



Petronet LNG Limited

Survey No. 347, Puthuvypu P.O.
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www.petronetlng.com
CIN L74899DL1998PLC093073
PAN: AAACP8148D. GST: 32AAACP8148D1ZP

PLL/KOCHI/MOEF/2020-21/06

18th November, 2020

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 13th March 2006.

Sir,

The Six monthly compliance report for the above clearances are attached for the period ending 30th September 2020.

Thanking You,

With Regards

Y Reddy
18-11-2020



Yogananda Reddy

Chief General Manager & Vice 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 13th MARCH 2006; 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 CRZ Clearance is as follows:

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 09th February-2001 does not specify any conditions for compliance.**
 - **All conditions mentioned in the Letter No. 1143/A2/2005/STED dated 14th October-2005 from Kerala coastal Zone Management Authority are complied with. Point wise compliance status is given as Annexure#1.**
- 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.
 - **We have obtained Consent to Establish with No. PCB/NOC/EK/117/98 dated 17th September-1999 before initiating the project and the CTE was subsequently renewed.**
 - **We have obtained Consent to Operate with no. PCB/HO/EKM-1/ICO-R/18/ 2018 dated 10th October 2018, and is valid up to on 31st March 2023, a copy of the same has already been submitted along with compliance report dated March-2019.**
- 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.
 - **PLL has built two LNG storage tanks, both the tanks are of Full-containment type 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&CC. 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 February-2001 and letter dated 22nd September-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 September-2011 for EAC recommendations.**

B. 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.	<ul style="list-style-type: none"> ▪ 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 from Factories and Boiler, Fire rescue services has already been submitted with six monthly compliance report dated 05th April-2013.
ii.	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.	<ul style="list-style-type: none"> ▪ 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 a Piezometer at green belt inside the terminal. ▪ Sampling of the water drawn from Piezometer is being carried out by KSPCB approved third party agency. The latest Ground water analysis report of the month of June - 2020 is enclosed as Annexure#2.
iii.	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	<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

	<p>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>	<p>submitted with six monthly compliance report dated 05th April-2013.</p> <ul style="list-style-type: none"> ▪ 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 16th November 2019, valid till 31st December-2020; a copy of the same was submitted along with the Six monthly compliance report up to March-2020. ▪ 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 20th August-2013 and all activities related to commissioning were completed by 10th September 2013.
iv.	<p>A well-equipped laboratory with suitable instruments to monitor the quality of air and water shall be set up as to ensure</p>	<ul style="list-style-type: none"> ▪ A well-equipped laboratory with suitable Equipment's for monitoring the quality of air and

	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.	water is in place, with Qualified and competent employees. However, PLL is carrying out periodic monitoring of environmental parameters by a KSPCB approved third party agency. <ul style="list-style-type: none"> ▪ Ambient air quality monitoring is being carried out once in a month at four different locations and analysis reports for the month of April-2020 to September 2020 are enclosed here as Annexure#3. ▪ PLL is conducting marine water quality analysis once in six month. The latest test report of June -2020 is enclosed here as Annexure #4.
v.	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	<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 Costal Regulation Zone area.
vi.	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 provided for collection of sewage. The collected sewages are regularly disposed through authorized agency of Cochin corporation. A STP of capacity 15KLD is also installed to handle domestic sewages. Treated water from STP was used for gardening purpose and sludge being used as manure. No sewage or waste from PLL are allowed to enter water bodies
vii.	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 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 th April-2013.
viii.	Necessary navigational aids such as channel markers should be provided to prevent accidents. internationally recognized safety standards shall be	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

	applied in case of barge/vessel movements	instruction/guidance of Cochin Port Trust. All required safety standards will be applied to vessel movements as per the directions of Cochin Port Trust.
ix.	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.	PLL is carrying out various projects for community development and welfare through its subsidiary company known as Petronet LNG Foundations Limited. A separate fund has been earmarked for this purpose. A brief description of our CSR activities with photographs is enclosed here as Annexure # 5 .
x.	The quarrying material required for the construction purpose shall be obtained only from the approved quarries/borrow areas. Adequate safeguard measures shall be taken to ensure that the overburden and rocks at the quarry site do not find their way into water bodies.	Quarrying material was sourced from Government approved quarries. We have already submitted the details regarding the same with six monthly compliance reports dated on 05 th April-2013.
xi.	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 MOEF&CC 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 its maintenance.
xii.	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.
xiii.	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 were effectively implemented.
xiv.	A separate Environment Management Cell with suitably qualified staff to carry out various environment issues should be set up under the charge of a Senior Executive who will report directly to the Chief Executive of the Company.	PLL has set up an Environment Management Cell under CGM & VP – (Plant Head). Other members of the team includes Head of; Operation department, C&P (Contracts & Procurement) department, Technical department,

		HSE department, Civil Department, Lab operation & a representative from HR department for effectively implementing the stipulated environment safeguards. The SOP of the Environment Management Cell was revised on 01.06.2020 and the copy of the same is enclosed here as Annexure # 6.
xv.	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 the guidelines by authorities.
Xvi.	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.
Xvii.	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 of analysis reports and action plans for environmental protection
Xviii.	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.
xix.	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.

xx.	This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary for environmental protection, which shall be complied with.	PLL will comply with additional conditions, if any suggested by the ministry or any other competent authority in writing.
xxi.	The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Committee and may also be seen at Website of the Ministry of Environment & Forests at http://www.envfornic.in . The advertisement should be made within 7 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	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 submitted along with the six monthly compliance report dated 30 th September-2013.
xxii.	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

Reddy
18-11-20

Yogananda Reddy

Chief General Manager & Vice President (Plant Head)



Conditions mentioned in the Letter No. 4215/B1/2000/STED, dated 9th February-2001 does not specifies any 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 and by local purchase. 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 10th October 2018, and is valid up to on 31st March 2023, a copy of the same has already been submitted along with the 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.

TEST REPORT

Test Report No: TC54022000000884P	Date: 06.07.2020	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 , Ernakulam District
Customer Reference	Test Request Form Dated 30.06.2020

SAMPLE DETAILS

Sample Code	WT20060067	Sample Received On	30.06.2020
Sample Name	Water	Sampling Procedure	SEAAL/ENL/GEN/SOP/01& SEAAL/MBL/SOP/06
Sample Description	Ground Water	Sampling Location	Piezometer Well
Identification By Customer	---	Sampling Condition	Good
Sampled On	30.06.2020	Test Started On	01.07.2020
Sampled By	Laboratory	Test Completed on	06.07.2020

SL NO	TEST PARAMETER	TEST METHOD	UNIT	RESULT
01	pH	IS 3025 Part 11:1983 RA 2017	---	6.90
02	Total Dissolved Solids	IS 3025 Part 16:1984 RA 2017	mg/L	305
03	Turbidity	IS 3025 Part 10: 1984 RA 2017	NTU	4.80
04	Chloride (as Cl)	IS 3025 Part 32:1988 RA 2014	mg/L	12.2
05	Iron (as Fe)	IS 3025 Part 53:2003 RA 2014	mg/L	0.39
06	Fluoride(as F)	APHA 23 rd Edition 4500-F- B D: 2017	mg/L	0.15
07	Sulphate (as SO ₄)	IS 3025 Part 24:1986 RA 2014	mg/L	7.35
08	Electrical Conductivity	IS 3025 Part 14:1984 RA 2013	µS/cm	469
09	Mercury (as Hg)	APHA (23 rd Edition)3112-B: 2017	mg/L	<0.002
10	Lead (as Pb)	APHA (23 rd Edition)3111-B: 2017	mg/L	<0.20
11	Copper (as Cu)	IS 3025 Part 42:1992 RA 2014	mg/L	<0.05
12	Total Chromium (as Cr)	IS 3025(Part 52):2003	mg/L	<0.40
13	Zinc (as Zn)	APHA 3111B 23 rd Edn, 2017	mg/L	<0.025
14	Temperature	IS 3025 Part 9:1984 RA 2006	°C	29.0
15	Salinity	SEAAL/SOP/06	ppm	0.02
16	Oil & Grease	IS 3025 Part 39:1991 RA 2014	mg/L	2.30
17	Dissolved Oxygen	IS 3025 Part 38:1989 RA 2014	mg/L	4.27
18	Biochemical Oxygen Demand (3 days at 27 °C)	IS 3025 Part 44:1993 RA 2014	mg/L	2.03
19	Chemical Oxygen Demand	IS 3025 Part 58:2006 RA 2012	mg/L	10.0
20	Cyanide (as CN)	IS 3025 (Part-27):1986 (Reaff.2003)	mg/L	<0.01
21	Cadmium (as Cd)	APHA (23 rd Edition) 3111-B: 2017	mg/L	<0.03
22	Pesticide	SEAAL/INS/RWM/SOP/01	---	Absent
23*	Insecticide	USEPA 508 : 1995	---	Absent

*Not Under NABL scope

Note: Values given for test parameters Mercury, Lead, Copper, Chromium, Zinc, Cyanide and Cadmium are our MDL values (Minimum Detectable Values) as per NABL scope.

End of Report



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

Laiju P. N.
Laboratory Head

Authorized Signatory

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

Standard^S Environmental & Analytical Laboratories

Accreditation and Approval: NABL as per ISO 17025: 2017 & "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: sealab@gmail.com

Annexure -3

Ambient Air Monitoring Report, (April 2020 to September 2020)											
LOCATION NO.	Location of Ambient Air Sampling	Month	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-20	Environment monitoring not carried out due to COVID -19 Lockdown								
		May-20	51.4	20.2	0	0	0	0	0	0	
		Jun-20	48.5	19.6	0	0	0	0	0	0	
		Jul-20	41.9	15.9	0	0	0	0	0	0	
		Aug-20	47.5	18.4	0	0	0	0	0	0	
		Sep-20	52.3	19.6	0	0	0	0	0	0	
		Average	48.32	18.74	0.00	0.00	0.00	0.00	0.00	0.00	
		2	Near Fire Station Building	Apr-20	Environment monitoring not carried out due to COVID -19 Lockdown						
May-20	69.8			22.4	0	5.16	0	0	0	0	
Jun-20	61.7			20.6	0	6.28	0	0	0	0	
Jul-20	47.8			16.6	0	4.8	0	0	0	0	
Aug-20	53.9			18.6	0	4.1	0	0	0	0	
Sep-20	58.6			20.1	0	3.86	0	0	0	0	
Average	58.36			19.66	0.00	4.84	0.00	0.00	0.00	0.00	
3	Fire water Reservoir+ Watch Tower-5	Apr-20	Environment monitoring not carried out due to COVID -19 Lockdown								
		May-20	50.9	21.6	0	5.46	0	0	0	0	
		Jun-20	47.1	18.4	0	5.71	0	0	0	0	
		Jul-20	44.9	15.1	0	3.5	0	0	0	0	
		Aug-20	50.3	19.1	0	3.82	0	0	0	0	
		Sep-20	56.8	22.4	0	4.19	0	0	0	0	
		Average	50.00	19.32	0.00	4.54	0.00	0.00	0.00	0.00	
4	Watch Tower-3 near Tank T-101	Apr-20	Environment monitoring not carried out due to COVID -19 Lockdown								
		May-20	52.9	21.5	0	0	0	0	0	0	
		Jun-20	47.6	18.9	0	0	0	0	0	0	
		Jul-20	50.1	18.2	0	0	0	0	0	0	
		Aug-20	56.5	21.4	0	0	0	0	0	0	
		Sep-20	62.8	23.9	0	0	0	0	0	0	
		Average	53.98	20.78	0.00	0.00	0.00	0.00	0.00	0.00	



Dy. Manager HSE



Sr. Manager HSE

TEST REPORT

Test Report No: TC540220000000883P	Date: 06.07.2020	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 , Ernakulam District
Customer Reference	Test Request Form Dated 30.06.2020

SAMPLE DETAILS

Sample Code	WT20060066	Sample Received On	30.06.2020
Sample Name	Water	Sampling Procedure	SEAAL/ENL/GEN/SOP/01& SEAAL/MBL/SOP/06
Sample Description	Marine Water	Sampling Location	Port Jetty
Identification By Customer	Port Jetty	Sampling Condition	Good
Sampled On	30.06.2020	Test Started On	01.07.2020
Sampled By	Laboratory	Test Completed on	06.07.2020

SL NO	TEST PARAMETER	TEST METHOD	UNIT	RESULT
01	Temperature	IS 3025 Part 9:1984 RA 2006	°C	29.0
02	Colour	IS 3025 Part 4:1983 RA 2017	Hazen	5.00
03	pH	IS 3025 Part 11:1983 RA 2017	---	7.51
04	Electrical Conductivity	IS 3025 Part 14:1984 RA 2019	µS/cm	34410
05	Total Dissolved Solids	IS 3025 Part 16:1984 RA 2017	mg/L	22360
06	Turbidity	IS 3025 Part 10:1984 RA 2017	NTU	50.9
07	Chloride (as Cl)	IS 3025 Part 32:1988 RA 2019	mg/L	10646
08	Salinity	SEAAL/SOP/06	ppt	19.2
09	Sulphate (as SO ₄)	IS 3025 Part 24:1986 RA 2019	mg/L	776
10	Iron (as Fe)	IS 3025 Part 53:2003 RA 2019	mg/L	24.5
11	Mercury (as Hg)	APHA (23rd Edition) 3112-B: 2017	mg/L	< 0.002
12	Lead (as Pb)	APHA (23rd Edition) 3111-B: 2017	mg/L	< 0.20
13	Copper (as Cu)	IS 3025 Part 42:1992 RA 2019	mg/L	< 0.05
14	Zinc (as Zn)	APHA 3111B 23rd Edn, 2017	mg/L	< 0.025
15	Nickel (as Ni)	IS 3025 Part 54: 2003 RA 2019	mg/L	< 0.10
16	Cadmium (as Cd)	IS 3025 Part 41: 1992 RA 2019	mg/L	< 0.03
17	Cyanide (as CN)	IS 3025 Part 27:1986 RA 2019	mg/L	< 0.01
18	Fluoride(as F)	APHA 23 rd Edition 4500-F- B D: 2017	mg/L	1.59
19	Arsenic (as As)	IS 3025 Part 37: 1988 RA 2019	mg/L	< 0.002
20	Hexavalent Chromium (as Cr ³⁺)	IS 3025 Part 52:2003 RA 2019	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 2019	mg/L	20.0
24	Dissolved Oxygen	IS 3025 Part 38:1989 RA 2019	mg/L	6.19
25	Biochemical Oxygen Demand (3 days at 27 °C)	IS 3025 Part 44:1993 RA 2019	mg/L	< 2.00
26	Chemical Oxygen Demand	IS 3025 Part 58:2006 RA 2017	mg/L	1182
27	Total Suspended Solids	IS 3025 Part 17:1984 RA 2017	mg/L	644
28	Total Bacterial Count	IS 1622:1981 RA 2014	cfu/mL	116
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

Breethu

Breethu Haresh Authorized Signatory

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

Laiju P. N.

Accreditation and Approval: NABL as per ISO 17025: 2017 & "A" Grade Laboratory

Laboratory Head

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CSR UPDATE KOCHI

**Major Highlights
April 2020- September 2020**

HEALTHCARE & DISASTER MANAGEMENT



5000 nos. of food and sanitization kits distributed for fishermen families across 6 panchayats in Vypin through the Kerala State Coastal Area Development Corporation (KSCADC).



Distributed Personal Protective Equipment's (PPE's) for Healthcare workers in Kalamasery Medical College (COVID hospital) worth Rs. 18.50 lakhs through Indian Medical Association (IMA)

HEALTHCARE & DISASTER MANAGEMENT



Distributed 1080 nos. of Personal Protective Equipment (PPE) kits to the Customs officers deployed at three airports (Kannur, Kozhikode, Calicut) in Kerala.



Distributed 500 nos. of Personal Protective Equipment (PPE) kits, Face shields, N95 masks to the Health care workers in Medical College Hospital, Kottayam

EDUCATION



Distribution of ladies bicycles to 2000 girls students of fisher folk community in the 9 coastal districts of Kerala



Construction of School library for Arumughavilasam LP school, Kannur



Skill training classes for Person with Disabilities (PWD's) in association with NHFDC.

PROMOTION OF ARTS



Promotion of the art form of Kathakali through Thripunithura Kathakali Kendram.

ENVIRONMENT



Planting trees at the periphery of Vypin Block panchayat under the Haritha Vypin Project along with Vypin Block panchayat



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KOCHI LNG TERMINAL
QHSE PROCEDURE MANUAL
Environment Management Cell

Issue No:02	Doc. No: PLK/HSE/DOC/05	Reference: PLK/HSE/PM/01
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ENVIRONMENT MANAGEMENT CELL

Prepared By / Reviewed by. DM (HSE) / SM (HSE)	Approved by Terminal Head	MR SM (TS)
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REVISION HISTORY

Date of Issue	Revision / Amendment	Details	Page No
10-02-2014	Rev-00		
26-08-2016	Rev-01	Inclusion of Sr.Mgr (Operations) and Change of Head (HSE) and Head (Projects)	02
20-03-2017	Rev-02	Inclusion of Mgr.(Materials) & Mgr.(Technical)	04
03.06.2017	Rev-03	Inclusion of GM (O&M) and Ms. Selsa Rajesh name is replaced with Mr.Biju from Lab	04
01.05.2018	Rev-04	1. VP (O & M) is replaced with Sr VP (plant head) and Inclusion of Sr Officer (HR) 2. Environment management cell structure also reorganized.	04
01.06.2020	Rev-05	EMC committee members and Head (EMC) names & designations are updated	07



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1. PURPOSE:

Purpose of this document is to establish an Environment Management system to monitor all plant activities, in order to ensure that they are carried out in an environmental friendly and sustainable manner.

2. SCOPE:

This document outlines the different aspects of the Environment management system like its members, structure, roles & responsibility of committee members and mode of functioning etc.

3. ENVIRONMENT MANAGEMENT CELL:

A) Members of Environment Management Cell:

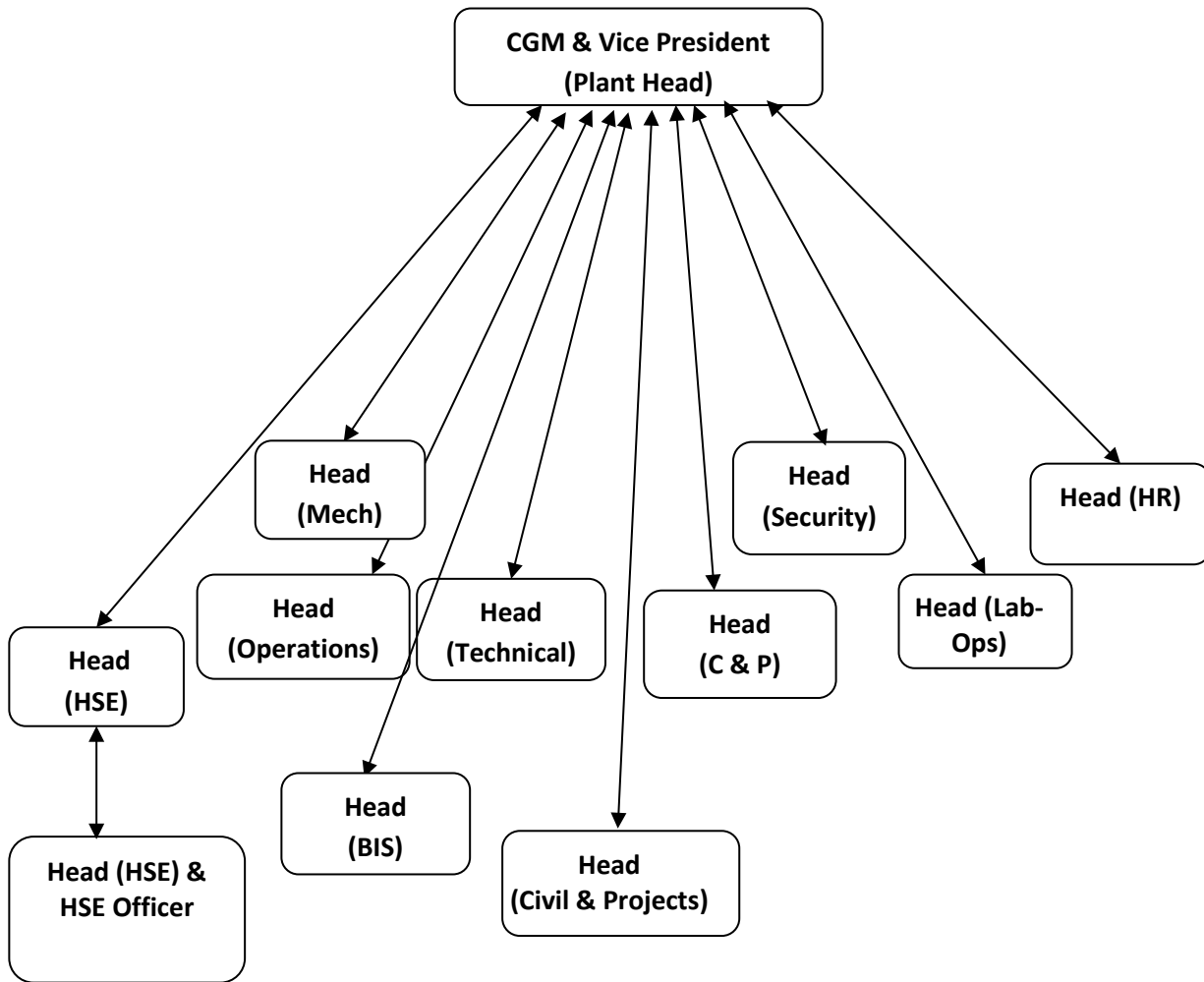
Environment management cell shall be headed by CGM & Vice president (Plant Head) and other members are Head (Operations), Head (HSE), Head (Technical), Head (C & P), Head (Lab Operations), Head (HR), Manager (HSE), Head (Mech) and Jr. Engineer (Civil &Projects); the committee shall be reporting directly to CGM & Vice president (Plant Head)




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B) Structure of Environment Management Cell:




Environment Management Cell

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C) Roles and Responsibility of Environment Management Cell:

Roles and responsibility of Environment management cell are listed below, but not limited to:

- Advice management on issues related to environment.
- Identify activities which have potential to harm environment and to suggest measures to mitigate them.
- Create awareness among employees, contractors, visitors and public regarding the importance of environment protection and means to protect it by conducting tree plantations, campaigns, training programs, posters etc.
- Develop and implement the plans in order to reduce, reuse and recycle wastes.
- Plan, develop and implement environment management projects by coordinating with different departments, government agencies, NGO etc.
- Monitor and review different environment monitoring reports of ambient air, noise, vibration, stack emission, liquid effluents, and will take measures to ensure it is well below the permissible limit prescribed by central/ Kerala state pollution control board.
- Take review of the status of solid waste, hazardous wastes, battery waste, e-waste, biomedical waste, food waste, etc. that are generated either by operation or domestic activities of our plant.
- Ensure all activities of the plant are carried out in an environmentally safe manner and as mentioned in consent to establish and operate.
- Ensure Environment related statutory compliance, i.e. MoEF&CC, CRZ clearance, CPCB and KSPCB etc.
- Ensure adequate vegetation cover in the premise by develop and maintain green belt.
- Ensure plant and its premises are kept clean from waste.
- Ensure that all liquid effluent generated as a result of operation or domestic activities of our plant should be treated well to the standard as prescribed by central/ Kerala state pollution control board before discharging.
- Take measure to prevent/minimize/control plant fugitive emission, if any.
- Ensures proper handling (collecting and segregating), storage and disposal of hazardous wastes i.e. used oil, solid and biological waste.
- Identifying contactors qualified by central/ Kerala state pollution control board for disposing different categories of waste.
- Carry our work environment/industrial hygiene survey internally or externally for health hazards for employees.
- Arranging World Environment Day (WED) celebrations every year.

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D) Functioning of Environment Management Cell:

- Environment management cell shall meet once in a month.
- Date, time, venue and the agenda of the meeting shall be identified by Head (EMC) Operations and the same will be informed to its members, at least one day in advance.
- The meeting shall be convened by the GM (Plant Head), initial discussion will be on the agenda, then on the progress of the decision taken on the previous meeting.
- Members can share any other information or raise any concerns pertaining to environment and the same will be discussed in detail.
- Minutes of the meeting points shall be recorded and a report for the same shall be prepared and documented.
- Meeting minutes shall be reviewed and concluded by the Head of the Environment Management Cell after listing out the outcome of the meeting and setting of goals.
- Members shall be responsible to execute the decision taken on the meeting, by coordinating with different departments, and the progress has to be reported in the next meeting.

E) List of team members & designation:

1. Shri. Yogananda Reddy; CGM & Vice President (Plant Head)
2. Mr.Veerasley Manimaran – DGM (Operations)
3. Mr. Suresh P – Chief Manager (C & P)
4. Mr.Jaiganesh Dakshinamurthy – Chief Manager (Technical)
5. Mr. Debi Prasad Patro – Chief. Manager (HR)
6. Mr. Kiran Joy – Sr. Manager (Security)
7. Mr. L.S.Raja –Manager (Lab Operations)
8. Mr. Vijith T V –Manager (HSE)
9. Mr. Jitin Dev. –Manager (Mechanical)
10. Mr.Dileep AV – Dy. Manager (HSE)
11. Mr.Sreeram Kumar – Dy. Manager (BIS)
12. Mr. Anish Kumar – Jr.Engineer (Civil & Projects)

Note: EMC group common e-mail id emc_kochi@petronetlng.com is created for internal communication.