

An ISO 9001: 2015

14001 : 2015

45001 : 2018

55001 : 2014

**Certified Company** 

## Petronet LNG Limited

Survey No. 347, Pułhuvypu P.O. Kochi - 682 508, Kerala, India.

Tel: +91- 484 - 2757302 Fax: +91- 484-2502264

www.petronetlng.in

CIN L74899DL1998PLC093073

PAN: AAACP8148D. GST: 32AAACP8148D1ZP

PLL/KOCHI/MoEF&CC/2024-25/01

27/11/2024

#### Additional Principal Chief Conservator of Forests (C)

Ministry of Environment, Forest and Climate Change, Regional Office (SZ), Kendriya Sadan, 4<sup>th</sup> Floor, E&F Wings, 17<sup>th</sup> Main Road, Koramangala II Block, Bangalore – 560034.

Sub: Compliance report to Environment Clearance accorded to the LNG Terminal at Puthuvypu, Kochi.

Ref: Environment Clearance No. J-16011/26/2001-IA-III vide your letters dated 2<sup>nd</sup> June 2003.

Sir,

The Six-monthly compliance report for the above clearance for the period of April to September 2024 is attached.

Thanking You

Sincerely,

**Upinder Kumar** 

Chief General Manager & Vice President (Plant Head)

**Copy to:** The Environmental Engineer, District Office 1, Kerala State Pollution Control Board, Gandhinagar, Kochi – 682 020.

World Trade Centre, First Floor, Barbar Road, Barakhamba Lane, New Delhi - 110 001 (INDIA) Tel: +91-11-23411411 / 23472525 Fax: +91 -11-23472550 Dahej LNG Terminal:

GIDC Industrial Estate, Plot No. 7/A, Dahej Taluka: Vagra Dist. Bharuch - 392130 (Gujarat) Tel: +91-2641-257249 Fax: +91-2641-257252 Compliance report of EC&CRZ Clearance No. J-16011/26/2001-IA-III dated 02<sup>nd</sup> JUNE 2003 for the Construction of LNG Import Terminal at Puthuvypeen Island, Kochi, Kerala by M/s Petronet LNG Ltd (PLL)

#### Period: April 2024 to September 2024

SI. No	<b>Condition Type</b>	Condition Description	Compliance Status	
1	Specific	All the conditions stipulated by the Science Technology and Environment Department (STED), Government of Kerala vide their Letter No. 4215/B1/2000/STED, dated 9 <sup>th</sup> February-2001 should be effectively implemented.	<ul> <li>Letter No: 4215/B1/2000/STED, dated 09 February-2001 does not specify and conditions for compliance</li> <li>Conditions mentioned in the Letter No.1143/A2/2005/dated 14.10.2005 from KCZMA are complied. Compliance report attached as Annexure 1.</li> </ul>	
2	Specific	All the conditions stipulated by Kerala Pollution Control board in their NOC No: PCB/NOC/EK/117/98 dated 17.09.99 should be effectively implemented.	NOC No. PCB/NOC/EK/117/98 dated 17.09.99 are complied. Report attached as <b>Annexure</b>	
3	Specific	No change in scope of work shall be made without prior approval of this ministry.	Any change in scope of work would be carried out only with the prior approval of the MoEF&CC.	
4	Specific	The laying and commissioning of the pipelines shall be in accordance with the established procedures, practices, and rules. LNG facilities shall be designed, constructed, and operated as per existing international standards. The pipelines shall be provided with inbuilt gas leakage detection and warning system. Adequate measures for monitoring pressures in excess of those for which the pipeline is designed shall be ensured to prevent leakage of gas.	Terminal construction and laying of pipelines were carried out as per applicable standards & regulations. Pipeline process parameters like pressure, temperature, flow rate etc. are regularly being monitored, gas leakage and warning systems are installed.	
5	Specific	No groundwater shall be tapped for the project.	Groundwater was not taken during project phase, and it is not required during operation phase. Water requirement during operation of the terminal is being met by the condensed water generated from air heater & by purchasing water from municipal sources.	
6	Specific	Specific arrangement for rainwater harvesting should be made in the project design and the rainwater so harvested should be optimally utilized.	Rainwater collection system is in place above LNG storage tanks and being collected in fire & service water reservoir. The collected rainwater is being utilised inside the terminal.	
7	Specific	Mangrove afforestation will be promoted in consultation with the expert agencies and the local NGOs in the area. A detailed plan shall be worked out in this regard and submitted to this Ministry within 3 months.	Mangrove afforestation plan was submitted with six monthly compliance report dated for the period April to September 2013. PLL had spent Rs.60.00 lakh for Mangrove Afforestation Project till date and the details	

			monthly compliance report dated till March 2020.
8	Specific	The budget allocated for environment safeguard measures shall not be diverted for any other purpose.	PLL ensures that the budget allocated for environment safeguard will not be diverted for any other purposes.
9	Specific	The comprehensive Environmental Impact Assessment report shall be completed early, and the final report submitted to this Ministry within one year from the date of this clearance letter. Based on the comprehensive EIA report, additional environmental safeguards, as required, shall be implemented by the proponents.	Comprehensive EIA report for 2.5 MMTPA Terminal capacity was completed and submitted to MoEF&CC on 16 <sup>th</sup> Feb 2001. EIA report for 5 MMTPA capacity was submitted on 22 <sup>nd</sup> Sept 2011. Additional safeguards are being implemented in accordance with the EIA report.
10	Specific	Based on the risk analysis, Disaster Management Plan should be prepared and submitted to this Ministry within 6 months. Necessary safety norms for the movement of LNG ships are to be laid down by Cochin Port Trust Authorities within their jurisdiction and communicated to the project proponent for strict compliance with a view to prevent collision, grounding or ramming or any other major accidents	Updated emergency response & disaster management plan (ERDMP) was submitted along with the half yearly compliance report up to March 2024.  Safety norms for the ship movements are received from CoPT (Cochin Port Trust) and are being followed at site.
11	Specific	Project proponent shall take all safety measures and take into account the dynamics of the marine / Coastal area before constructing the break waters. The recommendations made by Central Water and Power Research Station (CWPRS) shall be duly implemented. The dredged materials shall be disposed of as per the recommendations by CWPRS.	All the safety measures had taken, and dynamics of marine /coastal area were considered before breakwater construction. Location and size of the basin were finalized after detailed study done by CWPRS and revalidation by HR Wallingford. Recommendations from CWPRS were implemented. The dredged material is being disposed of at the locations identified by Cochin Port trust (COPT).
12	Specific	No activities will be undertaken in the Mangrove area or in the buffer zone of the mangrove. The route of the pipeline and other activities shall have minimum of 50m from the nearby mangroves and forest land if any in the CRZ area. Expansion of existing service road in the Costal Regulation Zone-I shall not be carried out.	PLL is not located in the mangrove area. PLL Kochi terminal is located at about 100m from the mangrove buffer zone. The existing service road belongs to Panchayat. PLL will not carry out any expansion of existing service road into CRZ Zone 1(i).
13	Specific	Design and alignment of the pumping platform/jetty and other structures should be chosen in such a way that it causes minimum resistance to the flow of tidal waters.	Jetty structure was designed and constructed after due consideration of this aspect. Jetty foundation is built on piles structure to cause minimum disturbance to tidal waters.

14	Specific	The pipelines related to effluent discharge, sea water intake and pumping of LNG should be laid on sea floor after trenching. Trenching operations should be restricted to minimum area to minimize damage to benthic fauna.	This is not applicable to the project as all LNG Pipelines are laid above ground along the jetty trestle, PLL is not taking sea water for its process and no effluent is getting discharged into the sea.
15	Specific	Disposal facilities should be completed prior to the commissioning of project activities. As per the thermal Plume Studies by NIO, Goa, the return water should be discharged at a location having water depth of about 3 m. Post monitoring should be carried out at definite intervals in order to ensure mid-course corrections, if any, for maintenance of environmental quality.	PLL had submitted to MoEF&CC, the change in the regasification process of the terminal and Sea water intake is not required in Shell and Tube Vaporizers. So, this condition remains not applicable.
16	Specific	Fish eggs, larvae and small fish as well as plant and animal plankton pass through the water intake screen and at times through the trash bars. Accordingly, the water intake for regasification purpose is to be provided with a velocity cap, trash bars, and low intake velocity be maintained to minimize the entry of debris and fish.	PLL had submitted to MoEF&CC, the change in the regasification process of the terminal and Sea water intake is not required in Shell and Tube Vaporizers. So, this condition remains not applicable.
17	Specific	The Bathymetric survey of the dredged material disposal site should be carried out regularly and it should be ensured that there is no navigational hazard due to reduction of navigational depth as a result of project activities. Location of dumping site should be informed to all concerned.	Bathymetric survey is being carried out by Cochin Port Trust (CoPT). The dredged material is being disposed off at the locations identified by Cochin Port trust.
18	Specific	Regular surveys shall be conducted to identify changes in the channel morphology so that navigational hazards are minimal.	The channel is belonging to Cochin Port Trust and its Morphology survey has been carrying out by Cochin Port Trust.
19	Specific	Marine environment shall be periodically monitored to assess changes, if any, in the ecology and suitable remedial measures, if any required, shall be taken.	Marine water quality analysis is being carrying out once in 6 months through a KSPCB approved Environment laboratory. As per the report, there are no adverse changes observed in the marine water quality. Latest report is attached as <b>Annexure 3.</b>

20	General	Construction of the proposed structure should be undertaken meticulously conforming to the existing Central/local rules and regulations including Coastal Regulation Zone Notification, 1991 and its amendments. All the construction designs/drawings relating to the proposed construction activities must have approvals of the concerned State Government departments/Agencies.	Terminal construction was carried out as per applicable central & local regulations like KSPCB, PESO, F&B, Fire and Rescue dept., KCZMA etc.  All the statutory approvals were taken before construction and copy of the same submitted to MoEF&CC with the HYCR for the period October 2012 to March 2013.
21	General	The proponent shall ensure that as a result of the proposed constructions, ingress of the saline water into the groundwater does not take place. Piezometers shall be installed for regular monitoring for this purpose at appropriate locations on the project site.	Any incident of saline water ingress to ground water did not happen during construction stage. We have ground water wells installed at two locations inside the terminal for ground water quality monitoring. Latest ground water analysis report is attached as <b>Annexure 4.</b>
22	General	Handling, manufacturing, storage and transportation of all hazardous chemicals should be carried out in accordance with MSIHC Rules, 1989 and subsequent amendments, all approvals from State and Central nodal agencies including OISD, Chief Controller of Explosives, Chief Inspectorate of Factories must be obtained. A comprehensive contingency plan in collaboration with the concerned authorities must be formulated before commissioning of the project to meet any eventuality in case of an accident.	Plant operation is being carried out in accordance with MSIHC Rules, 1989 and all other applicable regulations. All the approvals and licenses were obtained from statutory bodies and submitted to MOEF&CC with six monthly compliance report for the period October 2012 to March 2013.  An emergency response and disaster management plan (ERDMP) has been prepared and being maintained for handling plant emergencies.
23	General	Minor oil spills are likely to be caused due to ship movement in the port. Engine room waste, oil ballast and tank wash water have to be discharged to the shore reception for treatment by port authorities or by certified contractors. In case of major oil spills due to accidents. Petronet LNG Limited should interact with Kochi Port to ensure full preparedness to undertake all combat operations.	Discharge of wastes and wastewater from ship to shore for treatment is not being happening at PLL Jetty area.  Oil spill contingency plan is in place which is prepared by CoPT. Any kind of spillage incidents will be handled by Cochin Port Trust. Details of oil spill contingency plan was submitted to MoEF&CC along with the HYCR for the period October 2012 to March 2013.

24	General	Control room / tower should be equipped with modern communication and control device to act instantaneously if spill/leakage occurs. At the jetty, loading arm should be equipped with latest Emergency Release Systems (ERS) and monitoring device for LNG services. Articulated cargo transfer arm should be used at the unloading jetty. It shall be ensured that LPG and LNG tankers are scheduled properly to avoid bunching and also that LPG will not be unloaded from the ship when the LNG tanker is at berth.	Control room is equipped with modern communication and control facilities for monitoring process parameters. Communication from the activation of flame/gas/spill detectors are also configured with the DCS.  Loading arms are equipped with Emergency release systems. Unloading arm with swivel joints are used for handling LNG cargo.  PLL do not handle LPG at our jetty.
25	General	Dry chemical firefighting extinguishers should be provided at all levels of the jetty to permit personnel to fight small fires. Water spray for dispersing unignited vapour clouds should be kept as standby. Full- fledged firefighting facilities should be provided at jetty.	Fixed DCP fire extinguishing system & DCP fire extinguishers are provided at jetty. Water spray and curtain system is provided at jetty and other locations in the plant. Details of firefighting facilities submitted to MoEF&CC with HYCR for the period April to September 2013.
26	General	A well-equipped laboratory with suitable instruments to monitor the quality of air and water shall be set up as to ensure that the quality of ambient air and water conforms to the prescribed standards. The laboratory will also be equipped with qualified manpower including a marine biologist so that the marine water quality is regularly monitored in order to ensure that the marine life is not adversely affected as a result of implementation of the said project. The quality of ambient air and water shall be monitored periodically in all the seasons and the results should be properly maintained for inspection of the concerned pollution control agencies. The periodic monitoring reports at least once in 6 months must be sent to this Ministry (Regional Office at Bangalore) and State Pollution Control Board.	A laboratory with equipment's for water quality analysis and qualified employees is in place.  Water & Air quality monitoring is being carrying out with the help of a PCB approved third party lab. Monitoring reports are being submitted to State pollution control board on every month and to MoEF&CC on six monthly basis. Ambient air quality monitoring data for last six months is attached as <b>Annexure 5</b> .  Services of a marine biologist is not required as there was a change in the initially proposed project, where sea water intake & discharge is required.

27	General	Adequate provisions for infrastructure facilities such as water supply, fuel for cooking, sanitation, etc. must be provided for the laborers during the construction period in order to avoid damage to the environment, Colonies for the laborers should not be located in the Coastal Regulation Zone area. It should also be fuel wood purpose.	During construction, PLL has provided adequate infrastructure facilities such as water supply, fuel for cooking, sanitation, etc. to the labourers. Labour colonies were not located in the CRZ area.
28	General	To prevent discharge of sewage and other liquid wastes into the water bodies, adequate system for collection and treatment of the wastes must be provided. No sewage and other liquid wastes without treatment should be allowed to enter into the water bodies.	STP and septic tanks are provided for treating sewages. No sewage or waste from PLL are allowed to enter in water bodies. Treated water from STP is used for gardening purpose.
29	General	Appropriate facility should be created for the collection of solid and liquid wastes generated by the barges/vessels and their safe treatment and disposal should be ensured to avoid possible contamination of the water bodies.	PLL is not handling the wastes generated from vessels at site. Wastes generated by vessels and tugs are not handled & disposed at PLL premises.
30	General	Necessary navigational aids such as channel markers should be provided to prevent accidents. internationally recognized safety standards shall be applied in case of barge/vessel movements	All the navigation related requirements are maintained by Cochin Port Trust.
31	General	The project authorities should take appropriate community development and welfare measures for villagers in the vicinity of the project site, including drinking water facilities. A separate fund should be allocated for this purpose.	CSR projects are being undertaken by PLL for community development and welfare in nearby villages. CSR report & expenditures during the period, April 2024 to September 2024 is attached as <b>Annexure 6.</b> Separate amount is allocated in budget for these activities.
32	General	The quarrying material required for the construction purpose shall be obtained only from the approved quarries/borrow areas. Adequate safeguard measures shall be taken to ensure that the overburden and rocks at the quarry site do not find their way into water bodies.	Quarrying material was sourced from Government approved quarries during terminal construction. Details regarding this are submitted with six monthly compliance reports for the period October 2012 to March 2013.
33	General	The dredging operations to be undertaken with the prior approval of this Ministry, shall be executed with appropriate safeguard measures to prevent turbidity conditions in consultation with the expert agencies such CWPRS/NIO.	Dredging approval has been taken from MoEF&CC vide their order No. J16011/26/2001- IA-III dated 16th November 2010. Dredging completed & maintenance dredging is being regularly carried out by ensuring all safeguards.

34	General	For employing unskilled, semi-skilled and skilled workers for the project, preference shall be given to local people.	During the project, PLL had given preference to locals while employing unskilled, semi skilled and skilled worker wherever possible based on their qualification and merits.	
35	General	The recommendations made in the Environment Management Plan and Disaster Management Plan, as contained in the Environmental Impact Assessment and Risk Analysis Reports of the project shall be effectively implemented.	All the recommendations from Environment Management Plan (EMP), EIA, Disaster management plan and risk analysis reports are being implemented.	
36	General	A separate Environment Management Cell with suitably qualified staff to carry out various environment issues should be set up under the charge of a Senior Executive who will report directly to the Chief Executive of the Company.	PLL has set up an Environment Management Cell (EMC) under Chief General Manager & Vice President (Plant Head) with nominated members from plant departments.	
37	General	The project affected people, if any should be properly compensated and rehabilitated.	No people affected directly as the project was on uninhabited land.	
38	General	The funds earmarked for environment protection measures should be maintained in a separate account and there should be no diversion of these funds for any other purpose. A year wise expenditure on environmental safeguards should be reported to this Ministry.	The fund earmarked for environment management is included in the budget and will not be diverted for other purposes. Expenditures for the FY 2023-24 is submitted to MoEF&CC along with six monthly compliance report dated till March 2024.	
39	General	Full support should be extended to the officers of this Ministry's Regional Office at Bangalore and the officers of the Central and State Pollution Control Boards by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.	PLL extend its full support to the officers of this ministry's Regional Office, Bengaluru and the officers of the Central and State Pollution Control Board during the inspection for monitoring purpose.	
40	General	In case of deviation or alteration in the project including the implementing agency, a fresh reference should be made to this Ministry for modification in the clearance conditions or imposition of new ones for ensuring environmental protection. The project proponents should be responsible for implementing the suggested safeguard measures.	PLL has not carried out any deviation or alteration in the project. PLL will comply with this requirement and will take permit from the Ministry prior to any deviation, alteration and modification.	

41	General	This Ministry reserves the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.	Noted. PLL will abide by all the Environment clearance conditions.
42	General	This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary for environmental protection, which shall be complied with.	PLL will comply with additional conditions, if any suggested by the ministry or any other competent authority in writing.
43	General	The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Committee and may also be seen at Website of the Ministry of Environment & Forests at http://www.envfornic.in. The advertisement should be made within 7 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	Advertised in two local newspapers widely circulated in the region around the project. Copy of advertisement submitted along with the six-monthly compliance report for the period April to September 2013.
44	General	The Project proponents should 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 Land Development Work.	PLL had informed the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project vide letter dated 5 <sup>th</sup> September 2008.

# Conditions mentioned in the Letter No. 4215/B1/2000/STED, dated 9<sup>th</sup> February-2001 does not specifies any conditions for compliance.

Conditions mentioned in the Letter No. 1143/A2/2005/STED dated 14<sup>th</sup> October-2005 from Kerala coastal Zone Management Authority and PLL compliance remarks are as under:

Sr.	Conditions mentioned	PLL Compliance remarks
No.		The some manual so
1.	No activities will be undertaken in the Mangrove area or in the buffer zone of the mangrove. The route of the pipeline and other activities shall have minimum of 50M from the nearby mangroves and forest land if any in the CRZ area.	PLL's plot is not in the mangrove area, it is about 100 m away from the buffer zone. All activities including the laying of pipelines are confined within the PLL's plot.
2.	Expansion of existing service road in the Costal Regulation Zone-I shall not be carried out.	Existing service road in the Costal Regulation Zone-I belongs to Panchayat and PLL will not do any expansion of this service road.
3.	No groundwater shall be tapped for the project.	PLL will not tap any ground water during operation of the terminal as water requirement will be met by local purchase. During construction stage, requirement of water was met by purchasing.
4.	The proponent shall obtain necessary No Objection Certificate (NOC) from Kerala State Pollution Control Board.	PLL has obtained required NOC from Kerala State Pollution Control Board in 1999 vide NOC No. PCB/NOC/EK/117/98 dated 17 <sup>th</sup> September-1999.  We have obtained a Consent to Operate with no. PCB/HO/EKM-1/ICO-R/16/ 2023 dated 14 <sup>th</sup> August 2023, and is valid up to on 31 <sup>st</sup> March 2028, which was submitted along with six monthly compliance report till September 2023.
5.	EIA document including risk analysis and disaster management plan should be submitted directly to MoEF&CC for environment clearance, under intimation to this office.	Comprehensive EIA for 2.5 MMTPA Terminal capacity was submitted at MoEF&CC on 16th February-2001. EIA, QRA and Site emergency response plan for 5 MMTPA terminal capacity were submitted at MoEF&CC on 22nd September-2011.

# Conditions mentioned by KSPCB in the CTE No. PCB/NOC/EK/117/98 dated 17.9.99 are and PLL compliance remarks are as under:

SI. No	Conditions mentioned	PLL Compliance remarks
1	The applicant shall comply with the instructions that the Board may issue from time to time regarding prevention and control of air, water, land and sound pollution.	PLL will comply with any such instructions from the Board regarding prevention and control of air, water, land and sound pollution.
2	The effluent treatment facilities proposed namely sewage treatment plant/septic tank, oil traps, hot water-cooling facilities etc. shall be provided before commissioning the industry.  Addition facilities required, if any to	PLL has been generating only sewage wastes, and it is being handled with an STP of capacity 30 KLD & through the septic tanks and soak pits installed for individual building.
	achieve the effluent standards laid down by the Board under section 17(1) (g) of Water (Prevention and Control of Pollution) Act' 1974 shall also be made along with.	PLL has been complying with the effluent standard as per Water Act. PLL will provide additional facilities if required for meeting the standards.
3	Air pollution control devices required shall be installed before commissioning the industry for controlling air pollution. Minimum stack/chimney height shall be as detailed below:	PLL is using Natural Gas as fuel for GTGs. GTGs are inbuilt with DLE burner (Dry low emission, Low NOx burners) and CEMS (Continuous Emission monitoring System). Stacks of height as required by statues were installed for Flare, GTG, EDG & Fire water pumps.
	69.0 m above ground level for flare stack and 5.5 meter above the roof level of Generator room for the Gensets of capacity 750 KVA.	PLL had received a letter from KSPCB dated 18-10-2010 regarding change in this condition, wherein the flare stack height reduced from 69.0 m to 43.2 m, a copy of this letter had already been submitted with six monthly reports dated 30 <sup>th</sup> September-2013. PLL has provided the stack discharge at 3.5 meter above the roof level for Emergency Diesel Generator room (EDG).
4	For bringing into use any outlet to discharge and for the discharge of sewage/trade effluent, the applicant shall obtain consent to discharge from the Board under the Water (Prevention and Control of Pollution) Act'1974 before commissioning the industry.	PLL is generating only sewage waste and is being handled through individual building's septic tank, soak pit and STP. Treated water from STP is being used for gardening purpose. PLL has obtained Integrated Consent to Operate from Kerala State Pollution Control board.
5	The applicant shall obtain the "Consent to Operate" from the Board under the Air (Prevention and Control of Pollution)	PLL had obtained Integrated Consent to Operate from KSPCB before commissioning of the facility (ICTO No: PCB/HO/EKM/ICO/40/2013 dated

6	Act'1981 before commissioning the industry.  The sign board showing the name of the industry shall be displayed at the	05.08.2013). Consent was renewed with no. PCB/HO/EKM-1/ICO-R/16/ 2023 dated 14th August 2023, and is valid up to on 31st March 2028, which was submitted along with six monthly compliance report till September 2023.  PLL has displayed the sign board showing name of the industry at the entrance of
7	entrance of the site.  Suitable species of trees shall be planted and maintained within and along the periphery of the factory premises, forming a green belt to improve the environment.	the site.  Green Belt area has been developed along the periphery of the factory premises with trees like Gul mohar, Amaltas, Neem, fig, mango, arjun tree etc. A horticulture department is functioning in the terminal for green belt monitoring and gardening related works.
8	The date of commissioning of the industry shall be intimated to the Head Office and Regional office concerned of the Board at least one month in advance.	PLL had informed the date of commissioning of the industry vide letter no PLL/KOCHI/KSPCB/2013-14/C-06 dated 07th August-2013, A copy of this letter has already been submitted with six monthly reports dated 30th September - 2013.
9	There shall not be any fugitive emission from the plant/premises.	There are no fugitive emissions from the plant/premises.
10	The location of the industry shall be as shown in the drawing attached. No change or alteration to the above shall be made.	There is no change made in the location of the industry, Location of the industry is as per the drawing.
11	The temperature difference between cooling water discharged and the receiving water body (sea water) temperature shall not be more than 50C and monitoring arrangements for the same shall be provided.	PLL is not discharging cooling water into sea or any other water body.
12	The ambient sound level measured at a distance of 1 m away from the boundary shall not exceed 65 dB (A) during daytime and 55 dB (A) during nighttime.	Ambient sound levels measured at a distance of 1 m away from the boundary walls are well within the limits as specified. Ambient sound level monitoring is being carried out every quarter by a KSPCB approved agency and the monitoring reports are being regularly submitted at KSPCB.
13	Consent to establish shall be obtained prior to setting up of captive power plant in futures.	A Consent to Establish was obtained by PLL prior to setting up of captive power plant.



## **TEST REPORT**

ULR No.: TC1293924000012668F		
LRI No.: SEAAL24060587A	Date: 10-06-2024	Page 1 of 2

	CUSTOMER DETAILS
	M/s Petronet LNG Limited
Customer Name & Address	Survey No.347, Puthuvypu P.O
	Kochi, Ernakulam District
Customer Reference	Test Request Date: 04-06-2024

SAMPLE DETAILS				
Product Category	Water	Sample Code	WT24060175	
S ple Name	Marine Water	Sample Received on	04-06-2024	
Sample Description by Customer	Marine Water	Temperature @ Receipt	4°C	
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	05-06-2024	
Sample Quantity & Packing	2 L & 125 ml in a Plastic Bottle	Test Completed on	08-06-2024	
Information Provided by Customer		Sampled by	Lab Authorized Sampler	

DETAILS OF SAMPLING			
Sample Source	Jetty Area	Date of Sampling	04-06-2024
Sampling Procedure	SEAAL/QAD/SOP/7	7.3/01	

TEST RESULTS - CHEMICAL DISCIPLINE				
Sl.No.	PARAMETERS	TEST METHOD	UNIT	RESULT
1	Temperature	IS 3025 (Part 9): 2023	°C	25.9
2	Colour	IS 3025 (Part4):2021	Hazen	1
3	pH	IS 3025 (Part 11):2022		7.01
4	Electrical Conductivity	IS 3025 (Part 14):2013	μS/cm	11990
5	Total Dissolved Solids	IS 3025 (Part 16):2023	mg/L	7794
6	Turbidity	IS 3025 (Part 10:2023	NTU	8.2
7	Total Suspended Solids	IS 3025 (Part 17):2022	mg/L	16.0
8	Salinity	APHA (24th Edn) 2520 - B: 2023	ppt	6.749
9	Mercury as Hg	APHA (24th Edn) 3112-B: 2023	mg/L	BDL (LOD-0.001
10	Lead as Pb	IS 3025 (Part 47), Method 7: 1994	mg/L	BDL (LOD-0.01)
11	Copper as Cu	IS 3025 (Part 42), Method 6: 1992	mg/L	BDL(LOD-0.017)
12	Zinc as Zn	APHA (24th Edn) 3111-B: 2023	mg/L	BDL (LOD-0.008)

Shency Joy TM-Chemical Checked by:



Laboratory Head Authorized Signatory

The results are related only to the samples submitted for analysis and this test report shall not be reproduced except in full, without the written approval of the laboratory.

#### Standards Environmental & Analytical Laboratories

Accreditation & Approval: NABL accredited Testing Laboratory as per ISO/IEC 17025:2017 vide Certificate No. TC - 12939 & "A" Grade Laboratory approved by KSPCB.



## TEST REPORT

ULR No.: TC1293924000012668F			
LRI No.: SEAAL24060587A	Date: 10-06-2024	Page 2 of 2	

TEST RESULTS - CHEMICAL DISCIPLINE				
Sl.No.	PARAMETERS	TEST METHOD	UNIT	RESULT
13	Nickel as Ni	IS 3025 (Part 54), Method 7: 2003	mg/L	BDL (LOD-0.003)
14	Cadmium as Cd	IS 3025 (Part 41), Method 6: 2023	mg/L	BDL (LOD-0.003)
15	Arsenic as As	IS 3025 (Part 37), Method 4: 2022	mg/L	BDL (LOD-0.001
16	Oil & Grease	IS 3025 (Part 39): 2021	mg/L	<1.00
17	Dissolved Oxygen	IS 3025 (Part 38):1989	mg/L	6.80
18	Biochemical Oxygen Demand (3 days at 27 °C)	IS 3025 (Part 44):2023	mg/L	<2.00
19	Chemical Oxygen Demand	IS 3025 (Part 58):2023	mg/L	80.0

Note: BDL-Below Detection Limit,

LOD-Limit of Detection

Remarks:

\*\*\*End of Report\*\*\*

Shency Joy TM-Chemical Checked by:



Laiju P N Laboratory Head Authorized Signatory

The results are related only to the samples submitted for analysis and this test report shall not be reproduced except in full, without the written approval of the laboratory.

#### Standards Environmental & Analytical Laboratories

Accreditation & Approval: NABL accredited Testing Laboratory as per ISO/IEC 17025:2017 vide Certificate No. TC - 12939 & "A" Grade Laboratory approved by KSPCB.

## TEST REPORT

Date: 10-06-2024	Page 1 of 1
	Date: 10-06-2024

	CUSTOMER DETAILS
	M/s Petronet LNG Limited
Customer Name & Address	Survey No.347, Puthuvypu P.O
9	Kochi, Ernakulam District
Customer Reference	Test Request Date: 04-06-2024

SAMPLE DETAILS				
Product Category	Water	Sample Code	WT24060175	
Sample Name	Marine Water	Sample Received on	04-06-2024	
Sample Description by Customer	Marine Water	Temperature @ Receipt	4°C	
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	05-06-2024	
aple Quantity & Packing	2 L & 125 ml in a Plastic Bottle	Test Completed on	08-06-2024	
Information Provided by Customer	422	Sampled by	Lab Authorized Sampler	

	DETAILS OF SA	AMPLING		
Sample Source	Jetty Area	Date of Sampling	04-06-2024	
Sampling Procedure	SEAAL/QAD/SOP/7.3/01	Sample Temperature	25.9 °C	

TEST RESULTS - CHEMICAL PARAMETERS				
S1.No.	PARAMETERS	TEST METHOD	UNIT	RESULT
1	Chloride as Cl	IS 3025 (Part 32):1988	mg/L	3499
2	Sulphate as SO <sub>4</sub>	IS 3025 (Part 24):1986	mg/L	618
3	Fluoride as F	APHA (24th Edn) 4500-F- B, D: 2023	mg/L	<0.10
4	Iron as Fe	IS 3025 (Part 53):2003	mg/L	1.60
5	Hexavalent Chromium as Cr6+	IS 3025 (Part 52):2003	mg/L	BDL(LOD-0.07
6	Cyanide as CN	IS 3025 (Part 27/Sec 1): 2021	mg/L	<0.01
7	Pesticide	SEAAL/INS/SOP/7.2/03	μg/L	< 0.005
8	Insecticide	SEAAL/INS/SOP/7.2/03	μg/L	< 0.005

TEST RESULTS - BIOLOGICAL DISCIPLINE				
S1.No.	PARAMETERS	TEST METHOD	UNIT	RESULT
1	Standard Plate Count	IS 1622:1981	cfu/mL	90
2	Total Coliform Bacteria	IS 15185: 2016		Absent/100ml
3	E coli	IS 15185: 2016		Absent/100ml
4	Faecal Coliform	IS 1622:1981	MPN/100ml	<2

Note: BDL-Below Detection Limit,

LOD-Limit of Detection

Remarks:

Shency Joy TM-Chemical Checked by:



\*\*\*End of Report\*\*\*

Remya B TM-Biological Authorized Signatory Laiju P N Laboratory Head Authorized Signatory

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#### Standards Environmental & Analytical Laboratories

Approval: "A" Grade Laboratory approved by Kerala State Pollution Control Board.



## **TEST REPORT**

ULR No.: TC1293924000012669F			
LRI No.: SEAAL24060588A	Date: 10-06-2024	Page 1 of 2	

CUSTOMER DETAILS				
	M/s Petronet LNG Limited			
Customer Name & Address	Survey No.347, Puthuvypu P.O			
	Kochi, Ernakulam District			
Customer Reference	Test Request Date: 04-06-2024			

SAMPLE DETAILS				
Product Category	Water	Sample Code	WT24060176	
S iple Name	Ground Water	Sample Received on	04-06-2024	
Sample Description by Customer	Bore Well Water	Temperature @ Receipt	4°C	
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	05-06-2024	
Sample Quantity & Packing	2 L & 125 ml in a Plastic Bottle	Test Completed on	08-06-2024	
Information Provided by Customer		Sampled by	Lab Authorized Sampler	

DETAILS OF SAMPLING					
Sample Source	Near Main Tower	Date of Sampling	04-06-2024		
Sampling Procedure	SEAAL/QAD/SOP/7.3/	'01	1		

TEST RESULTS - CHEMICAL DISCIPLINE						
Sl.No.	PARAMETERS	TEST METHOD	UNIT	RESULT		
1	рН	IS 3025 (Part 11):2022		6.90		
2	Temperature	IS 3025 (Part 9): 2023	°C	25.3		
3	Total Dissolved Solids	IS 3025 (Part 16):2023	mg/L	764		
4	Electrical Conductivity	IS 3025 (Part 14):2013	μS/cm	1273		
5	Turbidity	IS 3025 (Part 10):2023	NTU	1.0		
6	Chloride as Cl	IS 3025 (Part 32):1988	mg/L	70.0		
7	Iron as Fe	IS 3025 (Part 53):2003	mg/L	0.48		
8	Fluoride as F	APHA (24th Edn) 4500-F- B, D: 2023	mg/L	< 0.10		
9	Sulphate as SO <sub>4</sub>	IS 3025 (Part 24/Sec 1): 2022	mg/L	160		
10	Salinity	APHA (24th Edn) 2520 - B: 2023	ppt	0.625		

Shency Joy TM-Chemical Checked by:



Laiju P N Laboratory Head Authorized Signatory

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## Standards Environmental & Analytical Laboratories

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## TEST REPORT

ULR No.: TC1293924000012669F

LRI No.: SEAAL24060588A Date: 10-06-2024 Page 2 of 2

	TEST RESULTS - CHEMICAL DISCIPLINE						
Sl.No.	PARAMETERS	PARAMETERS TEST METHOD		RESULT			
11	Mercury as Hg	IS 3025 (Part 48) Method 5: 1994	mg/L	BDL (LOD-0.001			
12	Lead as Pb	IS 3025 (Part 47), Method 7: 1994	mg/L	BDL(LOD 0.01)			
13	Copper as Cu	IS 3025 (Part 42), Method 6: 1992	mg/L	BDL (LOD-0.016			
14	Total Chromium as Cr	IS 3025 (Part 52), Method 7: 2003	mg/L	BDL (LOD-0.05)			
15	Zinc as Zn	APHA (24th Edn) 3111-B: 2023	mg/L	BDL (LOD-0.008			
16	Cadmium as Cd	IS 3025 (Part 41), Method 6: 2023	mg/L	BDL (LOD-0.003			
17	Cyanide as CN	IS 3025 (Part 27/Sec 1): 2021	mg/L	<0.01			
18	Oil & Grease	IS 3025 (Part 39): 2021	mg/L	<1.00			
19	Dissolved Oxygen	IS 3025 (Part 38):1989	mg/L	6.90			
20	Biochemical Oxygen Demand (3 days at 27 °C)	IS 3025 (Part 44):2023	mg/L	<2.00			
21	Chemical Oxygen Demand	IS 3025 (Part 58):2023	mg/L	<4.00			
22	Pesticide	SEAAL/INS/SOP/7.2/03	μg/L	< 0.005			
23	Insecticide	SEAAL/INS/SOP/7.2/03	μg/L	< 0.005			

Note: BDL-Below Detection Limit,

LOD-Limit of Detection

Remarks:

\*\*\*End of Report\*\*\*

Shency Joy TM-Chemical Checked by:



Laiju P N Laboratory Head Authorized Signatory

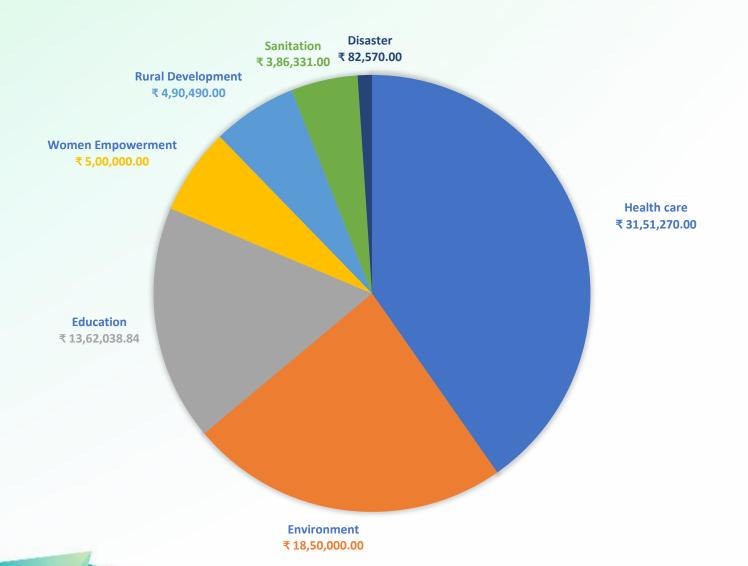
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	Ambient Air Monitoring Report (April to September 2024)								
LOCATI ON NO.	Location of Ambient Air Sampling	Month	PM (<10 microns) in	PM (<2.5 microns) in Micrograms/m³; Limit 60 Micrograms/m³	SOx as SO₂ in Micrograms/m³; Limit 80 Micrograms/m³	NOx, Oxides of Nitrogen in Micrograms/m3; Limit 80 Micrograms/m3	Carbon Monoxide (CO); mg/m <sup>3</sup> 4.0 mg/m <sup>3</sup>	OZONE Micrograms/m³; Limit 180 Micrograms/m³	Hydrocarbons (HC); Micrograms/m3;
		April	67.3	32.9	0	0	0.62	0	0
		May	53.7	25.8	0	0	0.54	0	0
	(Watch Tower-1)	June	44.8	20.7	0	0	0.43	0	0
1	near MGH	July	45.2	21.7	0	0	0.41	0	0
	building	August	52.1	24.8	0	0	0.52	0	0
	Dullullig	September	45.6	21.5	0	0	0.45	0	0
		Avarage	51.45	24.57	0.00	0.00	0.50	0.00	0.00
		April	81.3	39.5	0	0	0.68	0	0
		May	69.6	30.7	0	0	0.5	0	0
	Near	June	51.9	25.7	0	0	0.42	0	0
2	Fire Station	July	51.8	25.3	0	0	0.44	0	0
	Building	August	57.5	28.9	0	0	0.49	0	0
		September	50.9	24.5	0	0	0.55	0	0
		Avarage	60.50	29.10	0.00	0.00	0.51	0.00	0.00
		April	59.2	29.7	0	0	0.44	0	0
	Fire water	May	48.3	24.2	0	0	0.38	0	0
_	Reservoir+	June	40.9	19.7	0	0	0.32	0	0
3		July	40.7	20.5	0	0	0.29	0	0
		August	48.2	22.5	0	0	0.35	0	0
	Watch Tower-5	September	43.8	19.9	0	0	0.4	0	0
		Avarage April	<b>46.85</b>	<b>22.75</b> 28.2	0.00	0.00	<b>0.36</b>	0.00	0.00
		May	45.9	22.7	0	0	0.47	0	0
		June	38.5	18.2	0	0	0.38	0	10
4	Watch Tower-3	July	38.6	16.4	0	0	0.25	0	0
4	near Tank T-101	August	46.4	23.2	0	0	0.33	0	0
		September	42.9	19.2	0	0	0.39	0	0
		Avarage	44.78	21.32	0.00	0.00	0.37	0.00	0.00









Sector	Amount
Health care	31,51,270.00
riealtii care	31,31,270.00
Environment	18,50,000.00
Education	13,62,038.84
Women Empowerment	5,00,000.00
Rural Development	4,90,490.00
Rarai Developinent	4,50,450.00
Sanitation	3,86,331.00
Disaster	82,570.00

# **EDUCATION**







Support for safe flooring at FACT English Medium School, Udyogamandalam, Kalamasserry.

# **EDUCATION & SANITATION**











Inauguration of Baby Friendly washroom and refurbished building of Harishree Anganwadi, Puthuvypu.

# **WOMEN EMPOWERMENT & DISASTER MANAGEMENT**











PLL Kochi supported
Elamkunnapuzha Gram
Panchayat for purchasing
Rain Coats and water tanks
for Haritha Karma Sena
members working under
Elamkunnapuzha Gram
Panchayat.













Support towards constructing Baby friendly washroom at Anganwadi No: 105, Njarakkal

In preschools, baby-friendly washrooms are important to ensure the well-being of children, as well as their health and safety. Moreover, this initiative is part of a broader effort to inculcate healthy practices among children and encourage the habit of using washrooms from a very young age.





Support for procurement of **grass cutter** machine for Government Upper Primary School, Puthuvypu.







## "Menstural Friendly School"

Support for procurement of **incinerator** for Govt Vocational Higher Secondary School, Njarakkal





"BIO BIN" are easy to use 3 bin composters that take up minimal space to give out organic manure from kitchen waste without producing any foul smell. The holes on the sides permit ample ventilation during the process. The bottom lid will act as an ant trap upon pouring sufficient water.

As part of Swachhata Pakhwada 2024 PLL distributed 30 Bio bins to Vypin Block Panchayat. Through the use of Bio-Bins institutions under Vypin Block Panchayat can switch to reliable and affordable composting means.









## "Menstrual Friendly School"

PLL Kochi has officially inaugurated a
Sanitary Napkin Vending machine at the
Govt HSS, Elamkunnapuzha as part of
Corporate Social Responsibility (CSR)
initiative.



## AFTER













#### Wall Painting and Selfie spot at Govt UP School Puthuvypu

As part of the Swacchhata Hi Seva 2024 initiative, students from Govt UP School Puthuvypu revitalized their school wall through vibrant paintings and impactful cleanliness messages. This creative endeavor not only beautified the wall but also transformed it into an inspiring representation of the importance of cleanliness.









Wall Painting at Govt LP School, Azheekal, Vypin







# SINCE LUR SANIMAD

#### Swachhata Samvaad

PLL Kochi, in collaboration with the Elamkunnapuzha Gram Panchayat, organized a "Swachhata Samvaad- Clean village Green Village- Vision of children" session involving Haritha Karma Sena members and student representatives from 21 schools in Vypin at the Ochanthuruth Service Co-operative Bank auditorium in Puthuvypu. Following the Samvaad, an inter-school "Swachhata Quiz" competition was also conducted. Jute bags were distributed to all Haritha Karma Sena Members of Elamkunnapuzha Gram Panchayat.



# **ENVIRONMENT & SANITATION**



## **BEFORE**





















## Blackspot cleaning and beautification at Valappu Beach, Vypin

#### **Beautification**

- Selfie spot installation
- Bottle Booth hand overed to Elamkunnapuzha Gram Panchayat
- Tree plantation with tree guard protection

# **HEALTH CARE & SANITATION**









## **Safe Drinking Water Facility**

PLL Kochi installed 3 water purifiers at FHC Munambam

# **HEALTH CARE**





Support for procurement of an image viewing computer for Surgical Oncology Department of Govt. Medical College, Kottayam.





Support towards setting up an Open Gymnasium at ward 11, Elamkunnapuzha Gram Panchayat.

LOI signing between PLL and Elamkunnapuzha Gram Panchayat for the construction of Open Gymnasium at Puthuvypu.

## **ENVIRONMENT**











On June 5th, 2024, in honour of Environment Day, Mr. Upinder Kumar, the Chief General Manager and Vice President of the plant, officially inaugurated Pacha Thuruthu at FHC Munambam by planting a sapling.

Vypin Block Panchayat has initiated the project as part of "Carbon Neutral Vypin" to reduce carbon emissions and create a clean and environmentally friendly Vypin.

# **ENVIRONMENT**







## **Biodiversity restoration at Munambam & Kuzhupilly Beach**

- 1. Initial meeting for implementation plan formation.
- 2. MGNREGA workers making pit for storing water for watering plants.
- 3. Inauguration of Butterfly Garden at Munambam Beach.



S.N	Name of Project	Category	Project Location	Approved/ Committed (including taxes) in INR	Payment done (INR lakh)
1	Support towards setting up a Community Kitchen for Kurumba tribal hamlet at Murugala, Attappady, Palakkad, Kerala.	(iii)Women Empowerment	Attappady, Palakkad	5,00,000.00	Project Completed. Bills awaited
2	Support for providing sanitary napkin vending machine for Government Higher Secondary School, Elamkunnapuzha.	(i) Sanitation	Elamkunnapuzha Vypin	6,325.00	6,324.80
3	Department of Govt. Medical College, Kottayam.	(i) Health care	Kottayam	2,05,910.00	2,05,910.00
4	Support for safe flooring at FACT English Medium School, Udyogamandalam, Kalamasserry.	(ii)education	Kalamasserry	4,97,924.84	4,97,920.06
5	Support towards procurement and installation of Incinerator at Govt VHSS, Njarakkal, Vypin.	(i) Sanitation	Njarakkal, Vypin	42,480.00	42,480.00
6	Support for Counselling shed area at Mulavukadu Police Station, Ernakulam.	(x) Rural Development	Mulavukadu, Ernakulam	4,90,490.00	4,90,490.00
7	Support for procuring rain coats and water tanks for Haritha Karma Sena, Elamkunnapuzha Gram Panchayat.	Disaster & (III) women empowerment	Elamkunnapuzha Vypin	82,570.00	82,570.00
8	Support towards refurbishment of Harishree anganwadi at ward 20, Puthuvypu, Vypin	(ii)education	Elamkunnapuzha Vypin	3,75,240.00	3,57,171.00
9	Support towards procurement and installation of Water Purifier at FHC, Munambam, Vypin.	(i) Health care	Munambam, Vypin	63,810.00	53,230.00
10	Support towards roofing of Anupama Anganwadi, ward 16 Elamkunnapuzha Gram Panch	(ii)education	Puthuvypu	4,88,874.00	4,88,697.00
11	Swahhata Pakwada 2024	(i) Sanitation	Vypin	1,23,825.00	1,21,861.00
12	Support for installation of RO Plant for Women and Children's Hospital, Mattancherry, Ko	(i) Health care	Mattancherry	4,17,333.00	3,40,000.00
13	Swahhata Hi Seva 2024+ tree plantation	(i) Sanitation	Vypin	2,13,701.00	1,74,658.00
14	Support towards restoration of biodiversity at Munambam and Kuzhupilly Beaches, Vypin	(iv)Environment	Munambam & Kuzhupilly (Vypin)	18,50,000.00	Project Ongoing
15	Support towards setting up an Open Gymnasium at ward 11, Elamkunnapuzha Gram Panchayat.	(i) Health care	Puthuvypu	24,64,217.00	Project completed. Bills wawaited
				78,22,699.84	

С	CSR EXPENSES upto September 2024				
SI. No	FY	Total CSR Expenditure ( in INR)			
1	2013-14	2,54,57,793.00			
2	2014-15	1,60,08,694.00			
3	2015-16	2,23,01,262.00			
4	2016-17	1,68,26,007.00			
5	2017-18	78,24,860.00			
6	2018-19	1,91,45,429.00			
7	2019-20	1,53,44,487.00			
8	2020-21	2,14,69,603.00			
9	2021-22	3,95,48,144.00			
10	2022-23	6,22,82,334.00			
11	2023-24	7,51,47,711.00			
12	2024-25	78,22,699.84			
TOTAL		32,91,79,023.84			