



Petronet LNG Limited

Survey No. 347, Puthuvypu P.O.

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CIN L74899DL1998PLC093073

PAN: AAACP8148D. GST: 32AAACP8148D1ZP

PLL/KOCHI/MOEF/2019-20/05

18th November, 2019

Additional Principal Chief Conservator of Forests (C)

Ministry of Environment, Forest and Climate Change,
Regional Office (SZ),
Kendriya Sadan, 4th Floor, E&F Wings, 17th 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 2nd June 2003.

Sir,

The Six monthly compliance report for the above clearances are attached for the period ending 30th September 2019.

Thanking You,

With Regards

(T. N. Neelakantan)

Group General Manager & President (Plant Head)



CC:

- 1) The Chief Environmental Engineer,
Kerala State Pollution Control Board,
Gandhinagar, Kochi – 682 020.



Registered & Corporate Office:

World Trade Centre, First Floor, Babar 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 CRZ Clearance no. J-16011/26/2001-IA-III vide your letters dated 02nd JUNE 2003 for the Construction of LNG Import Terminal at Puthuvypeen Island, Kochi, Kerala by M/s Petronet LNG Ltd.

Point-wise compliance to stipulated terms and conditions of the above EC & CRZ Clearance is as follows:

i. All the conditions stipulated by the Science Technology and Environment Department, Government of Kerala vide their Letter No. 4215/B1/2000/STED, dated 9th February-2001 should be effectively implemented.

- **Conditions mentioned in the Letter No. 4215/B1/2000/STED, dated 9th February-2001 does not specifies and conditions for compliance.**
- **Conditions mentioned in the Letter No. 1143/A2/2005/STED dated 14th October-2005 from Kerala coastal Zone Management Authority and PLL compliance remarks are as under:**

Sr. No.	Conditions mentioned	PLL Compliance remarks
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.	Expansion of the existing service road in the Costal Regulation Zone-I belongs to Panchayat and PLL will not do any expansion of the 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 from the condensed water from air. During construction stage, requirement of water was met by outsourcing. At present the water requirement is met by procuring the water from vendors.
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 17th September-1999 which

		was renewed every time (mostly 2 years) before expiry of its validity period. We have obtained Consent to Operate with No. PCB/HO/EKM-1/ICO-R/18/2018 dated 10 th October 2018, and was valid up to on 31 st March 2023, a copy of the same has already been submitted along with compliance report dated March-2019.
5.	EIA document including risk analysis and disaster management plan should be submitted directly to MoEF for environment clearance, under intimation to this office.	Comprehensive EIA of 2.5 MMTPA Terminal and EIA with QRA and Site emergency response plan of 5 MMTPA terminal has already been submitted with vide letter ND/LNG/K22/2K1 dated 16 th Feb-2001 and letter dated 22 nd Sept-2011 respectively.

ii. All the conditions stipulated by Kerala Pollution Control Board in their NOC No. PCB/NOC/EK/117/98 dated 17.9.99 should be effectively implemented.

- **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:**

Sr. No.	Conditions mentioned	PLL Compliance remarks
1	No.3: 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	No.4: 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 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 is generating only sewage waste and is being handled through septic tank and soak pit in individual building; details of STP have been submitted to KSPCB. PLL will comply with effluent standard of Water Act and if additional facilities are required then PLL will provide those facilities for treatment of effluent.

3	<p>No.5: 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:</p> <p>69.0 m above ground level for flare stack</p> <p>5.5 meter above the roof level of Generator room for the Gensets of capacity 750KVA</p>	<p>PLL is using Natural Gas as fuel for GTGs. GTGs are inbuilt with DLE burner (Low NOx burners) and CEMS.</p> <p>PLL had received 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 report dated 30th September-2013.</p> <p>PLL has provided the stack discharge at 3.5 meter above the roof level of Generator room.</p>
4	<p>No.6: 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.</p>	<p>PLL is generating only sewage waste and is being handled through individual building's septic tank and soak pit. PLL has obtained Consent to Operate with No. PCB/HO/EKM-1/ICO-R/18/2018 dated 10th October 2018, and was valid up to on 31st March 2023, a copy of the same has already been submitted along with compliance report dated March-2019.</p>
5	<p>No.7: The applicant shall obtain the "Consent to Operate" from the Board under the Air (Prevention and Control of Pollution) Act'1981 before commissioning the industry.</p>	<p>PLL has obtained Consent to Operate with No. PCB/HO/EKM-1/ICO-R/18/2018 dated 10th October 2018, and was valid up to on 31st March 2023, a copy of the same has already been submitted along with compliance report dated March-2019.</p>
6	<p>No.8: The sign board showing the name of the industry shall be displayed at the entrance of the site.</p>	<p>PLL has displayed the sign board showing name of the industry at the entrance of the site.</p>

7	No.9: 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.	Green Belt area has been developed along the periphery of the factory premises with trees like Gulmohar, Amaltas, Neem etc.
8	No.10: 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 07 th August-2013, A copy of this letter has already been submitted with six monthly report dated 30 th September-2013.
9	No.11: There shall not be any fugitive emission from the plant/premises.	There will not be any fugitive emission from the plant/premises.
10	No.12: 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	No.13: 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 will not discharge 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 day time and 55 dB (A) during night time.	Ambient sound levels measured at a distance of 1 m away from the boundary walls are well within the limits. Ambient sound level monitoring is done every month by KSPCB approved agency and the compiled report for the period of April-19 to September-19 is enclosed as Annexure#1 .
13	Consent to establish shall be obtained prior to setting up of captive power plant in futures.	PLL has incorporated the details of GTG, used for captive power generation, in the subsequent application of the renewal for Consent to Establish.

- iii. No change in scope of work shall be made without prior approval of this Ministry.

- Any change in scope would be carried out only with the prior approval of the Ministry.
- iv. 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 CWPRS shall be duly implemented. The dredged materials shall be disposed of as per the recommendations by CWPRS.
- The location and size of the basin has been arrived at after detailed model studies conducted by CW&PRS and further revalidated by HR Wallingford. The dredged material is being disposed off at the prescribed off-shore dumping ground identified as per CWPRS recommendations for Cochin Port Trust.
 - The Cutter suction Dredger's dredging material is dumped on the western side of the terminal as per the Cochin Port Trust allocated area for dumping. The Trailer Suction Dredger's dredging material is being dumped at the designated dumping site of Cochin Port at outer sea, about 15.6 km from the shore.
- v. No activities will be undertaken in the mangrove area or in the buffer zone of the mangroves. The route of the pipeline and other activities shall have minimum of 50 meters distance from the nearby mangrove and forest lands, if any, in the CRZ area. Expansion of existing service road into Coastal Regulation Zone-I (I) shall not be carried out.
- PLL plot is not in the mangrove area and is at about 100m from the buffer zone. All activities and pipelines are confined to this plot. The existing service road which belongs to Panchayat has not been expanded into the Coastal Regulation Zone-I (i) area.
- vi. 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 in-built 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.
- The terminal construction complies with all existing International codes and best practices. Sufficient safety measures and warning systems are being in built into the system for detection of gas leakage, overpressure and other deviations in operating parameters. Details regarding the same has already been submitted with six monthly report dated 30th September-2013.
 - Standards such as OISD-194, EN: 1473, NFPA 59A and others are followed during the terminal construction.
- vii. 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.
- viii. 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.
- PLL has already submitted to MoEF the change of the regasification process of the terminal and Sea water intake is not required in Shell and Tube Vaporizers (STVs). It may be noted that PLL will not use sea water in any manner nor will discharge any effluent into the sea during operation of the terminal. Pipelines for LNG pumping from jetty to tanks are laid above ground along with trestle.
- ix. 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 has already submitted to MoEF the change of the regasification process of the terminal and Sea water intake is not required in Shell and Tube Vaporizers (STVs). It may be noted that PLL will not use sea water in any manner nor will discharge any effluent into the sea during operation of the terminal. As PLL is not using sea water in any manner this condition is not applicable.
- x. 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 has already submitted to MoEF the change of the regasification process of the terminal and Sea water intake is not required in Shell and Tube Vaporizers (STVs). As PLL is not using sea water in any manner this condition is not applicable.
- xi. No groundwater shall be tapped for the project.
- PLL did not tap groundwater during construction stage and will not during operation phase. Water requirement during operation of the terminal will be generated and met from the condensed water from air. At present the water requirement is met by procuring the water from vendors due to running of terminal at low output.

- xii. 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 for LNG storage tanks top and the water collected is being used in the terminal.**
- xiii. 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.
- **The dredged material disposal site is Common dumping site at outer sea, 15.6 km away from shore and managed by Cochin Port Trust. The survey is being carried out by Cochin Port Trust.**
- xiv. Regular surveys shall be conducted to identify changes in the channel morphology so that navigational hazards are minimal.
- **The channel belongs to Cochin Port and its Morphology survey is done by Cochin Port Trust.**
- xv. 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.
- **A Detailed plan for Mangrove afforestation has already been submitted with six monthly report dated 30th September-2013.**
 - **In FY 2014-2015 Petronet LNG Ltd, Kochi, arrived at an agreement with Kerala State Social Forestry for a mangrove afforestation project in Ernakulum district, the total cost of the project is 71.05 lakhs. Till date, Petronet LNG Limited have already transfer fund of Rs.60.00 lakh for the Mangrove Afforestation Project which is entitled "Project for Mangrove afforestation in Ernakulam district" All details with regard to this project had already been submitted with six monthly compliance report dated 30th March-2015. And the latest progress report was submitted along with compliance report dated March-2019.**
- xvi. Marine environment shall be periodically monitored to assess changes, if any, in the ecology and suitable remedial measures, if any required, shall be taken.
- **PLL is conducting marine water sampling and analysis by a KSPCB approved third party M/s. Cochin test house and the report suggest no adverse change in the marine environment.**

- Latest copy of the marine water sampling report dated June-19 is enclosed as Annexure # 2.
- xvii. The budget allocated for environment safeguard measures shall not be diverted for any other purpose.
- Budget allocated for environment safeguard is not diverted for any other purposes.
- xviii. 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 of 2.5 MMTPA Terminal and EIA with QRA and Site emergency response plan of 5 MMTPA terminal has already been submitted with vide letter ND/LNG/K22/2K1 dated 16th February-2001 and letter dated 22nd September-2011 respectively.
- xix. 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.
- EIA with QRA and site emergency response plan (for 5 MMTPA terminal) submitted to MoEF vide letter dated 22nd September-2011 for EAC recommendations.
 - Emergency Response and Disaster Management Plan of Petronet LNG Ltd, Kochi terminal was submitted with six monthly compliance report dated 05th April-2013.

5. GENERAL CONDITIONS:

i.	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.	The construction drawings have been approved by the concerned State Government Department/Agencies like Department of Factories and Boilers, Fire and rescue Services etc. Copy of the approvals of Factories and Boiler, Fire rescue services has already been submitted with six monthly compliance report dated 05 th April-2013.
ii.	The proponent shall ensure that as a result of the proposed constructions,	<ul style="list-style-type: none"> ▪ PLL is continuously ensuring that there is no ingress of saline water into the

	<p>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.</p>	<p>ground water by periodic analysis of ground water, and for the same we have installed two Piezometers at appropriate locations.</p> <ul style="list-style-type: none"> ▪ Sampling of the water drawn from Piezometers is being carried out by approved third party. The latest Ground water analysis report for the month of June-19 is enclosed as Annexure#3.
<p>iii.</p>	<p>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</p>	<ul style="list-style-type: none"> ▪ We have applied for NOTIFICATION OF SITES to Factories & Boilers department vide letter no. PLL/KOCHI/F&B/2012-13/C-04 dated 28th November 2012 as per requirement of MSIHC rules 1989. The same has already been submitted with six monthly compliance report dated 05th April-2013. ▪ We have received final clearance from Chief Controller of Explosive for commissioning of Jetty, LNG unloading line, LNG tanks, and Regasification facilities with letters dated 04th February-2013. We have already submitted the same with six monthly compliance reports, dated 05th April-2013. ▪ Permit to construct and plan approvals were obtained from Director of Factories and Boilers. We have already submitted the details regarding the same with six monthly compliance report, dated 05th April-2013. ▪ We have received the renewed factory license dated 19th December 2018, valid till 31st December-2019; a copy of the same has already been submitted along with compliance report dated March-2019. ▪ We have prepared Emergency response and Disaster Management Plan and it was submitted to District collector office vide letter no. PLL/KOCHI/ERDMP/DC/2014-15/C-01 dated 5th April-2014. ▪ A comprehensive contingency plan was prepared in collaboration with the concerned authorities before commissioning of the project to meet any eventuality in case of an accident ▪ All approvals as necessary were obtained before the commissioning of

		the project. Terminal was commissioned on 20 th August-2013 and all activities related to commissioning were completed by 10 th September 2013.
iv.	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.	Oil spill Contingency plan is formulated to take care of such eventualities. We have already submitted details regarding the same with six monthly compliance report dated 05 th April-2013. PLL is having one FIFI 1 tug with required boom barrier and other oil spill control related equipment. PLL jetty falls under the Cochin Port Trust (CPT), and the Oil Spill Contingency Management Plan is prepared by CPT. PLL has provided the information required from the terminal to be incorporated in the Oil Spill Contingency Management Plan. Coast guard is also part of the Oil spill contingency plan.
v	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.	<ul style="list-style-type: none"> ▪ Control room is equipped with modern communication and control facilities including emergency shut-down systems in the event of spill occurring. ▪ Loading arms are equipped with latest Emergency Release System (ERS). ▪ We do not handle LPG at our jetty so the condition stand complied.
vi.	Dry chemical firefighting extinguishers should be provided at all levels of the jetty to permit personnel to fight small fires. Water spray for dispersing un-ignited vapour clouds should be kept as standby. Full- fledged firefighting facilities should be provided at jetty.	<ul style="list-style-type: none"> • Full-fledged firefighting facilities is provided in the jetty to handle any emergencies in the event of a fire. • DCP extinguishers are provided at every level of jetty. Water curtain system is also provided at required locations. <p>Brief note on Fire protection facilities have already been submitted with six monthly compliance report dated 30th September-2013.</p>
vii.	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	<ul style="list-style-type: none"> ▪ A well-equipped laboratory with suitable Equipments for monitoring the quality of air and water is in place, with Qualified and competent personals.

	<p>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.</p>	<p>However, PLL is carrying out periodic monitoring of environmental parameters by KSPCB approved agency.</p> <ul style="list-style-type: none"> ▪ Ambient air monitoring is carried out once in a month at four different locations and analysis report for the month of April-19 to September-19 is enclosed as Annexure # 4. ▪ PLL is conducting marine water quality analysis, once in six month. The latest test report, dated June-19 is enclosed as Annexure # 2.
viii.	<p>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</p>	<ul style="list-style-type: none"> ▪ During the construction phase, PLL has provided adequate infrastructure facilities such as water supply, fuel for cooking, sanitation, etc. to the labourers. ▪ Labour colonies were not located in Coastal Regulation Zone area.
ix.	<p>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.</p>	<p>Individual Septic tanks with soak pits have being provided for collection of sewage. The collected sewages are regular disposal through authorized agency of Cochin corporation.</p> <p>No sewage or waste from PLL will be allowed to enter water bodies</p>
x.	<p>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</p>	<p>Vessels and tugs will dispose their garbage as per the guidelines of Annex V of Marpol (IMO). We have already submitted the related details with six monthly compliance report dated 05th April-2013.</p>
xi.	<p>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</p>	<p>PLL has provided 4 Nos. of Buoys as instructed by cochin port trust. In future, if required, more navigation aids will be provided as per instruction/guidance of Cochin Port Trust.</p>

		All required safety standards will be applied to vessel movements as per directions of Cochin Port Trust.
xii.	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.	A separate fund for CSR is kept aside by PLL and we have carried out various activities for the community development and welfare, a brief description of our CSR activities with photographs are enclosed as Annexure # 5 .
xiii.	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.	PLL sourcing of quarrying material is only from Government approved quarries. We have already submitted the details regarding the same with six monthly compliance report on dated 05 th April-2013.
xiv.	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.	PLL has obtained Environmental clearance from the MOEF vide their order No. J-16011/26/2001-IA-III dated 16 th November-2010 for undertaking dredging operations of the basin. Dredging operations is completed and PLL has handed over the basin to M/s Cochin Port Trust for maintenance.
xv.	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.
Xvi.	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 recommendations made in Environment Management Plan and Disaster Management Plan, as contained in Environment Impact Assessment and Risk Analysis Report of the project are effectively implemented.
Xvii.	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 Environment Management Cell under Sr. Vice President – (Plant Head), other members of the team includes GM (Operations & Maintenance), Head of Operation department, C&P (Contracts & Procurement) department, Technical department, HSE department, Civil Department, Lab operation & a representative from HR department for effective implementing the stipulated environment safeguards. The SOP of the Environment Management Cell was

		revised on 23/04/2018 and the copy of the same has already been submitted along with the six monthly compliance report for the period ending March-2018.
Xviii.	The project affected people, if any should be properly compensated and rehabilitated.	No people affected directly as the project was on uninhabited land. Some Land was acquired by Cochin Port Trust for constructing new access road for the project and those affected were provided with infrastructure like road, drain, electricity and water as per guideline by authorities.
xix.	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.	Budget allocated for environment safeguard will not be diverted for other purposes.
xx.	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 will extend 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 by furnishing full details and action plans including the action taken reports in respect of mitigate measures and other environmental protection activities.
xxi.	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 in the project.
xxii.	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.	PLL is aware of the Ministry's right to revoke clearance for not complying with the conditions stipulated in the clearance.
xxiii.	This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary for environmental	PLL will comply with any additional conditions stipulated by the ministry or any other competent authority.

	protection, which shall be complied with.	
xxiv.	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.envfor.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.	PLL had advertised regarding environmental clearance accorded by the Ministry of Environment & Forest in two local newspapers widely circulated in the region around the project. Copy of the advertisement given in the two local newspapers has already been along with the six monthly compliance report dated 30 th September-2013.
xxv.	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.	Site appraisal clearance obtained on 28 th Feb 2011. No separate land developmental work was required, as this involved only augmentation of equipment in the same land.

Thanking You,


With Regards


(T. N. Neelakantan)
GGM & P (Plant Head)



Ambient Noise Monitoring Report, April-19 to September-19

Sr. No.	Average, Month	Apr-19		May-19		Jun-19		Jul-19		Aug-19		Sep-19	
	Location	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
	Limit	65.00	55.00	65.00	55.00	65.00	55.00	65.00	55.00	65.00	55.00	65.00	55.00
1	East side Gate Outside boundary wall	51.10	41.70	51.00	41.40	51.50	40.90	52.10	41.50	51.50	42.00	51.10	41.30
2	North side Gate Outside boundary wall	50.70	40.40	50.50	41.00	52.30	41.20	51.10	40.90	51.30	41.40	50.60	40.30
3	West side Gate Outside boundary wall	49.60	40.70	49.80	40.70	50.60	42.70	49.60	40.50	50.10	41.20	49.70	40.80
4	South side Gate Outside boundary wall	49.80	40.80	48.70	40.60	51.90	42.00	49.80	40.70	48.80	41.70	49.20	40.40
	Avg (Year)	50.30	40.90	50.00	40.93	51.58	41.70	50.65	40.90	50.43	41.58	50.15	40.70


Dy. Manager HSE


Sr. Manager- HSE

Test Report No: TC540219000002694P	Date: 01.07.2019	Page 1 of 1
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CUSTOMER DETAILS

Customer Name & Address	M/s Petronet LNG Limited Survey No.347 ,Puthuvypu P.O Kochi - 682 508
Customer Reference	Test Request Form Dated 25.06.2019

SAMPLE DETAILS

Sample Code	TC540219000002694P	Sample Received On	26.06.2019
Sample Name	Water	Sampling Procedure	SEAAL/MSP/24 & SEAAL/MBL/SOP/06
Sample Description	Marine Water	Sampling Location	Jetty Head
Identification By Customer	Jetty Head	Sampling Condition	Good
Sampled On	25.06.2019	Test Started On	26.06.2019
Sampled By	Laboratory	Test Completed on	01.07.2019

SL NO	TEST PARAMETER	TEST METHOD	UNIT	RESULT
01	Temperature	IS 3025 Part 9:1984 RA 2006	°C	30.0
02	Colour	IS 3025 Part 4:1983 RA 2017	Hazen	1.00
03	pH	IS 3025 Part 11:1983 RA 2017	---	7.20
04	Electrical Conductivity	IS 3025 Part 14:1984 RA 2013	µS/cm	30200
05	Total Dissolved Solids	IS 3025 Part 16:1984 RA 2017	mg/L	18400
06	Turbidity	IS 3025 Part 10:1984 RA 2017	NTU	8.20
07	Chloride (as Cl)	IS 3025 Part 32:1988 RA 2014	mg/L	11096
08*	Salinity	SEAAL/SOP/06	ppt	20.0
09	Sulphate (as SO ₄)	IS 3025 Part 24:1986 RA 2014	mg/L	1108
10	Iron (as Fe)	IS 3025 Part 53:2003 RA 2014	mg/L	1.11
11	Mercury (as Hg)	IS 3025 Part 48:1994 RA 2014	mg/L	< 0.002
12	Lead (as Pb)	IS 3025 Part 47:1994 RA 2014	mg/L	< 0.20
13	Copper (as Cu)	IS 3025 Part 42:1992 RA 2014	mg/L	< 0.05
14*	Zinc (as Zn)	IS 3025 Part 49:1994 RA 2009	mg/L	< 0.20
15	Nickel (as Ni)	IS 3025 Part 54:2003 RA 2014	mg/L	< 0.10
16	Cadmium (as Cd)	IS 3025 Part 41:1992 RA 2014	mg/L	< 0.03
17*	Cyanide (as CN)	IS 3025 Part 27:1986 RA 2009	mg/L	< 0.01
18	Fluoride (as F)	APHA 23rd Edition 4500-F- B D: 2017	mg/L	1.19
19	Arsenic (as As)	IS 3025 Part 37:1988 RA 2014	mg/L	< 0.002
20	Hexavalent Chromium (as Cr ⁶⁺)	IS 3025 Part 52:2003 RA 2014	mg/L	< 0.20
21*	Pesticide	USEPA 508 : 1995	---	Absent
22*	Insecticide	USEPA 508 : 1995	---	Absent
23	Oil & Grease	IS 3025 Part 39:1991 RA 2014	mg/L	< 5.00
24	Dissolved Oxygen	IS 3025 Part 38:1989 RA 2014	mg/L	6.55
25	Biochemical Oxygen Demand (3 days at 27 °C)	IS 3025 Part 44:1993 RA 2014	mg/L	< 2.00
26	Chemical Oxygen Demand	IS 3025 Part 58:2006 RA 2017	mg/L	490
27	Total Suspended Solids	IS 3025 Part 17:1984 RA 2017	mg/L	18.0
28	Total Bacterial Count	IS 1622:1981 RA 2014	cfu/mL	500
29	Faecal Coliform	IS 1622:1981 RA 2014	MPN/100ml	< 2
30	E coli	IS 1622:1981 RA 2014	MPN/100ml	< 2

*Not Under NABL scope

End of Report

For and on behalf of
Standard^S Environmental & Analytical Laboratories

Vedhis
Authorized Signatory

Dya
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

Standard^S Environmental & Analytical Laboratories

Accreditation and Approval: NABL as per ISO 17025: 2005 & "A" Grade laboratory of KSPCB

K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43

Web: www.sealabs.in, E-mail: seaalab@gmail.com, info@sealabs.in

Test Report No: TC540219000002697P	Date: 01.07.2019	Page 1 of 1
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CUSTOMER DETAILS			
Customer Name & Address		M/s Petronet LNG Limited Survey No.347 ,Puthuvypu P.O Kochi – 682 508	
Customer Reference		Test Request Form Dated 25.06.2019	
SAMPLE DETAILS			
Sample Code	TC540219000002697P	Sample Received On	26.06.2019
Sample Name	Water	Sampling Procedure	---
Sample Description	Ground Water- Bore Well	Sampling Location	East Side
Identification By Customer	---	Sampling Condition	Good
Sampled On	25.06.2019	Test Started On	26.06.2019
Sampled By	Laboratory	Test Completed on	01.07.2019

SL NO	TEST PARAMETER	TEST METHOD	UNIT	RESULT	ACCEPTABLE LIMIT (IS 10500 – 2012)
01	pH	IS 3025 Part 11:1983 RA 2017	---	6.72	6.50 – 8.50
02	Total Dissolved Solids	IS 3025 Part 16:1984 RA 2017	mg/L	172	500 (Max)
03	Turbidity	IS 3025 Part 10: 1984 RA 2017	NTU	0.80	1.00 (Max)
04	Chloride (as Cl)	IS 3025 Part 32:1988 RA 2014	mg/L	31.9	250 (Max)
05	Iron (as Fe)	IS 3025 Part 53:2003 RA 2014	mg/L	0.31	1.00 (Max)
06	Fluoride(as F)	APHA 23 rd Edition 4500-F- B D: 2017	mg/L	< 0.10	1.00 (Max)
07	Sulphate (as SO ₄)	IS 3025 Part 24:1986 RA 2014	mg/L	28.5	200 (Max)
08	Electrical Conductivity	IS 3025 Part 14:1984 RA 2013	µS/cm	278	---
09	Mercury (as Hg)	IS 3025 Part 48:1994 RA 2014	mg/L	< 0.001	0.001 (Max)
10	Lead (as Pb)	IS 3025 Part 47:1994 RA 2014	mg/L	< 0.01	0.01 (Max)
11	Copper (as Cu)	IS 3025 Part 42:1992 RA 2014	mg/L	< 0.05	0.05 (Max)
12	Total Chromium (as Cr)	IS 3025 Part 52:2003 RA 2014	mg/L	< 0.05	0.05 (Max)
13*	Zinc (as Zn)	IS 3025 Part 49:1994 RA 2009	mg/L	< 0.20	5.00 (Max)
14	Temperature	IS 3025 Part 9:1984 RA 2006	°C	29.0	---
15*	Salinity	SEAL/SOP/06	ppm	0.058	---
16	Oil & Grease	IS 3025 Part 39:1991 RA 2014	mg/L	< 5.00	---
17	Dissolved Oxygen	IS 3025 Part 38:1989 RA 2014	mg/L	6.75	---
18	Biochemical Oxygen Demand (3 days at 27 °C)	IS 3025 Part 44:1993 RA 2014	mg/L	< 2.00	---
19	Chemical Oxygen Demand	IS 3025 Part 58:2006 RA 2012	mg/L	< 10.0	---
20*	Cyanide (as CN)	IS 3025 Part 27:1986 RA 2009	mg/L	< 0.01	0.05 (Max)
21	Cadmium (as Cd)	IS 3025 Part 41:1992 RA 2014	mg/L	< 0.003	0.003 (Max)
22*	Pesticide	USEPA 508 : 1995	---	Absent	---
23*	Insecticide	USEPA 508 : 1995	---	Absent	---

*Not Under NABL scope

Note: Parameters Lead, Mercury, Total Chromium does not meet the range of NABL Scope compare with Specification.

End of Report

For and on behalf of
Standard^s Environmental & Analytical Laboratories

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.

Standard^s Environmental & Analytical Laboratories

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Annexure-04

Ambient Air Monitoring Report, (April 2019 to September 2019)									
LOCATION NO.	Location of Ambient Air Sampling	Month & Date of Sampling	PM (<10 microns) in Micrograms/m ³ ; Limit 100 Micrograms/m ³	PM (<2.5 microns) in Micrograms/m ³ ; Limit 60 Micrograms/m ³	SOx as SO ₂ in Micrograms/m ³ ; Limit 80 Micrograms/m ³	NOx, Oxides of Nitrogen in Micrograms/m ³ ; Limit 80 Micrograms/m ³	Carbon Monoxide (CO); mg/m ³ ; 4.0 mg/m ³	OZONE Micrograms/m ³ ; Limit 180 Micrograms/m ³	Hydrocarbons (HC); Micrograms/m ³ ;
1	(Watch tower-2) near MGH building	Apr-19	72.8	24.1	0	0	0	0	0
		May-19	76.4	25.9	0	0	0	0	0
		Jun-19	51.4	15.6	0	0	0	0	0
		Jul-19	48.5	14.1	0	0	0	0	0
		Aug-19	43.6	11.3	0	0	0	0	0
		Sep-19	49.3	18.4	0	0	0	0	0
		Average	57.02	18.23	0.00	0.00	0.00	0.00	0.00
2	Near Fire Station Building	Apr-19	77.8	27.6	0	5.12	0	0	0
		May-19	81.4	29.2	0	4.94	0	0	0
		Jun-19	26.2	9.43	0	4.13	0	0	0
		Jul-19	28.6	10.4	0	3.94	0	0	0
		Aug-19	23.9	8.6	0	2.84	0	0	0
		Sep-19	54.2	20.3	0	0	0	0	0
		Average	48.68	17.59	0.00	3.50	0.00	0.00	0.00
3	Fire water Reservoir+ Watch Tower-5	Apr-19	70.3	26.5	0	4.1	0	0	0
		May-19	65.8	24.1	0	5.35	0	0	0
		Jun-19	69.2	18.3	0	2.51	0	0	0
		Jul-19	34.2	12.6	0	3.38	0	0	0
		Aug-19	29.6	10.3	0	2.21	0	0	0
		Sep-19	47.5	17.8	0	5.22	0	0	0
		Average	52.77	18.27	0.00	3.80	0.00	0.00	0.00
4	Watch tower-3 near Tank T-101	Apr-19	80.1	28.6	0	0	0	0	0
		May-19	73.9	26.4	0	0	0	0	0
		Jun-19	60.8	15.6	0	0	0	0	0
		Jul-19	60.8	15.6	0	0	0	0	0
		Aug-19	58.4	12.6	0	0	0	0	0
		Sep-19	51.1	18.7	0	0	0	0	0
		Average	64.18	19.58	0.00	0.00	0.00	0.00	0.00



Dy. Manager HSE



Sr. Manager HSE

Annexure-5



**PETRONET
LNG
LIMITED**



CSR UPDATE KOCHI

**Major Highlights
April 2019- September 2019**

EDUCATION & SKILL DEVELOPMENT



1. "Naipunyam" Vocational Skill Development programme 2018-2019



INAUGURATAL CEREMONY

EDUCATIONAL KIT DISTRIBUTION



FIRE & SAFETY CLASS

ASSESSMENT SESSION

EDUCATION & SKILL DEVELOPMENT

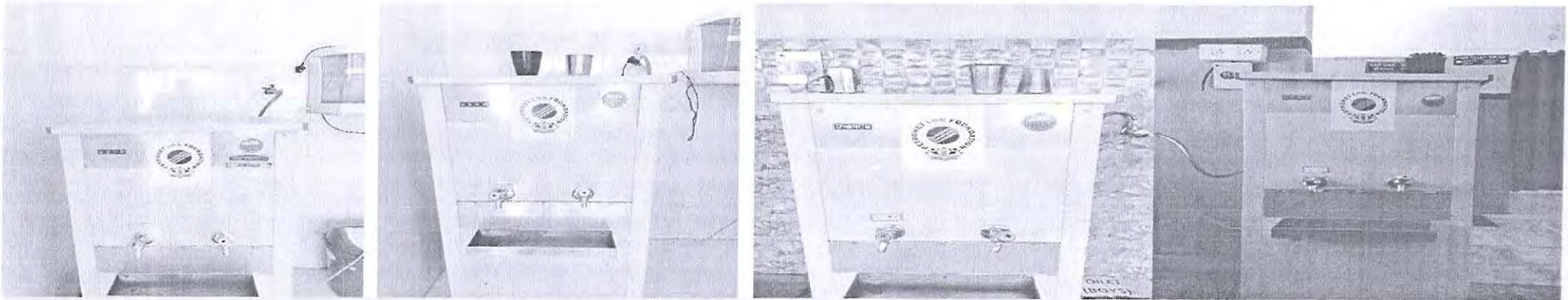
2. Valedictory Ceremony of "Velicham" Educational project in Vypin



Awarding the best performers of the Velicham project.

EDUCATION & SKILL DEVELOPMENT

3. Drinking Water Facility in Kendriya Vidyalaya, Kadavanthara



Support with 4 Nos of Water Cooler In Kendriya Vidhyalaya, Kadavanthara

4. Infrastructure Development of Rama Varma Union LP School, Cherai



Supply of 30 pairs of Benches and desk with 2 pairs of Almirah to RVU LP School, Cherai

ENVIRONMENT

1. Haritha Vypin



Valedictory Ceremony of Haritha Vypin Street painting Drive in Cherai



Environment Day Celebration Under Haritha Vypin Project

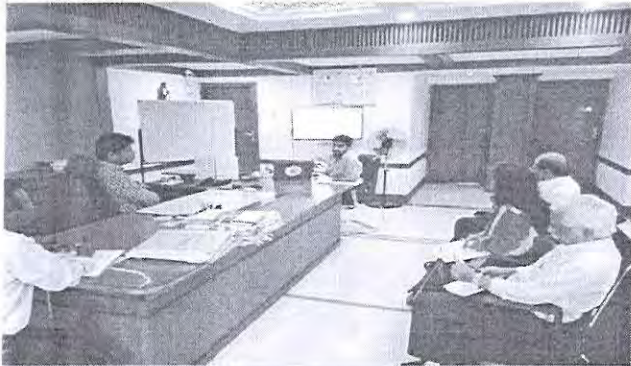
DISASTER MANAGEMENT



Supply of essential items to the relief camps in the state

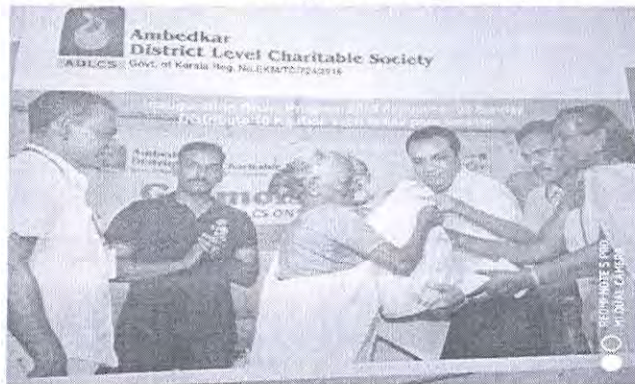
HEALTH/HUNGER/POVERTY ERADICATION

1. Numma Oonu – Hunger Eradication Project



Meeting on Numma Oonu with regard to its extension and expansion.

2. Supply of Rice bags through ADLCS



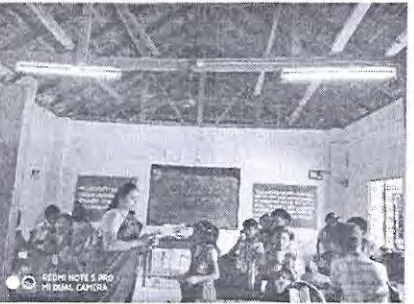
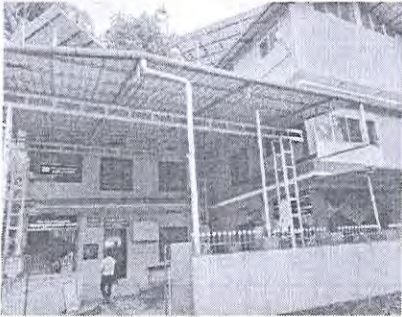
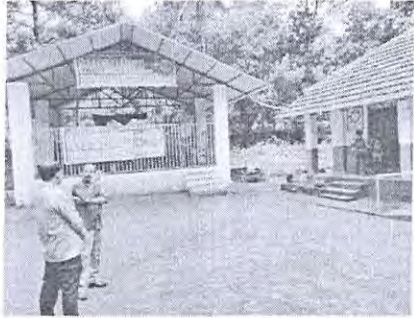
100 bags of rice supplied to underprivileged section in Kumbalam Grama panchayath through Ambedkar District Level Charitable Society .

GENDER EQUALITY/ SETTING UP OF OLD AGE HOME



Extended support in the infrastructure development of old age home run by Samraksha Charitable Trust.

Project Assessment through Field Visits/ Meetings





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