

**COMPLIANCE REPORT TO YOUR ORDER DT. 31<sup>st</sup> JANUARY 2013**

**Environmental Clearance for enhancing the re-gasification capacity from 2.5 to 5 MMTPA 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:

	<b>SPECIFIC CONDITIONS</b>	<b>PLL Remark</b>
i..	"Consent for Establishment" shall be obtained from State Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.	"Consent to Establish" Consent No. PCB/HO/EKM/ICE-R/03/2013 obtained from KSPCB and a copy of the same has already been submitted to the Ministry along with the six monthly compliance report dated 30 <sup>th</sup> September-2013.
ii.	NOC/Clearance shall be obtained confirming that all the firefighting provisions are as per standards specified by the Chief Controller of Explosives/Petroleum & Explosives Safety Organization (PESO) for the additional storage tanks.	No additional LNG storage tank is envisaged for this enhancement. We have got Approval of PESO for the existing LNG Storage Tanks and a copy of the same has already been submitted to the Ministry along with the six monthly compliance reports dated 05/04/2013.
iii.	Leak detection/warning system shall be provided at strategic locations. Necessary control measures capable of remote operation to shut down the leakage, if any, should be provided.	Complied. State of the art automated FGS & shutdown system is installed to mitigate any such incidents.
iv	Appropriate safety devices such as masks should be provided for use by the workers handling the products at the site and their usage by them should be ensured.	Complied. Safety Helmets, Safety Shoes, Safety Goggles, SCBAs, Cryogenic suits are provided to all relevant workers and Dust mask are provided to the workers involved in activities which has potential to generate dust.
V	Project proponent should implement all the recommendations stipulated in the EIA, EMP and Risk Assessment reports pertaining to the project.	PLL is complying with all the recommendation stipulated in the EIA, EMP and Risk Assessment reports pertaining to our project.
Vi	The commitments made during the Public Hearing and as recorded in the Minutes shall be complied with letter and spirit.	Noted. Public Hearing commitments are incorporated in Final EIA Report for further necessary implementation.
Vii	All the conditions stipulated in the earlier Clearance including the recommendations of Environment Management Plan, Disaster Management Plan shall be strictly complied with.	Complied. All the conditions stipulated in the earlier clearance including the recommendations of EMP and DMP are strictly complied with.

Viii	The Committee noted the proponent's statement that augmentation of the capacity from 2.5 MMTPA to 5.0 MMTPA will not induct additional environmental issues and that the planned system will take care of the overall requirements of the facility. However, impacts if any arising out of increased activities to meet the additional capacity shall be brought to the notice of the Ministry with appropriate mitigation measures that will be put in place, to ensure that the given commitment of 'no additional impact' is maintained in letter and spirit.	Noted. However, Augmentation of the capacity from 2.5 MMTPA to 5.0 MMTPA will not induct additional environmental issues.
Ix	At least 5% of the total cost of the project shall be earmarked towards the Corporate Social Responsibility (CSR) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry prior to the commencement of the project. Implementation of such program shall be ensured accordingly in a time bound manner.	5% of the total cost of augmentation of the capacity from 2.5 MMTPA to 5.0 MMTPA project is earmarked towards community development and other infrastructure related as well as CSR projects. PLL is carrying out community development and welfare measures for villagers like Construction of Immunization Centre at Primary Health Centre, Installation of Solar Powered High Mast lights etc. Total cost spent on CSR activity was Rs 2.54 Crore for year 2013-2014.
X	It shall be ensure that the proposed activity shall not cause any disturbance to the Fishing activity.	The proposed augmentation/ enhancement of plan capacity do not involve any modification in current marine facilities. Hence will not cause disturbance to fishing activity.
Xi	The smooth and safe operation of the system will be ensured by incorporating a computerized SCADA (Supervisor Control And Data Acquisition) system. Any leakage in the pipeline shall be immediately detected by the Computer system and product pumping shall be immediately cut off.	Complied. Computerized SCADA (Supervisor Control And Data Acquisition) system, FGS (Flame, Gas and Spill) detection system and ESD (Emergency Shutdown system) system has already been installed to ensure smooth and safe operation, for early detection of any leak and for safe shutdown in case of any emergency respectively.

Xii	Regular patrolling of the pipelines needs to be done. This will help in identifying any activity that have the potential to cause pipeline damage or to identify small leaks whose effects are too small to be detected by instrument.	Complied. The pipelines are equipped with temperature and pressure sensors designed to rise alarm in case of abnormalities, in additions to this all pipelines are continuously guarded with relevant detectors capable of activating ESD if situation demands.
Xiii	The project shall be carried out as per international standards in vogue and duly certified by competent authorities before commissioning.	Complied. The project execution carried out in accordance with relevant international and national standards. All equipments have been inspected and certified by competent third party or by competent authorities as per requirements.
Xiv	Oil Spill Contingency Management Plan shall be put in place along with the dedicated staff to deal with Oil spill in and around the port area shall be provided in the port. No oily wastes shall be discharged into the water bodies/mangrove areas.	Contingency plan is formulated to take care of the eventualities; a copy of the same has already been submitted with six monthly compliance reports dated 05/04/2013. No oily waste will be discharged in to water bodies/mangrove areas. Oily waste will be collected and send to Hazardous waste handling agency. We have entered in to agreement with KEIL (Kerala Enviro Infrastructure Ltd) for handling and treatment of our Hazardous waste and M/s CEE JEE Lubricants for disposal of waste oil, details regarding the agreement has already been submitted with Six monthly compliance report dated 30 <sup>th</sup> September-2013.
Xv	Regular mock drills shall be conducted to check the effectiveness of the on-site Disaster Management Plan. The recommendations made in the Environmental Management Plan and Disaster Management Plan, as contained in the Environment Impact Assessment and Risk Analysis reports of the project, should be effectively implemented.	Regular mock drills are being conducted for both On-site as well as Off-site emergency scenarios. All mock drills are conducted as per ERDMP plan. For Off-site emergencies, an effective Mutual aid arrangement is in place; all parties in the Mutual aid actively participate in Off-site Mock drills. PLL has a Mutual Aid agreement with FACT-UD and BPCL-STF to provide resources during emergency. All recommendations made in the Environmental Management Plan

		and Disaster Management Plan, as contained in the Environment Impact Assessment and Risk Analysis reports of the project are covered while preparation of ERDMP (Emergency Response and Disaster Management Plan) which is effectively implemented.
xvi	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Noted.
Xvii	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	PLL has set up Environment Management Cell under General Manager – (Operation & Maintenance) for effective implementation of the stipulated environmental safeguards. Other members of the cell are department heads of HSE, Civil and LAB.
xviii	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	The funds earmarked for environment management plan is included in the budget and will not be diverted for other purposes.
<b>6.</b>	<b>GENERAL CONDITIONS</b>	<b>PLL Remark</b>
I	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Noted. PLL have taken appropriate measure while undertaking digging activities. We conduct ground water analysis periodically and latest report is enclosed as <b>Annexure#1</b> .
li	Full support shall be extended to the officers of this Ministry/Regional Office at Bengaluru by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	PLL will extend full support to the officers of this ministry's Regional Office, Bangalore and the officers of the Central and State Pollution Control Board during the inspection for monitoring purpose by furnishing full details of analysis reports and action plans for environmental protection
lii	A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bengaluru regarding the implementation of the stipulated conditions.	Noted. Six monthly reports regarding the implementation of the stipulated conditions are regularly been submitted to regional MoEF office for all EC & CRZ Clearance obtained for Kochi LNG Terminal project.

iv	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	PLL will comply with additional conditions, if any suggested by the ministry or any other competent authority in writing.
v	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	PLL is aware of the Ministry's right to revoke clearance for not complying with the conditions stipulated in the clearance.
vi	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	Noted.
vii	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Site appraisal clearance obtained on 28/02/2011. No separate land developmental work was required, as this involved only augmentation of equipment in the same land.
viii	A copy of the clearance letter shall be marked to concerned Panchayat/local NGO, if any, from whom any suggestion/representation has been made received while processing the proposal.	PLL has written letter to concerned Gram Panchayat vide letter no. PLL/Kochi/MoEF/GP/2013/001 dated 07/03/2013; A copy of the letter has already been submitted with six monthly compliance reports dated 05/04/2013.
ix	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's Office/Tehsildar's office for 30 days.	Action need to be taken by State Pollution control board.

**Other Conditions mentioned in the Environment Clearance dated 31st January 2013.**

7.	These stipulation's would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Noted.
8	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Noted.  Copies of all relevant approvals/NOCs have already been submitted along with the six monthly compliance reports dated 05/04/2013.

9	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental and CRZ Clearance and copies of clearance letters are available with the Kerala Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at <a href="http://www.envfor.nic.in">http://www.envfor.nic.in</a> . The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bengaluru.	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.  We had submitted a copy of the advertisement given in the two local newspapers along with the six monthly compliance report dated 30 <sup>th</sup> September-2013.
10	This clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Noted.
11	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	Status of the compliance, of various stipulated environmental conditions and environmental safeguards are uploaded in PLL's website.
12	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted.
13	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	PLL has written letter to concerned Gram Panchayat vide letter no. PLL/Kochi/MoEF/GP/2013/001 dated 07/03/2013, we have already submitted a copy of the letter with six monthly compliance report dated 05/04/2013.
14	The proponent shall upload the status of compliance of the stipulated Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	This is uploaded in the website. <a href="http://www.petronetng.com">www.petronetng.com</a> .
15	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Noted.

16	<p>The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of Clearance conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.</p>	<p>We have uploaded Form-V (Environment Statement) along with the status of compliance of clearance conditions in our company's website. Compliance of the clearance conditions is regularly sent to MoEF's regional office by e-mail. Kindly find the latest Form-V (Environment Statement) enclosed as <b>Annexure#2</b></p>
----	---	--

**COMPLIANCE REPORT TO YOUR ORDER DT. 13<sup>TH</sup> MARCH 2003**

i. All the conditions stipulated by the Science Technology and Environment Department, Government of Kerala vide their Letter No. 4215/B1/2000/STED, dated 9.2.2001 should be effectively implemented.

- **Conditions mentioned in the Letter No. 4215/B1/2000/STED, dated 9.2.2001 does not specifies and conditions for compliance.**
- **Conditions mentioned in the Letter No. 1143/A2/2005/STED dated 14-10-2005 from Kerala coastal Zone Management Authority are 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.
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 <b>No. PCB/NOC/EK/117/98 dated 17.9.99</b> which was renewed every time (mostly 2 years) before expiry of its validity period. Consent to Operate no. PCB/HO/EKM/ICO/40/2013 dated 05 <sup>th</sup> August 2013, is Valid up to 31 <sup>th</sup> March 2015, the same was submitted with six monthly report dated 30 <sup>th</sup> September-2013.
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 <sup>th</sup> Feb-2001 and letter dated 22 <sup>nd</sup> 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 regarding the same 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	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:  69.0 m above ground level for flare stack	PLL is using Natural Gas as fuel for GTGs. GTGs are inbuilt with DLE burner (Low NOx burners) and CEMS.  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 30/09/2013.
	5.5 meter above the roof level of Generator room for the Gensets of capacity 750KVA	PLL has provided the stack discharge at 3.5 meter above the roof level of Generator room.
4	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.	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 PCB/HO/EKM/ICO/40/2013 dated 05th August 2013, Valid up to 31th March 2015.

5	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.	PLL has obtained consent to Operate PCB/HO/EKM/ICO/40/2013 dated 05th August 2013, Valid up to 31th March 2015, Copy of CTO has already been submitted with six monthly report dated 30thSeptember-2013.
6	No.8: The sign board showing the name of the industry shall be displayed at the entrance of the site.	PLL has displayed the sign board showing name of the industry at the entrance of the site.
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 has inform the date of commissioning of the industry vide letter no PLL/KOCHI/KSPCB/2013-14/C-06 dated 7th August 2013, A copy of this letter has already been submitted with six monthly report dated 30thSeptember-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 had not used sea water during project phase and will not use any sea water for operation stage.
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 latest sound level monitoring report is enclosed as <b>Annexure#3</b> .

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.
- **Pipelines for LNG pumping from jetty to tanks are laid above ground along with trestle. 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.**
- 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 will not use sea water in any manner nor will discharge any effluent into the sea during operation of the terminal.**
- 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.
- **As PLL is not using sea water in any manner this condition is not applicable.**
- xi. No groundwater shall be tapped for the project.
- **No ground was used during construction stage and will not be using during operation phase. Water requirement during operation of the terminal will be generated and met from the condensed water from air.**
- 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 30<sup>th</sup> September-2013.**
  - **PLL has communicated our willingness to fund mangrove afforestation project of social forestry department to The Dy. Conservator of forest, Social forestry divisional office, Ernakulum, and we are waiting for necessary sanction from the Kerala government. Details regarding the same has already been submitted with six monthly report dated 31<sup>st</sup> March-2014.**
- 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-14 is enclosed as Annexure # 4.**
- xvii. The budget allocated for environment safeguard measures shall not be diverted for any other purpose.
- **Budget allocated for environment safeguard will not be 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 16<sup>th</sup> Feb-2001 and letter dated 22<sup>nd</sup> Sept-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 22<sup>nd</sup> Sept-2011 for EAC recommendations.**
- **Emergency Response and Disaster Management Plan of Petronet LNG Ltd, Kochi terminal was submitted with six monthly compliance report dated 05/04/2013.**

**GENERAL CONDITIONS (2003 clearance):**

<p><b>i.</b></p>	<p>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.</p>	<ul style="list-style-type: none"> <li>▪ The construction drawings have been approved by the concerned State Government Department/Agencies like Department of Factories and Boilers, Fire and rescue Services etc.</li> <li>▪ Copy of the approvals of Factories and Boiler, Fire rescue services has already been submitted with six monthly compliance report dated 05/04/2013.</li> </ul>
<p><b>ii.</b></p>	<p>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.</p>	<ul style="list-style-type: none"> <li>▪ PLL is continuously ensuring that there is no ingress of saline water into the ground water by periodic analysis of ground water, and for the same we have installed two Piezometers at appropriate locations.</li> <li>▪ Sampling of the water drawn from Piezometers is being carried out by approved third party. The latest Ground water analysis report is of the month of JUNE-14 and is enclosed as <b>Annexure#1</b>.</li> </ul>
<p><b>iii.</b></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</p>	<ul style="list-style-type: none"> <li>▪ We have applied for NOTIFICATION OF SITES to Factories &amp; Boilers department vide letter no. PLL/KOCHI/F&amp;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 05/04/2013.</li> <li>▪ We have received final clearance from Chief Controller of Explosive for commissioning of Jetty, LNG</li> </ul>

	<p>project to meet any eventuality in case of an accident</p>	<p>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 05/04/2013.</p> <ul style="list-style-type: none"> <li>▪ 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 05/04/2013.</li> <li>▪ We have prepared Emergency response and Disaster Management Plan and it was submitted to District collector office vide letter no. PLL/KOCHI/DC/2012-12/C-06 dated 15th November 2012. A copy of the same has already been submitted with six monthly compliance report dated 05/04/2013. Copy of the Updated ERDMP is given to concerned authority time to time.</li> <li>▪ 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</li> <li>▪ All approvals as necessary were obtained before the commissioning of the project. Terminal was commissioned on 20<sup>th</sup> August and all activities related to commissioning were completed by 10<sup>th</sup> September 2013.</li> </ul>
<p><b>iv.</b></p>	<p>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.</p>	<p>Contingency plan is formulated to take care of such eventualities. We have already submitted details regarding the same with six monthly compliance report dated 05/04/2013.</p>

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"> <li>▪ Control room is equipped with modern communication and control facilities including emergency shut-down systems in the event of spill occurring.</li> <li>▪ Loading arms are equipped with latest Emergency Release System (ERS).</li> <li>▪ We do not handle LPG at our jetty so the condition stand complied.</li> </ul>
vi.	Dry chemical fire fighting 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 fire fighting facilities should be provided at jetty.	<ul style="list-style-type: none"> <li>• Full-fledged fire fighting facilities is provided in the jetty to handle any emergencies in the event of a fire.</li> <li>• DCP extinguishers are provided at every level of jetty. Water curtain system is also provided at required locations.</li> </ul> <p>Brief note on Fire protection facilities have already been submitted with six monthly compliance report dated 30<sup>th</sup> 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 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.	<ul style="list-style-type: none"> <li>▪ A well-equipped laboratory with suitable Equipments for monitoring the quality of air and water is in place.</li> <li>▪ Qualified and competent personals for Laboratory are available with PLL.</li> <li>▪ PLL is carried out periodic monitoring of environmental parameters by KSPCB approved agency.</li> <li>▪ Ambient air monitoring is carried out once in a month at four different locations and analysis report for the month of <b>September-14</b> is enclosed as <b>Annexure # 5</b>.</li> <li>▪ PLL is conducting marine water quality analysis, once in six month. The latest test report, dated <b>June-14</b> is enclosed as <b>Annexure # 4</b>.</li> </ul>



<b>viii.</b>	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.	Project construction work is completed and labour camp is removed. During the construction phase, PLL has provided adequate infrastructure facilities such as water supply, fuel for cooking, sanitation, etc to the laborers.
<b>ix.</b>	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.	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 and no sewage or waste from PLL will be allowed to enter water bodies
<b>x.</b>	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	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 05/04/2013.
<b>xi.</b>	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	PLL has provided 4 Nos. of Buoys as instructed by cochin post trust. In future, if required, more navigation aids will be provided as per instruction/guidance of Cochin Port Trust and all required safety standards will be applied to vessel movements as per directions of Cochin Port Trust.
<b>xii.</b>	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 of villagers. PLL is carrying out community development and welfare measures for villagers like Construction of Immunization centre at Primary Health Centre, Installation of Solar Powered High Mast lights etc. Total cost spent on CSR activity was Rs 2.54 Crore for year 2013-2014.
<b>xiii.</b>	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 05/04/2013.

<b>xiv.</b>	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 16th 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.
<b>xv.</b>	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.
<b>Xvi.</b>	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.	PLL has complied with the recommendations while preparing Environment Management Plan and Disaster Management Plan, as contained in Environment Impact Assessment and Risk Analysis Report of the project.
<b>Xvii.</b>	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.	An Environment Management Cell has been set up under General Manager-Operation & Maintenance, and Its members are qualified personals from HSE, Civil & Laboratory Operation Department and they are capable to address any environment issues.
<b>Xviii.</b>	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.
<b>xix.</b>	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.
<b>xx.</b>	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	PLL will extend full support to the officers of this ministry's Regional Office, Bangalore and the officers of the Central and State Pollution Control Board during the inspection for

	their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigate measures and other environmental protection activities.	monitoring purpose by furnishing full details and action plans including the action taken reports in respect of mitigate measures and other environmental protection activities.
<b>xxi.</b>	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.
<b>xxii.</b>	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.
<b>xxiii.</b>	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 any additional conditions stipulated by the ministry or any other competent authority.
<b>xxiv.</b>	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 <a href="http://www.envfornic.in">http://www.envfornic.in</a> . 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 news papers has already been along with the six monthly compliance report dated 30th September-2013.
<b>xxv.</b>	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 through letter dated 5th Sept-2008, the copy of the letter has already been submitted, along with six monthly compliance report dated 30 <sup>th</sup> September-2013.

## COMPLIANCE REPORT TO YOUR ORDER DT. 13<sup>TH</sup> MARCH 2006

### A. SPECIFIC CONDITIONS

- i. All conditions stipulated in the clearance letter of even number dated 2nd June, 2003 should be strictly implemented. Also, all conditions stipulated by the State Coastal Zone Management Authority vide their letter No.1 143/A212005/STED, dated 14th October, 2005 should be complied.
  - **Conditions mentioned in the Letter No. 4215/B1/2000/STED, dated 9.2.2001 does not specifies and conditions for compliance.**
  - **All conditions mentioned in the Letter No. 1143/A2/2005/STED dated 14-10-2005 from Kerala coastal Zone Management Authority are complied with. Point wise compliance status is given on page no. 1 of this report.**
- ii. No Objection Certificate/consent should be obtained from the Kerala State Pollution Control Board for the enhanced LNG capacity at the terminal, before initiating the project.
  - **PLL has received renewal of the CTE; the latest Consent to Establish number is PCB/HO/EKM/ICE-R/03/2013 dated 14th March 2013, Valid up to 30th June 2014.**
  - **PLL has received Consent to operate with no. PCB/HO/EKM/ICO/40/2013 dated 05<sup>th</sup> August 2013, Valid up to 31<sup>th</sup> March 2015, a copy of the same has already been submitted with six monthly report dated 30<sup>th</sup> September-2013.**
  - **Conditions mentioned by KSPCB in the CTE No. PCB/NOC/EK/117/98 dated 17.9.99 are complied with.**
- iii. The project proponent should ensure that all necessary precautions including installation of Full-containment - Type LNG tank with concrete roof as indicated in the risk analysis report should be implemented.
  - **The two LNG storage tanks are of Full-containment with concrete roofing.**
- iv. The project proponent should ensure that no additional dredging/expansion or regasification plant will be undertaken for the above project.
  - **PLL will not undertake additional dredging / expansion of regasification plant without approval of MOEF. Only maintenance dredging is being carried out by Cochin port Trust.**
- v. The budget allocated for environment safeguard measures should not be diverted for any other purpose.
  - **Budget allocated for environment safeguard will not be diverted for other purposes.**

- vi. The comprehensive Environmental Impact Assessment report which is under preparation should be completed early and the final report submitted to this Ministry within one year,
  - **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 Feb-2001 and letter dated 22nd Sept-2011 respectively.**
  
- vii. Based on the risk analysis, Disaster Management Plan should be prepared and submitted to this Ministry within 6 months.
  - **EIA with QRA and site emergency response plan (for 5 MMTPA terminal) submitted to MoEF vide letter dated 22nd Sept-2011 for EAC recommendations.**

## **B. GENERAL CONDITIONS**

**All the stipulations under “General Conditions” of this order have been already responded to, as above.**