS data for the Half year period  
1<sup>st</sup> October 2022 to 31<sup>st</sup> March 2023

Effluent Monitoring Storm Water - STF during Oct. 2022 to March. 2023							
Parameters	pH	TSS	BOD (3 days @27 C)	Phenol	Sulphides	Oil & Grease	COD
unit		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Permissible limit (avg.)	6.0 - 8.5	20	15	0.35	0.5	5	125
Oct. 22	7.1	10	10	0.11	0.4	3.4	38
Nov. 22	7.0	10	10	0.14	0.4	3.3	35
Dec. 22	7.1	9	12	0.16	0.4	3.6	30
Jan. 23	7.2	10	11	0.15	0.4	3.5	31
Feb. 23	7.2	10	10	0.14	0.4	3.4	30
Mar. 23	7.4	14	12	0.10	0.4	3.2	32

Ambient Air Quality Monitoring Stations

STF - AAQMS-1							
Parameter	unit	Oct. 22	Nov. 22	Dec. 22	Jan. 23	Feb. 23	Mar. 23
SO2	µg/m3	12.69	12.85	13.35	11.16	11.36	5.91
PM 10	µg/m3	34.79	38.02	21.00	118.49	301.23	36.95
PM 2.5	µg/m3	0.00	6.66	30.07	78.78	91.24	30.98
STF - AAQMS-2							
Parameter	unit	Oct. 22	Nov. 22	Dec. 22	Jan. 23	Feb. 23	Mar. 23
SO2	µg/m3	3.39	3.57	4.04	4.95	4.97	2.06
PM 10	µg/m3	29.41	45.22	55.90	75.37	72.38	46.78
PM 2.5	µg/m3	14.85	29.19	39.81	47.12	42.27	20.04
STF - AAQMS-3							
Parameter	unit	Oct. 22	Nov. 22	Dec. 22	Jan. 23	Feb. 23	Mar. 23
SO2	µg/m3	12.98	15.84	37.93	53.54	56.63	4.61
PM 10	µg/m3	32.95	48.70	63.07	77.94	76.29	79.79
PM 2.5	µg/m3	38.48	78.08	79.67	96.34	88.93	85.10