adani

AECTPL/KPL/HYC/ENV/02 Date: 23/07/2019

To,
The General Manager (Operations)
Kamarajar Port Limited,
23 Rajaji Salai, Chennai – 600 001

Dear Sir,

Sub: Development of container terminal at Kamarajar Port Limited on DBFOT basis, KPL awarded to Adani Ennore Container Terminal Private Limited- **Submission of Half yearly Compliance (January 2019 – June 2019) of Environmental Clearance issued to KPL in various stages of development with regards to Container Terminal** – Reg.

Ref: 1. Vide order no: 10-28/2005-IA-III dated 19th May, 2006
2. Vide order no: 10-28/2005-IA-III dated: 10/09/2007 and validity extension date: 31.03/2017
3. Vide order no: 10-28/2005-IA-III dated: 24/12/2014

With reference to above captioned subject and cited references, **Adani Ennore Container Terminal Private Limited** is submitting the **Half yearly compliance report** (for the period **January 2019 to June 2019**) of applicable conditions to the Environmental & CRZ Clearance obtained by the M/s. Kamarajar Port Limited in various stages of development as referred above.

Kindly acknowledge us the receipt of the same.

For **Adani Ennore Container Terminal Private Limited,**

Adani Ennore Container Terminal Pvt. Ltd. Chennai-1

R.Sathish Kumar
Head - Environment

RECEIVED for S.M.
24/07/19

Kamarajar Port Limited Chennai

Encl.: As above.

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adani Ports and Logistics	Adani Ennore Container Terminal Pvt Ltd	From : January 2019 To : June 2019

Status of Conditions Stipulated in Environmental and CRZ Clearance
File no: 10-28/2005-IA-III dated 19th May, 2006

Half yearly Compliance report on conditions stipulated in Environmental & CRZ Clearance (Period: January 2019 to June 2019)		
S. No.	**Conditions**	**Compliance Status as on 30.06.2019**
SPECIFIC CONDITIONS		
I.	All the conditions stipulated in the NOC from TNPCB vide their letter No. T12/TNPCB/Misc./F.3322/TVLR/05, dated 07.12.2005 should be strictly implemented.	**Status by KPL.** Detailed compliance submitted as annexure by KPL dated 18.07.2013.
II.	Groins and other suitable structures should be constructed to prevent the closing of the month of Ennore Creek.	**Status by KPL.**
III.	The DPR and the technical details to be awarded to the BOT operator should provide to MoEF for post project monitoring within 6 months from the date of receipt of this letter.	**Complied.** Container Terminal DPR submitted vide letter number EPL/MS/49/2008 dt. 13/03/2008.
IV.	The marine terminal should be set up outside CRZ area.	**Status by KPL.**
V.	Recommendations of Risk Analysis report should be strictly implemented and a comprehensive quantitative Risk Analysis should be carried out before operationalizing the project.	**Complied** Operational Risk Assessment carried out and the recommendations are being implemented. Operational Risk Assessment report submitted vide Letter No.AECTPL/KPL/EC-compliance/Env/02 dt. 13.07.2018.
VI.	Approval form Chief Controller of Chief Explosives should be obtained for hazardous chemicals storage, transfer and related activities.	**Not Applicable.** AECTPL is not storing any Hazardous chemicals. Hence not applicable.
VII.	The reclamation of the port area should be carried out with the dredged materials. Dredged material should not be dumped into the sea. No reclamation should be carried outside the port limits.	**Status by KPL.**
VIII.	The coastal protection works should be carried out after detailed hydrodynamic modelling studies and it should be ensured that no erosion or accretion takes place in the shore protection works.	**Status by KPL.**
IX.	Reclamation of 500 acres should be carried out only for the port development. The height of the reclaimed area will be maintained above the maximum flood level.	**Status by KPL.**

Half yearly Compliance report on conditions stipulated in Environmental & CRZ Clearance (Period: January 2019 to June 2019)		
S. No.	**Conditions**	**Compliance Status as on 30.06.2019**
X.	The wave tranquillity study and the ship manuring studies carried out should be taken into account while operating the port.	**Status by KPL.**
XI.	The project proponent should ensure that doing construction and operation of the port there will been impact on the livelihood of the fisherman. The fishermen should be provided free access to carry out the fishing activity.	**Status by KPL.**
XII.	All necessary precaution while undertaking construction and operation of the port should be taken keeping in view the bathymetric changes caused due to tsunami.	**Status by KPL.**
XIII.	All development in the port should be accordance with the Coastal Regulation Zone Notification, 1991 and approved Coastal Zone Management Plan of Tamil Nadu.	**Status by KPL.**
XIV.	The project proponent should undertake a comprehensive hydrodynamic modelling study with regard to river diversion and submit the report to the Ministry within 6 months from the date of receipt of this letter. Further the unit should comply with all the findings/recommendations of the study.	**Status by KPL.**
XV.	Construction labour camps should be located outside of CRZ area and should be provided with adequate cooking and sanitation facilities.	**Complied.** Construction of container terminal is completed and the terminal is under operation
XVI.	The project affected people, of any should be properly compensated and rehabilitated.	**Status by KPL.**

GENERAL CONDITIONS:		
i.	Development of the proposed channel should be undertaken meticulously conforming to the existing Central/Local rules and regulations including CRZ Notification, 1991 and its amendments. All the construction designs/drawings relating to the proposed development activities must have approvals of the concerned State Govt. Depts./Agencies.	**Status by KPL.**
ii.	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 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 concerned pollution control agencies. The periodic monitoring reports at least once in 6 months must be send to this Ministry (RO at Bangalore) and Pollution Control Committee.	**Complied.** AECTPL has awarded Environmental Monitoring services to NABL accredited laboratory. Marine Surface Water, Sea Sediment is carried out on regular basis. The reports are being submitted to KPL and Tamil Nadu Pollution Control Board on monthly basis and also as part of Six monthly compliance report. Environment Monitoring report for the period January 2019 – June 2019 is attached as **Annexure - I.**
iii.	Adequate provisions for infrastructure facilities such as water supply, fuel for cooking, sanitation etc. must be provided for the labourers during the construction period in order to avoid damage to the environment. Colonies for the labourers should not be located in CRZ area. It should also be ensured that the construction workers do not cut trees including mangroves for fuel wood purpose.	**Complied.** Construction completed and terminal is in operation
iv.	To prevent discharge of sewage and other liquid wastes into the water bodies, adequate system for collection and treatment of the waste must be	**Complied.** AECTPL has installed and operating 25 KLD capacity Sewage Treatment

	provided. No Sewage and other liquid wastes without treatment should be allowed to enter into the water bodies.	Plant and entire treated water is being used for horticulture purpose.
v.	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.	**Status by KPL.**
vi.	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.	**Status by KPL.**
vii.	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 the purpose.	**Status by KPL.** However, AECTPL has implemented CSR activities like General Health Camp, Eye Camp, encouraging sports & events, etc., in the vicinity of the Port area. Expenses incurred for CSR during the compliance period is Rs.13.51 Lakhs
viii.	The quarrying material required for the construction purpose should be obtained only from the approved quarries/borrow areas. Adequate safeguards measures shall be taken to ensure that the overburden and rocks at the quarry site do not find their way in water bodies.	**Complied** Construction is completed and terminal is in operation phase
ix.	For employing unskilled, semi-skilled and skilled workers for the project, preference should be given to local people.	**Complied.** AECTPL has considered local people during construction phase & also during Operation Phase through Contracts.
x.	The recommendations made in the EMP and DMP, as contained in the EIA and RA reports of the projects shall be effectively implemented.	**Status by KPL.**
xi.	A separate EMC with suitable qualified staff to carry out various environment should be set up under the charge of a Senior Executive who will report directly to Chief Executive	**Complied.** A separate EMC with suitable qualified staff has been put in place by AECTPL for taking care of various day-to-day Environmental monitoring

	of the Company.	compliance and allied activities. Environment Department is headed by Senior Manager – Environment, who is reporting directly to Chief Executive Officer of the company. He is well supported by Environment Management Team at H.O.
xii.	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.	**Complied** Environmental Expenditure carried out during Jan'19 to Jun'19 is Rs. 14.15 Lakhs. Breakup details are as follows; • Environmental Monitoring – Rs 3.54 Lakhs • Greenbelt Development – 1.2 Lakhs , • House Keeping – Rs. 7.61 Lakhs • O&M of STP – Rs. 1.8 Lakhs
xiii.	Full support should be extended to the officers of the Ministry's Regional office at Bangalore and the officer of the Central and SPCB by the project proponent during this inspection for monitoring purposes, by furnishing full details and action plans including the action plans including the action taken reports in respect if mitigative measures and other environmental protection activities.	**Noted for compliance.** TNPCB Officials have visited our Port on monthly basis. There was no visit of officials from RO-MoEF&CC and CPCB during the compliance period. All the necessary support is provided during their site visit.
xiv.	In case there is an intension of deviation or alternation 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.	**Noted for compliance**
xv.	The Ministry reserves right to revoke this clearance, if any of the conditions stipulated are not compiled with to the satisfaction of this Ministry.	**Noted.**
xvi.	This Ministry or any other competent authority may stipulate additional conditions subsequently, if deemed necessary for environmental	**Noted for Compliance**

	protection, which shall be complied with.	
xvii.	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 available with the SPCB and may also be seen at Website of the Ministry of Environment & Forests at http:www.envforenic.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 the Ministry at Bangalore.	**Status by KPL.**
xviii.	The project proponents should inform the RO 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.	**Status by KPL.**

Vide order no: 10-28/2005-IA-III dated: 10/09/2007 and validity extension date: 31.03/2017

A. SPECIFIC CONDITIONS:

S.No	Environmental Clearance conditions	Compliance Status as on 30.06.2019
i	It should be ensured that no mangroves are destroyed during reclamation.	**Status by KPL.**
ii	The proposed extension to the project should not cause any shoreline change abutting Ennore Port.	**Status by KPL.**
iii	Adequate provision for beach nourishment and sand bypass should be provided.	**Status by KPL.**
iv	The dredged material obtained should be utilized for filling up of back up area.	**Status by KPL.**
v	All conditions stipulated in the environmental clearance letter of even number dated 19.05.2006 should be strictly complied with.	**Complied** All stipulated conditions applicable to AECTPL in the environmental clearance letter of even number dated 19.05.2006 are being complied and compliance reports are regularly submitted to KPL. Last compliance report for the period July 2018 to December 2018 was submitted to KPL vide letter No. AECTPL/KPL/EC-Compliance/Env/03 dated 11.01.2019.
vi	The additional dredged material of 4 million cu. Mts. obtained from the project should not be disposed of into the sea.	**Status by KPL.**
vii	The reclaimed area should be used as containers stack yard only.	**Status by KPL.**
viii	Adequate drainage facilities should be provided in the reclaimed are along with collection and treatment system for treating the run off from the container stack yards.	**Status by KPL.**
ix	Necessary approvals/clearances should be obtained from the Tamil Nadu Coastal Zone Management Authority and Tamil Nadu Pollution Control Board before implementing the project.	**Complied** TNCZMA recommendation was obtained by KPL Tamil Nadu Pollution Control Board accorded Renewal of Consent to Operate orders to handle 11.68

		MMTPA containers vide order no: 1808111676581 & 1808211676581 under Air and Water Acts dated: 23/08/2018 valid for 3 years.

B. GENERAL CONDITIONS:

S.No	Environmental Clearance conditions	Compliance Status as on 30.06.2019
i	Construction of the proposed structures should be undertaken meticulously confirming to the existing Central/ local rules and regulations including Coastal Regulation Zone Notification 1991 & its amendments. All the construction design drawings relating to the proposed construction activities must have approvals of the concerned State Government Departments / Agencies.	**Status by KPL.**
ii	Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc. should be ensured for construction workers during the construction phase of the project so as to avoid felling of trees/ Mangroves and pollution of water and the surroundings.	**Complied.** Construction of container terminal is completed and project is in operation phase
iii	The project authorities mush make necessary arrangements for disposal of solid wastes and for the treatment of effluents by providing a proper wastewater treatment plant outside the CRZ area. The quality of treated effluents, solid wastes and noise level etc. must conform to the standards laid down by the competent authorities including the Central/State Pollution Control Board and the Union Ministry of Environment and Forests under the Environment (Protection) Act, 1986, whichever are more stringent.	**Complied** AECTPL has installed and operating 25 KLD sewage treatment plant to collect and treat the sewage generated from the terminal. The entire treated water is being used for horticulture purpose. AECTPL has implemented Integrated Waste Management System (IWMS) - Waste Segregation Yard. . All the Solid waste generated is being handled in line to Solid Waste Management Rules, 2016 as amended. AECTPL vision is based on adoption of 5R principle of waste management i.e Reduce, Reuse, Reprocess, Recycle & Recover. All waste is being handled inline to 5R principle.

iv	The proponent shall obtain the requisite consents for discharge of effluents and emission under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 from the Tamil Nadu Pollution control Board before commissioning of the project and a copy of each of these shall be sent to this Ministry.	**Complied** Tamil Nadu Pollution Control Board accorded Renewal of Consent to Operate orders to handle 11.68 MMTPA containers vide order no: 1808111676581 & 1808211676581 under Air and Water Acts dated: 23/08/2018 valid for 3 years.
v	The proponent shall provide for a regular monitoring mechanism so as to ensure that the treated effluents conform to the prescribed standards. The records of analysis reports must be properly maintained and made available for inspection to the concerned State/Central officials during their visits.	**Complied** AECTPL has awarded Environmental Monitoring services to NABL accredited laboratory. Monitoring of Ambient Air Quality, Noise, Stack, STP, Drinking Water, Marine Surface Water, Sea Sediment is carried out on regular basis.The reports are being submitted to KPL and Tamil Nadu Pollution Control Board on monthly basis and also as part of Six monthly compliance report. Environment Monitoring report for the period January 2019 – June 2019 is attached as **Annexure - I**. Reports are made available for inspection to the concerned State/Central officials during their visits.
vi	In order to carry out the environmental monitoring during the operational phase of the project, the project authorities should provide an environmental laboratory well equipped with standard equipment and facilities and qualified manpower to carry out the testing of various environmental parameters.	**Complied** Environmental Monitoring is being carried out through NABL accredited laboratory. Monitoring of Ambient Air Quality, Noise, Stack, STP, Drinking Water, Marine Surface Water, Sea Sediment is carried out on regular basis.. The reports are being submitted to KPL and Tamil Nadu Pollution Control Board on monthly basis and also as part of Six monthly compliance reports. Environment Monitoring report for the period January 2019 – June 2019 is attached as **Annexure - I**.

vii	The sand dunes and mangroves, if any, on the site should not be disturbed in any way.	**Status by KPL.**
viii	A copy of the clearance letter will be marked to the concerned Panchayat/Local NGO, if any from whom any suggestion/representation has been received while processing the proposal.	**Status by KPL.**
ix	The Tamil Nadu Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's Office/Tehsildar's Office for 30 days.	**Status by KPL.**
x	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's Regional Office at Bangalore and the State Pollution Control Board.	**Complied** Environmental Expenditure carried out during Jan'19 to Jun'19 is Rs. 14.15 Lakhs. Breakup details are as follows; • Environmental Monitoring – Rs 3.54 Lakhs • Greenbelt Development – 1.2 Lakhs , • House Keeping – Rs. 7.61 Lakhs • O&M of STP – Rs. 1.8 Lakhs
xi	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.	**Noted for compliance.** TNPCB Officials have visited our Port on monthly basis. There was no visit of officials from RO-MoEF&CC and CPCB during the compliance period. All the necessary support is provided during their site visit.
xii	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.	**Noted.**
xiii	This Ministry reserve the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.	**Noted.**

xiv	This Ministry or any other component authority may stipulate any other additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.	**Noted.**
xv	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 Board 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.	**Status by KPL.**
xvi	The Project proponents should inform the Regional Office at Bangalore 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.	**Status by KPL.**

Vide order no: 10-28/2005-IA-III dated: 24/12/2014

A. SPECIFIC CONDITIONS:

S.No	Environmental Clearance conditions	Compliance Status as on 30/06/2019
i	"Consent to Establish" for the present project, shall be obtained from State Pollution Control Board under Air (Prevention and Control of Pollution) Act, 1981 and Water (Prevention and Control of Pollution) Act 1974.	**Complied.** Tamil Nadu Pollution Control Board accorded Renewal of Consent to Operate orders to handle 11.68 MMTPA containers vide order no: 1808111676581 & 1808211676581 under Air and Water Act dated: 23/08/2018 valid for 3 years.
ii	Quality of Cargo should be handled	**Complied.**

	in accordance with the details provided in the Form-I.	AECTPL is handling only containerized cargo, as approved.
iii	All the recommendations and conditions stipulated by Tamil Nadu Coastal Zone Management Authority (TNCZMA) No. 30060/EC.3/2005-1 dated 06.12.2005 shall be complied with.	**Status by KPL.**
iv	All the conditions as prescribed in the earlier Clearance letter no. 10-28/2005-IA-III dated 19.05.2006 and 10.09.2007 shall be complied with.	**Status by KPL.**
v	All the recommendation of the EIA/EMP & Risk Assessment and Disaster Management Report shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in the matrix format and the compliance for each mitigation plan shall be submitted to MoEF & CC along with half yearly compliance report to MoEF&CC- RO.	**Status by KPL.**
vi	The commitment made by the proponent to the issue raised during Public Hearing shall be implemented by the Proponent.	**Status by KPL.**
vii	Corporate Environmental Responsibility: a. The Company shall have a well laid down Environmental Policy approved by the Board of Directors. b. The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. c. The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	AECTPL having approved QHSE policy. AECTPL having approved SOPs. **Status by KPL.**

	d. To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large.	Standard procedures are made available to address corrective & preventive deviation and violations.

B. GENERAL CONDITIONS:

S.No	Environmental Clearance conditions	Compliance Status as on 30/06/2019
i	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	**Complied** Construction completed and project is under operation.
ii	Full support shall be extended to the officers of the Ministry/Regional Office at Chennai 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.	**Noted for compliance.** TNPCB Officials have visited our Port on monthly basis. There was no visit of officials from RO-MoEF&CC and CPCB during the compliance period. All the necessary support is provided during their site visit.
iii	A six-Monthly monitoring report shall be need to be submitted by the project proponents to the Regional Office of this Ministry at Chennai regarding the implementation of the stipulated conditions.	**Status by KPL.**
iv	Ministry of Environment, Forests & Climate Change or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the in the interest of environment and the same shall be complied with.	**Noted for compliance.**
v	The Ministry reserves the rights to revoke this clearance if any of the conditions stipulated are not complied with satisfaction of the Ministry.	**Noted.**
vi	In the event of a change in project profile or change in the	**Noted.**

	implementation agency, a fresh reference shall be made to the Ministry of Environment, Forests & Climate Change.	
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.	**Noted.**
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.	**Status by KPL.**
ix	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.	**Complied.** A separate EMC with suitable qualified staff has been put in place by AECTPL for taking care of various day to day Environmental monitoring, compliance and allied activities. Environment Department is headed by Senior Manager – Environment, reporting directly to Chief Executive Officer. EMC is well supported by Environment Management Cell, HO.
x	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	**Complied** Environmental Expenditure carried out during Jan'19 to Jun'19 is Rs. 14.15 Lakhs. Breakup details are as follows; • Environmental Monitoring – Rs 3.54 Lakhs • Greenbelt Development – 1.2 Lakhs , • House Keeping – Rs. 7.61 Lakhs • O&M of STP – Rs. 1.8 Lakhs
5.	These stipulations 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	**Noted.**

	EIA Notification 1994, including the amendments and rules made thereafter.	
6.	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.**
7.	The project proponent shall 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 and CRZ clearance and copies of clearance letters are available with the Tamil Nadu State Pollution Control Board and may also be seen at Website of the Ministry of Environment, Forests and Climate Change at http://www.envfornic.in. The advertisement should be made within Seven 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 Chennai.	**Status by KPL.**
8.	The 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 20014 as may be applicable this project.	**Noted.**
9.	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, with a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act 2010.	**Noted.**
10.	Status of compliance to the various stipulated environment conditions and environmental safeguards will be	**Complied.** The compliance to the various conditions stipulated for

	uploaded by the project proponent in its website.	environmental safeguards are uploaded in our Company website and KPL website.
11.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad /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.	**Status by KPL.**
12.	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 Reginal Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	**Status by KPL.** The compliance to the various conditions stipulated for environmental safeguards are uploaded in our Company website and KPL website.
13.	The project proportion 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.	**Status by KPL.**
14.	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 Reginal Office of MoEF & CC by email.	**Complied.** Environment Statement (Form V) submitted FY 2017-18 vide our Letter No. AECTPL/KPT/GMP/CB/ENV/ES 2017-18 dated 10.09.2018 is enclosed as **Annexure – II.**

Enclosures:

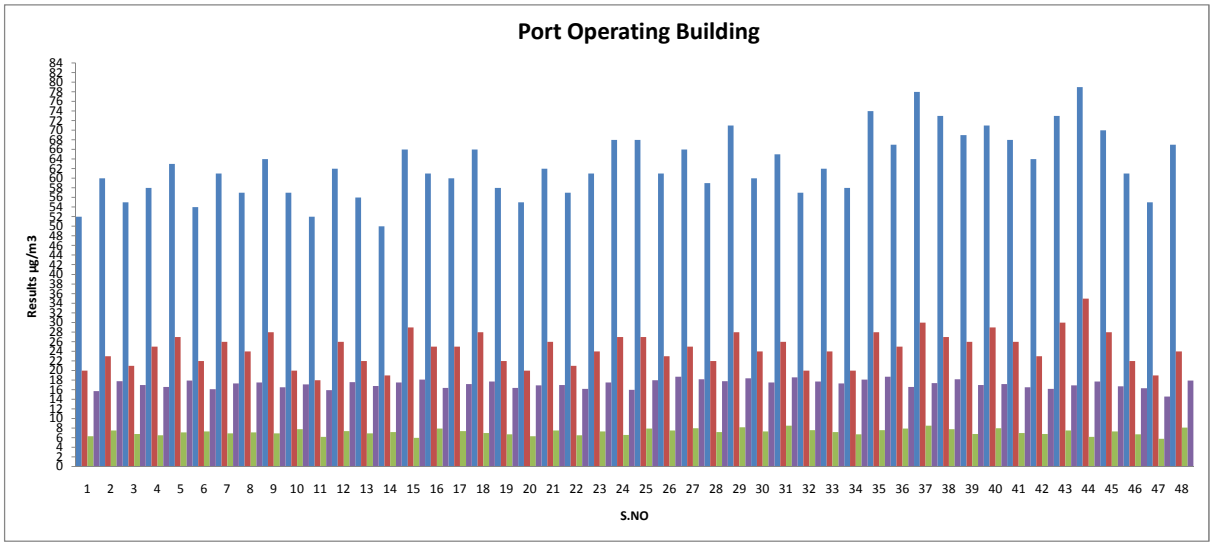
Annexure Number	Details of Annexure
Annexure I:	Environmental Monitoring reports for the period Jan'19 to Jun'19
Annexure II:	Environmental Statement – Form V

Annexure - I

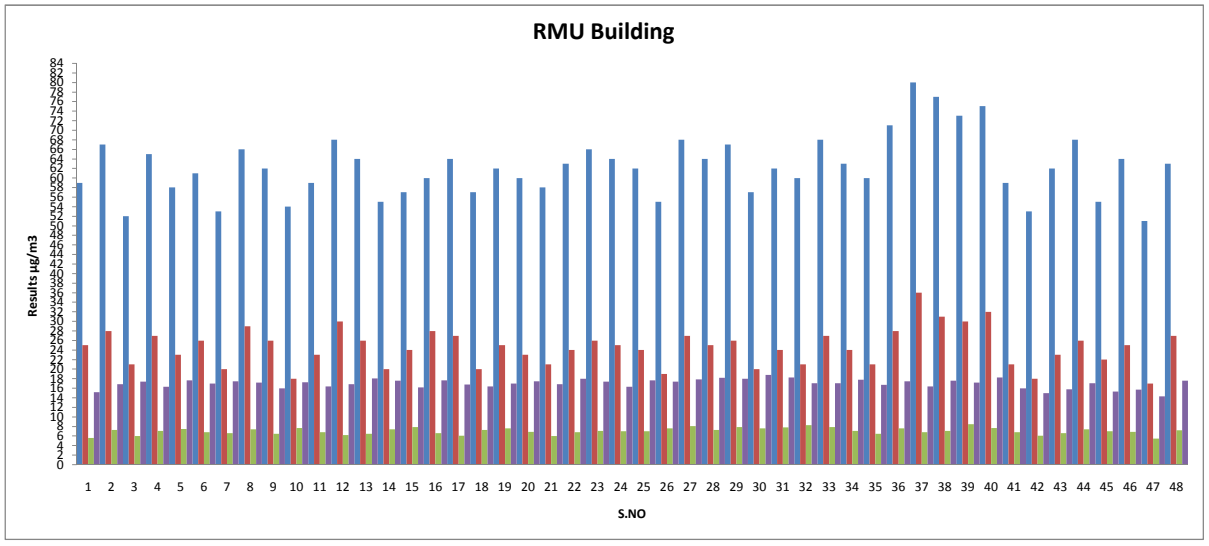
ADANI ENNORE CONTAINER TERMINAL PRIVATE LIMITED (AECTPL)

Jan - 19 to Jun - 19

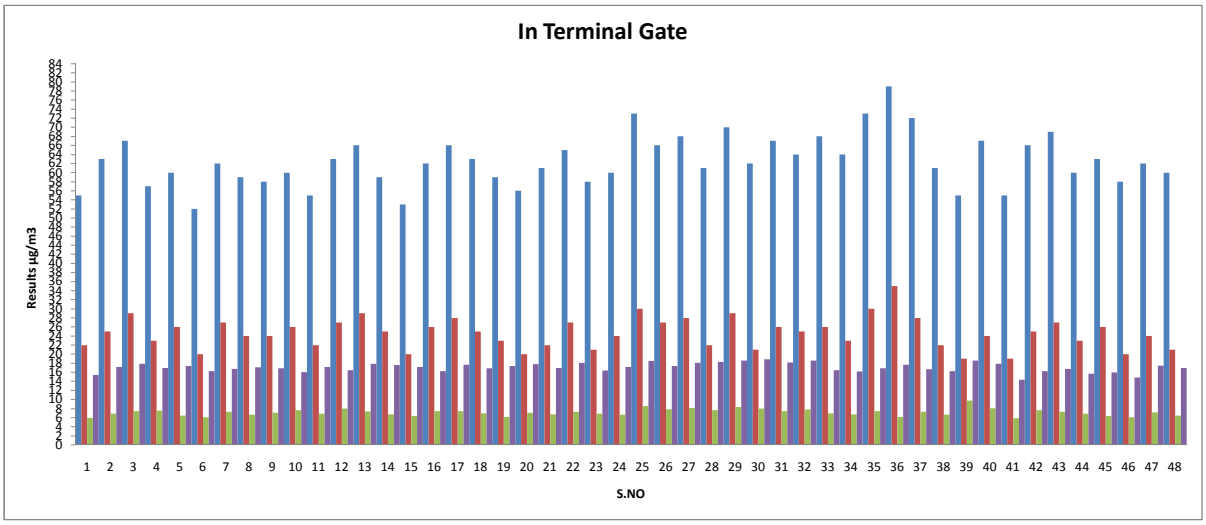
PORT OPERATING BUILDING (AAQ1)														
Parameters			Particular matter PM_{10}	Particular matter $PM_{2.5}$	Sulphur dioxide as SO_2	Nitrogen dioxide as NO_2	Lead as Pb	Carbon monoxide as CO	Ozone as O_3	Ammonia as NH_3	Arsenic as As	Nickel as Ni	Benzene as C_6H_6	Benzo (a) pyrene as BaP
Unit			µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	µg/m³	µg/m³	ng/m³	ng/m³	µg/m³	ng/m³
National AAQM Standard			100	60	80	80	1	4	180	400	6	20	5	1
S.No.	Sampling Date	Report Number												
1	02.01.2019	GCS/LAB/S/1358/18-19	52	20	6.3	15.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
2	04.01.2019	GCS/LAB/S/1358/18-19	60	23	7.5	17.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
3	07.01.2019	GCS/LAB/S/1358/18-19	55	21	6.8	17.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
4	11.01.2019	GCS/LAB/S/1358/18-19	58	25	6.5	16.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
5	16.01.2019	GCS/LAB/S/1358/18-19	63	27	7.1	17.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
6	18.01.2019	GCS/LAB/S/1358/18-19	54	22	7.3	16.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
7	21.01.2019	GCS/LAB/S/1358/18-19	61	26	6.9	17.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
8	24.01.2019	GCS/LAB/S/1358/18-19	57	24	7.1	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
9	01.02.2019	GCS/LAB/S/1446/18-19	64	28	6.9	16.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
10	04.02.2019	GCS/LAB/S/1446/18-19	57	20	7.8	17.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
11	08.02.2019	GCS/LAB/S/1446/18-19	52	18	6.2	15.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
12	11.02.2019	GCS/LAB/S/1446/18-19	62	26	7.4	17.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
13	15.02.2019	GCS/LAB/S/1446/18-19	56	22	6.9	16.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
14	18.02.2019	GCS/LAB/S/1446/18-19	50	19	7.2	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
15	22.02.2019	GCS/LAB/S/1446/18-19	66	29	6.0	18.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
16	25.02.2019	GCS/LAB/S/1446/18-19	61	25	7.9	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
17	01.03.2019	GCS/LAB/S/1517/18-19	60	25	7.4	17.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
18	04.03.2019	GCS/LAB/S/1517/18-19	66	28	7.0	17.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
19	08.03.2019	GCS/LAB/S/1517/18-19	58	22	6.7	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
20	11.03.2019	GCS/LAB/S/1517/18-19	55	20	6.3	16.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
21	15.03.2019	GCS/LAB/S/1517/18-19	62	26	7.5	17.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
22	18.03.2019	GCS/LAB/S/1517/18-19	57	21	6.5	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
23	22.03.2019	GCS/LAB/S/1517/18-19	61	24	7.3	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
24	25.03.2019	GCS/LAB/S/1517/18-19	68	27	6.6	16.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
25	01.04.2019	GCS/LAB/S/1597/18-19	68	27	7.9	18.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
26	05.04.2019	GCS/LAB/S/1597/18-19	61	23	7.5	18.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
27	08.04.2019	GCS/LAB/S/1597/18-19	66	25	8.0	18.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
28	12.04.2019	GCS/LAB/S/1597/18-19	59	22	7.2	17.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
29	15.04.2019	GCS/LAB/S/1597/18-19	71	28	8.2	18.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
30	19.04.2019	GCS/LAB/S/1597/18-19	60	24	7.3	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
31	22.04.2019	GCS/LAB/S/1597/18-19	65	26	8.5	18.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
32	24.04.2019	GCS/LAB/S/1597/18-19	57	20	7.6	17.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
33	03.05.2019	GCS/LAB/S/1681/18-19	62	24	7.2	17.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
34	06.05.2019	GCS/LAB/S/1681/18-19	58	20	6.7	18.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
35	10.05.2019	GCS/LAB/S/1681/18-19	74	28	7.6	18.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
36	13.05.2019	GCS/LAB/S/1681/18-19	67	25	7.9	16.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
37	17.05.2019	GCS/LAB/S/1681/18-19	78	30	8.5	17.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
38	20.05.2019	GCS/LAB/S/1681/18-19	73	27	7.8	18.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
39	24.05.2019	GCS/LAB/S/1681/18-19	69	26	6.8	17.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
40	27.05.2019	GCS/LAB/S/1681/18-19	71	29	8.0	17.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
41	03.06.2019	GCS/LAB/S/1759/18-19	68	26	7.0	16.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
42	07.06.2019	GCS/LAB/S/1759/18-19	64	23	6.8	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
43	10.06.2019	GCS/LAB/S/1759/18-19	73	30	7.5	16.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
44	14.06.2019	GCS/LAB/S/1759/18-19	79	35	6.2	17.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
45	17.06.2019	GCS/LAB/S/1759/18-19	70	28	7.3	16.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
46	20.06.2019	GCS/LAB/S/1759/18-19	61	22	6.7	16.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
47	24.06.2019	GCS/LAB/S/1759/18-19	55	19	5.8	14.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
48	28.06.2019	GCS/LAB/S/1759/18-19	67	24	8.1	17.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1



RMU BUILDING (AAQ2)														
Parameters			Particular matter PM_{10}	Particular matter $PM_{2.5}$	Sulphur dioxide as SO_2	Nitrogen dioxide as NO_2	Lead as Pb	Carbon monoxide as CO	Ozone as O_3	Ammonia as NH_3	Arsenic as As	Nickel as Ni	Benzene as C_6H_6	Benzo (a) pyrene as BaP
Unit			µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	µg/m³	µg/m³	ng/m³	ng/m³	µg/m³	ng/m³
National AAQM Standard			100	60	80	80	1	4	180	400	6	20	5	1
S.No.	Sampling Date	Report Number												
1	02.01.2019	GCS/LAB/S/1358/18-19	59	25	5.6	15.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
2	04.01.2019	GCS/LAB/S/1358/18-19	67	28	7.3	16.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
3	07.01.2019	GCS/LAB/S/1358/18-19	52	21	6.0	17.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
4	11.01.2019	GCS/LAB/S/1358/18-19	65	27	7.1	16.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
5	16.01.2019	GCS/LAB/S/1358/18-19	58	23	7.5	17.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
6	18.01.2019	GCS/LAB/S/1358/18-19	61	26	6.8	17.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
7	21.01.2019	GCS/LAB/S/1358/18-19	53	20	6.6	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
8	24.01.2019	GCS/LAB/S/1358/18-19	66	29	7.4	17.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
9	01.02.2019	GCS/LAB/S/1446/18-19	62	26	6.5	16.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
10	04.02.2019	GCS/LAB/S/1446/18-19	54	18	7.7	17.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
11	08.02.2019	GCS/LAB/S/1446/18-19	59	23	6.8	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
12	11.02.2019	GCS/LAB/S/1446/18-19	68	30	6.2	16.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
13	15.02.2019	GCS/LAB/S/1446/18-19	64	26	6.5	18.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
14	18.02.2019	GCS/LAB/S/1446/18-19	55	20	7.4	17.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
15	22.02.2019	GCS/LAB/S/1446/18-19	57	24	7.9	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
16	25.02.2019	GCS/LAB/S/1446/18-19	60	28	6.6	17.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
17	01.03.2019	GCS/LAB/S/1517/18-19	64	27	6.1	16.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
18	04.03.2019	GCS/LAB/S/1517/18-19	57	20	7.3	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
19	08.03.2019	GCS/LAB/S/1517/18-19	62	25	7.6	17.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
20	11.03.2019	GCS/LAB/S/1517/18-19	60	23	6.9	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
21	15.03.2019	GCS/LAB/S/1517/18-19	58	21	6.0	16.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
22	18.03.2019	GCS/LAB/S/1517/18-19	63	24	6.8	18.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
23	22.03.2019	GCS/LAB/S/1517/18-19	66	26	7.1	17.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
24	25.03.2019	GCS/LAB/S/1517/18-19	64	25	7.0	16.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
25	01.04.2019	GCS/LAB/S/1597/18-19	62	24	7.0	17.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
26	05.04.2019	GCS/LAB/S/1597/18-19	55	19	7.6	17.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
27	08.04.2019	GCS/LAB/S/1597/18-19	68	27	8.1	17.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
28	12.04.2019	GCS/LAB/S/1597/18-19	64	25	7.3	18.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
29	15.04.2019	GCS/LAB/S/1597/18-19	67	26	7.9	18.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
30	19.04.2019	GCS/LAB/S/1597/18-19	57	20	7.6	18.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
31	22.04.2019	GCS/LAB/S/1597/18-19	62	24	7.8	18.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
32	24.04.2019	GCS/LAB/S/1597/18-19	60	21	8.3	17.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
33	03.05.2019	GCS/LAB/S/1681/18-19	68	27	7.9	17.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
34	06.05.2019	GCS/LAB/S/1681/18-19	63	24	7.1	17.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
35	10.05.2019	GCS/LAB/S/1681/18-19	60	21	6.5	16.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
36	13.05.2019	GCS/LAB/S/1681/18-19	71	28	7.6	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
37	17.05.2019	GCS/LAB/S/1681/18-19	80	36	6.8	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
38	20.05.2019	GCS/LAB/S/1681/18-19	77	31	7.1	17.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
39	24.05.2019	GCS/LAB/S/1681/18-19	73	30	8.5	17.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
40	27.05.2019	GCS/LAB/S/1681/18-19	75	32	7.7	18.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
41	03.06.2019	GCS/LAB/S/1759/18-19	59	21	6.8	16.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
42	07.06.2019	GCS/LAB/S/1759/18-19	53	18	6.1	15.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
43	10.06.2019	GCS/LAB/S/1759/18-19	62	23	6.6	15.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
44	14.06.2019	GCS/LAB/S/1759/18-19	68	26	7.4	17.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
45	17.06.2019	GCS/LAB/S/1759/18-19	55	22	7.0	15.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
46	20.06.2019	GCS/LAB/S/1759/18-19	64	25	6.9	15.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
47	24.06.2019	GCS/LAB/S/1759/18-19	51	17	5.5	14.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
48	28.06.2019	GCS/LAB/S/1759/18-19	63	27	7.2	17.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1

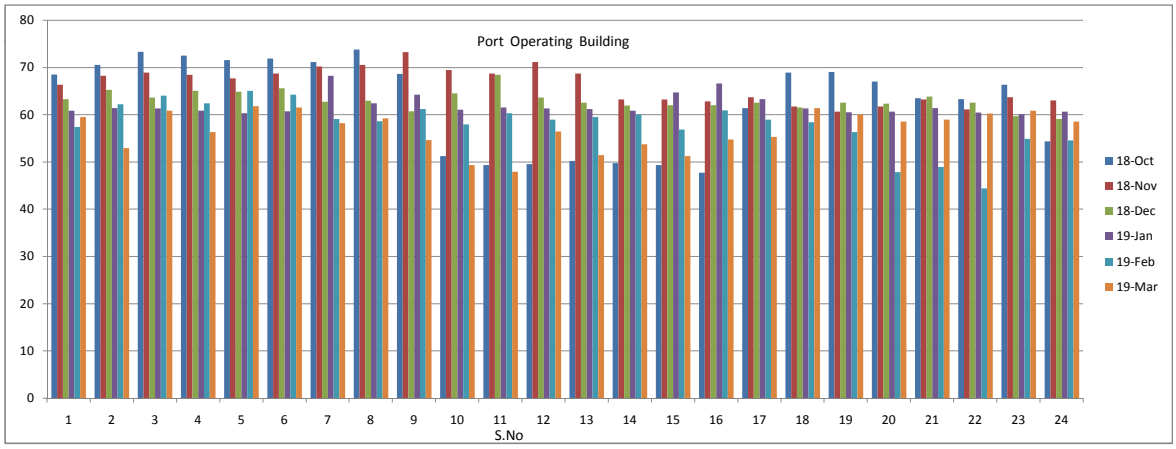


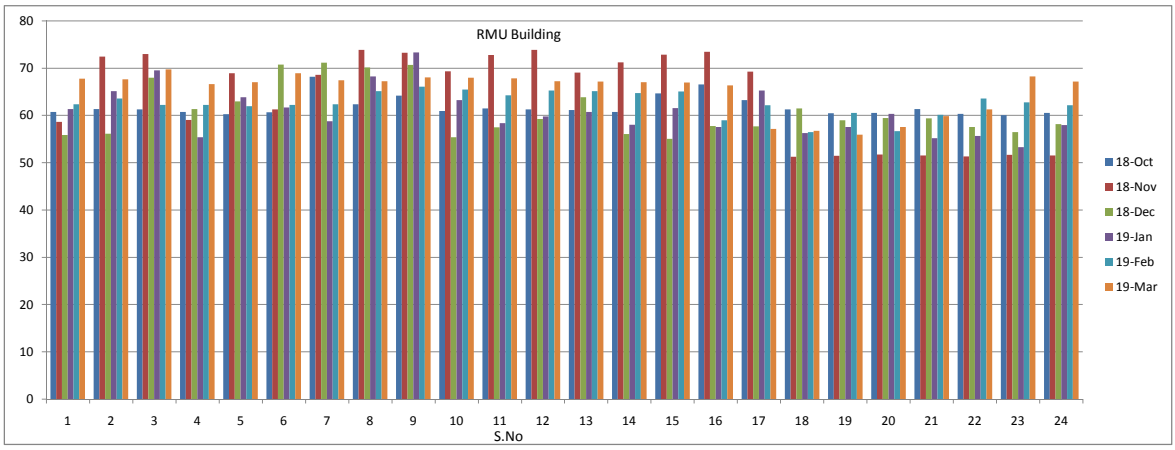
IN TERMINAL GATE (AAQ3)														
Parameters			Particular matter PM_{10}	Particular matter $PM_{2.5}$	Sulphur dioxide as SO_2	Nitrogen dioxide as NO_2	Lead as Pb	Carbon monoxide as CO	Ozone as O_3	Ammonia as NH_3	Arsenic as As	Nickel as Ni	Benzene as C_6H_6	Benzo (a) pyrene as BaP
Unit			$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	mg/m^3	$\mu g/m^3$	$\mu g/m^3$	ng/m^3	ng/m^3	$\mu g/m^3$	ng/m^3
National AAQM Standard			100	60	80	80	1	4	180	400	6	20	5	1
S.No.	Sampling Date	Report Number												
1	02.01.2019	GCS/LAB/S/1358/18-19	55	22	6.0	15.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
2	04.01.2019	GCS/LAB/S/1358/18-19	63	25	6.9	17.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
3	07.01.2019	GCS/LAB/S/1358/18-19	67	29	7.5	17.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
4	11.01.2019	GCS/LAB/S/1358/18-19	57	23	7.6	17.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
5	16.01.2019	GCS/LAB/S/1358/18-19	60	26	6.5	17.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
6	18.01.2019	GCS/LAB/S/1358/18-19	52	20	6.1	16.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
7	21.01.2019	GCS/LAB/S/1358/18-19	62	27	7.3	16.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
8	24.01.2019	GCS/LAB/S/1358/18-19	59	24	6.7	17.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
9	01.02.2019	GCS/LAB/S/1446/18-19	58	24	7.1	16.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
10	04.02.2019	GCS/LAB/S/1446/18-19	60	26	7.7	16.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
11	08.02.2019	GCS/LAB/S/1446/18-19	55	22	6.9	17.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
12	11.02.2019	GCS/LAB/S/1446/18-19	63	27	8.0	16.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
13	15.02.2019	GCS/LAB/S/1446/18-19	66	29	7.4	17.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
14	18.02.2019	GCS/LAB/S/1446/18-19	59	25	6.8	17.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
15	22.02.2019	GCS/LAB/S/1446/18-19	53	20	6.4	17.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
16	25.02.2019	GCS/LAB/S/1446/18-19	62	26	7.5	16.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
17	01.03.2019	GCS/LAB/S/1517/18-19	66	28	7.5	17.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
18	04.03.2019	GCS/LAB/S/1517/18-19	63	25	7.0	16.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
19	08.03.2019	GCS/LAB/S/1517/18-19	59	23	6.2	17.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
20	11.03.2019	GCS/LAB/S/1517/18-19	56	20	7.1	17.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
21	15.03.2019	GCS/LAB/S/1517/18-19	61	22	6.8	17.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
22	18.03.2019	GCS/LAB/S/1517/18-19	65	27	7.3	18.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
23	22.03.2019	GCS/LAB/S/1517/18-19	58	21	6.9	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
24	25.03.2019	GCS/LAB/S/1517/18-19	60	24	6.7	17.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
25	01.04.2019	GCS/LAB/S/1597/18-19	73	30	8.6	18.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
26	05.04.2019	GCS/LAB/S/1597/18-19	66	27	7.9	17.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
27	08.04.2019	GCS/LAB/S/1597/18-19	68	28	8.2	18.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
28	12.04.2019	GCS/LAB/S/1597/18-19	61	22	7.7	18.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
29	15.04.2019	GCS/LAB/S/1597/18-19	70	29	8.4	18.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
30	19.04.2019	GCS/LAB/S/1597/18-19	62	21	8.0	18.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
31	22.04.2019	GCS/LAB/S/1597/18-19	67	26	7.5	18.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
32	24.04.2019	GCS/LAB/S/1597/18-19	64	25	7.8	18.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
33	03.05.2019	GCS/LAB/S/1681/18-19	68	26	7.0	16.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
34	06.05.2019	GCS/LAB/S/1681/18-19	64	23	6.8	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
35	10.05.2019	GCS/LAB/S/1681/18-19	73	30	7.5	16.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
36	13.05.2019	GCS/LAB/S/1681/18-19	79	35	6.2	17.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
37	17.05.2019	GCS/LAB/S/1681/18-19	72	28	7.3	16.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
38	20.05.2019	GCS/LAB/S/1681/18-19	61	22	6.7	16.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
39	24.05.2019	GCS/LAB/S/1681/18-19	55	19	9.8	18.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
40	27.05.2019	GCS/LAB/S/1681/18-19	67	24	8.1	17.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
41	03.06.2019	GCS/LAB/S/1759/18-19	55	19	5.9	14.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
42	07.06.2019	GCS/LAB/S/1759/18-19	66	25	7.7	16.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
43	10.06.2019	GCS/LAB/S/1759/18-19	69	27	7.3	16.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
44	14.06.2019	GCS/LAB/S/1759/18-19	60	23	6.9	15.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
45	17.06.2019	GCS/LAB/S/1759/18-19	63	26	6.4	16.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
46	20.06.2019	GCS/LAB/S/1759/18-19	58	20	6.1	14.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
47	24.06.2019	GCS/LAB/S/1759/18-19	62	24	7.2	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
48	28.06.2019	GCS/LAB/S/1759/18-19	60	21	6.5	17.0	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1



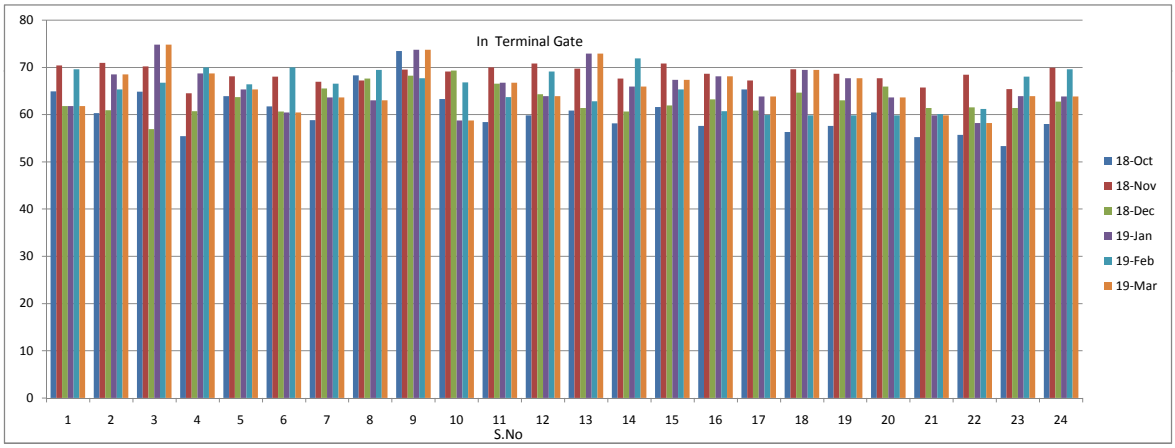
AMBIENT NOISE LEVEL MONITORING

Location		PORT OPERATING BUILDING						RMU BUILDING					
Month & Year		Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19	Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19
Parameter & Unit		Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)
S.No.	Time of Sampling												
1	06.00 – 07.00 (Day)	68.5	66.3	63.3	60.8	57.4	59.5	60.8	58.7	55.9	61.4	62.4	67.8
2	07.00 –08.00	70.5	68.2	65.2	61.4	62.2	52.9	61.4	72.5	56.2	65.2	63.6	67.7
3	08.00 – 09.00	73.3	68.9	63.6	61.3	64	60.8	61.3	73	68	69.6	62.3	69.8
4	09.00 – 10.00	72.5	68.4	65	60.8	62.4	56.3	60.8	59.1	61.4	55.4	62.3	66.7
5	10.00 – 11.00	71.5	67.7	64.8	60.3	65	61.8	60.3	69	63	63.9	62	67.1
6	11.00 – 12.00	71.9	68.7	65.6	60.7	64.2	61.5	60.7	61.3	70.8	61.7	62.3	69
7	12.00 – 13.00	71.1	70.2	62.7	68.2	59.1	58.2	68.2	68.6	71.2	58.8	62.4	67.5
8	13.00 – 14.00	73.8	70.5	62.9	62.4	58.6	59.2	62.4	73.9	70.2	68.3	65.2	67.3
9	14.00 – 15.00	68.6	73.2	60.7	64.2	61.2	54.6	64.2	73.3	70.7	73.4	66.1	68.1
10	15.00 – 16.00	51.2	69.4	64.5	61	57.9	49.3	61	69.4	55.4	63.3	65.5	68
11	16.00 – 17.00	49.3	68.7	68.4	61.5	60.3	47.9	61.5	72.8	57.5	58.4	64.3	67.9
12	17.00 – 18.00	49.5	71.1	63.6	61.3	58.9	56.4	61.3	73.9	59.3	59.8	65.3	67.3
13	18.00 – 19.00	50.2	68.7	62.5	61.2	59.5	51.4	61.2	69.1	63.9	60.8	65.2	67.2
14	19.00 –20.00	49.7	63.2	61.9	60.8	60	53.7	60.8	71.3	56.1	58.1	64.8	67.1
15	20.00 – 21.00	49.3	63.2	62	64.7	56.8	51.2	64.7	72.9	55.1	61.6	65.1	67
16	21.00 – 22.00	47.7	62.8	62	66.6	60.9	54.7	66.6	73.5	57.8	57.6	59	66.4
17	22.00 – 23.00 (Night)	61.4	63.7	62.5	63.3	58.9	55.3	63.3	69.3	57.7	65.3	62.2	57.2
18	23.00 – 00.00	68.9	61.7	61.5	61.3	58.4	61.4	61.3	51.3	61.5	56.3	56.5	56.8
19	00.00 – 01.00	69	60.6	62.5	60.5	56.3	60	60.5	51.5	59	57.6	60.6	56
20	01.00 – 02.00	67	61.7	62.3	60.6	47.8	58.5	60.6	51.8	59.5	60.4	56.7	57.6
21	02.00 – 03.00	63.5	63.2	63.8	61.4	48.9	58.9	61.4	51.6	59.4	55.2	60.2	59.9
22	03.00 – 04.00	63.3	61.1	62.5	60.4	44.4	60.2	60.4	51.4	57.6	55.7	63.6	61.3
23	04.00 – 05.00	66.3	63.7	59.7	60.1	54.9	60.8	60.1	51.7	56.5	53.3	62.8	68.3
24	05.00 – 06.00	54.3	63	59.1	60.6	54.5	58.5	60.6	51.6	58.2	58	62.2	67.2

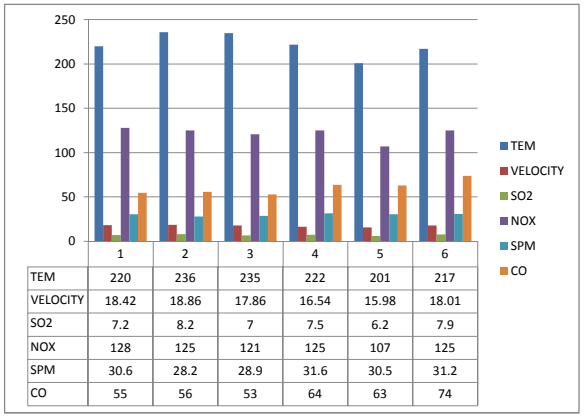




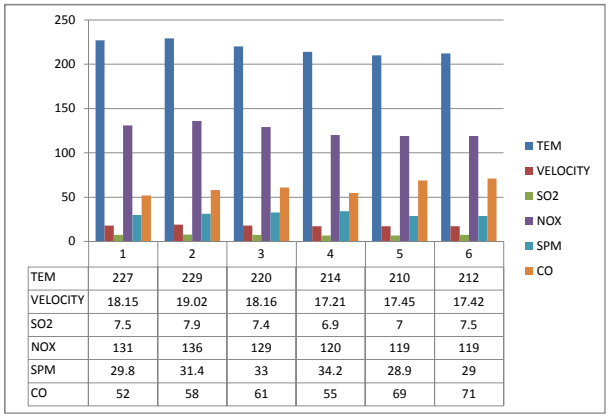
Location		IN TERMINAL GATE					
Month & Year		Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19
Parameter & Unit		Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)
S.No.	Time of Sampling						
1	06.00 – 07.00 (Day)	64.9	70.4	61.8	61.8	69.6	61.8
2	07.00 –08.00	60.3	70.9	60.9	68.5	65.3	68.5
3	08.00 – 09.00	64.8	70.2	56.9	74.8	66.7	74.8
4	09.00 – 10.00	55.4	64.5	60.7	68.7	70	68.7
5	10.00 – 11.00	63.9	68.1	63.7	65.3	66.4	65.3
6	11.00 – 12.00	61.7	68	60.6	60.4	70	60.4
7	12.00 – 13.00	58.8	66.9	65.5	63.6	66.5	63.6
8	13.00 – 14.00	68.3	67.2	67.6	63	69.4	63
9	14.00 – 15.00	73.4	69.5	68.2	73.7	67.7	73.7
10	15.00 – 16.00	63.3	69.1	69.3	58.7	66.8	58.7
11	16.00 – 17.00	58.4	70	66.5	66.7	63.7	66.7
12	17.00 – 18.00	59.8	70.8	64.3	63.9	69.1	63.9
13	18.00 – 19.00	60.8	69.7	61.4	72.9	62.8	72.9
14	19.00 –20.00	58.1	67.6	60.6	65.9	71.9	65.9
15	20.00 – 21.00	61.6	70.8	61.9	67.3	65.3	67.3
16	21.00 – 22.00	57.6	68.6	63.2	68.1	60.7	68.1
17	22.00 – 23.00 (Night)	65.3	67.2	60.8	63.8	59.9	63.8
18	23.00 – 00.00	56.3	69.6	64.6	69.4	59.8	69.4
19	00.00 – 01.00	57.6	68.6	63	67.7	59.8	67.7
20	01.00 – 02.00	60.4	67.7	65.9	63.6	59.8	63.6
21	02.00 – 03.00	55.2	65.7	61.4	59.8	60.1	59.8
22	03.00 – 04.00	55.7	68.4	61.5	58.2	61.2	58.2
23	04.00 – 05.00	53.3	65.4	61.4	63.9	68	63.9
24	05.00 – 06.00	58	69.9	62.7	63.8	69.6	63.8



STACK MONITORING													
Location		DG 1500KVA - 1				DG - 3	DG - 1	DG 1500KVA -2	DG - 3	DG 1500KVA -2			
Month & Year		Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19	Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19
S.No.	Parameters												
1	Stack Temperature, °C	220	236	235	222	201	217	227	229	220	214	210	212
2	Flue Gas Velocity, m/s	18.42	18.86	17.86	16.54	15.98	18.01	18.15	19.02	18.16	17.21	17.45	17.42
3	Sulphur Dioxide, mg/Nm3	7.2	8.2	7	7.5	6.2	7.9	7.5	7.9	7.4	6.9	7	7.5
4	NOX (as NO2) in ppmv	128	125	121	125	107	125	131	136	129	120	119	119
5	Particular matter, mg/Nm3	30.6	28.2	28.9	31.6	30.5	31.2	29.8	31.4	33	34.2	28.9	29
6	Carbon Monoxide, mg/Nm3	55	56	53	64	63	74	52	58	61	55	69	71
7	Gas Discharge, Nm3/hr	5005	4960	4709	4476	4516	4923	4863	5075	4935	4734	4839	4811

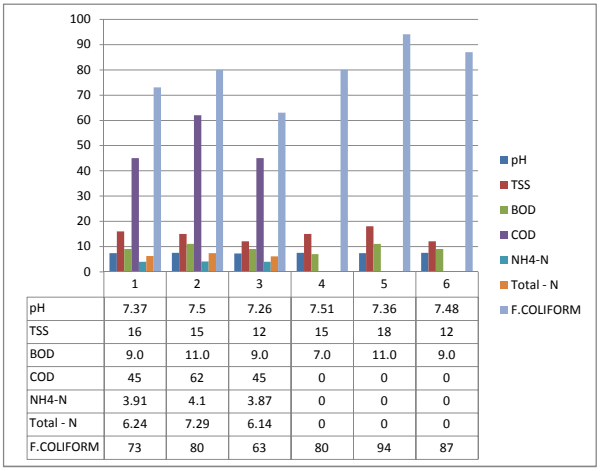


	1	2	3	4	5	6
TEM	220	236	235	222	201	217
VELOCITY	18.42	18.86	17.86	16.54	15.98	18.01
SO2	7.2	8.2	7	7.5	6.2	7.9
NOX	128	125	121	125	107	125
SPM	30.6	28.2	28.9	31.6	30.5	31.2
CO	55	56	53	64	63	74



	1	2	3	4	5	6
TEM	227	229	220	214	210	212
VELOCITY	18.15	19.02	18.16	17.21	17.45	17.42
SO2	7.5	7.9	7.4	6.9	7	7.5
NOX	131	136	129	120	119	119
SPM	29.8	31.4	33	34.2	28.9	29
CO	52	58	61	55	69	71

STP OUTLET WATER							
Location		STP OUTLET					
Month & Year		Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19
S.No.	Parameters						
1	pH @ 25°C	7.37	7.5	7.26	7.51	7.36	7.48
2	Total Suspended Solids	16	15	12	15	18	12
3	BOD at 27°C for 3 days	9.0	11.0	9.0	7.0	11.0	9.0
4	COD	45	62	45	--	--	--
5	Ammonical Nitrogen as NH4-N	3.91	4.1	3.87	--	--	--
6	Total Kjeldahl Nitrogen as N - Total	6.24	7.29	6.14	--	--	--
7	Fecal Coliform	73	80	63	80	94	87



	1	2	3	4	5	6
pH	7.37	7.5	7.26	7.51	7.36	7.48
TSS	16	15	12	15	18	12
BOD	9.0	11.0	9.0	7.0	11.0	9.0
COD	45	62	45	0	0	0
NH4-N	3.91	4.1	3.87	0	0	0
Total - N	6.24	7.29	6.14	0	0	0
F.COLIFORM	73	80	63	80	94	87

DRINKING WATER								
Month & Year		Unit	Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19
S.No.	Parameters							
1	pH @ 25°C	-	6.69	6.8	6.73	6.98	6.91	7.13
2	Total Hardness as CaCo3	mg/L	34.0	43	20	14.0	18	27
3	Chloride as Cl	mg/L	77	22	24	18	21	32
4	Total Dissolved Solids	mg/L	142	95	67	55	67	79
5	Calcium as Ca	mg/L	6	15.6	5.6	4.2	5.3	6.8
6	Sulphate as SO4	mg/L	15.8	11.2	2	BDL(DL:1.0)		
7	Nitrate as No3	mg/L	BDL(DL:1.0)					
8	Total Alkalinity as $CaCo_3$	mg/L	35	60	35	28	31	42
9	Magnesium as Mg	mg/L	4.56	0.96	1.44	0.84	1.14	2.4
10	Color	Hazen	<1.0					
11	Odour	-	Unobjectionable					
12	Taste	-	Agreeable					
13	Turbidity	NTU	<0.5					
14	Iron as Fe	mg/L	BDL(DL 0.05)					
15	Total Residual Chlorine	mg/L	BDL(DL 0.1)					
16	Copper as Cu	mg/L	BDL(DL 0.05)					
17	Manganese as Mn	mg/L	BDL(DL 0.05)					
18	Fluoride as F	mg/L	BDL(DL 0.1)					
19	Phenolic compounds as C_6H_5OH	mg/L	BDL(DL 0.001)					
20	Mercury as Hg	mg/L	BDL(DL 0.001)					
21	Cadmium as Cd	mg/L	BDL(DL 0.003)					
22	Selenium as Se	mg/L	BDL(DL 0.01)					
23	Arsenic as As	mg/L	BDL(DL 0.01)					
24	Lead as Pb	mg/L	BDL(DL 0.01)					
25	Zinc as Zn	mg/L	BDL(DL 0.05)					
26	Anionic Detergents as MBAS	mg/L	Nil					
27	Total Chromium as Cr	mg/L	BDL(DL 0.05)					
28	Phenolphthalein Alkalinity as $CaCo_3$	mg/L	Nil					
29	Aluminium as Al	mg/L	BDL(DL 0.05)					
30	Boron as B	mg/L	BDL(DL 0.1)					
31	Mineral Oil	mg/L	Nil					
32	Polynuclear Aromatic Hydrocarbons as	mg/L	Nil					
33	Pesticides	mg/L	Nil					
34	Cyanide as CN	mg/L	BDL (DL : 0.01)					
35	E. coli	MPN/100ml	Absence					
36	Total Coliform	MPN/100ml	Absence					

MAR

Location		Surface Water									
Month & Year		Unit	Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19	Jan - 19	Feb - 19	Mar - 19	Apr - 19
S.No.	Parameters		Bollard 4	Bollard 1	Bollard 5	Bollard 2	Bollard 12	Bollard 25	Bollard 24	Bollard 27	Bollard 25	Bollard 25
1	pH @ 25°C	-	7.28	7.19	7.55	7.39	7.42	7.53	7.5	7.32	7.61	7.5
2	Temperature	°C	29	29	29	29	29	29	29	29	29	29
3	Total Suspended Solids	mg/L	22	19	15	12	14	18	24	21	17	15
4	BOD at 27 °C for 3 days	mg/L	14	12	10	17	19	24	16	17	14	12
5	Dissolved oxygen	mg/L	3	3.1	2.8	2.5	2.1	1.9	2.8	2.6	3.2	2.9
6	Salinity at 25 °C	-	37.3	42.3	41.2	42.3	45	47	41	43.5	39.8	40.5
7	Oil & Grease	mg/L	BDL(DL 1.0)	7.5	BDL(DL 1.0)				BDL(DL 1.0)	5.9	BDL(DL 1.0)	
8	Nitrate as No_3	mg/L	6.96	7.4	6.57	7.38	9.12	11.16	5.73	6.21	7.11	8.12
9	Nitrite as No_2	mg/L	3.58	4.11	3.9	4.54	5.13	6.35	4.47	5.36	4.83	4.06
10	Ammonical Nitrogen as N	mg/L	BDL(DL 1.0)						-	BDL(DL 1.0)		
11	Ammonia as NH3	mg/L	BDL(DL 0.01)						-	BDL(DL 0.01)		
12	Kjeldahl Nitrogen as N	mg/L	BDL(DL 1.0)						-	BDL(DL 1.0)		
13	Total phosphates as PO4	mg/L	3.72	3.98	4.02	4.98	6.12	7.51	4.01	4.25	5.24	4.45
14	Total Nitrogen	mg/L	BDL(DL 1.0)						BDL(DL 1.0)			
15	Total Dissolved Solids	mg/L	38016	39714	38617	40152	41106	41827	40125	41089	40062	40564
16	COD	mg/L	86	73	64	85	92	112	91	82	71	81
17	Total bacterial count	cfu/ml	60	58	47	56	61	68	73	66	53	61
18	Coliforms	Per 100 ml	Absence						Absence			
19	Escherichia coli	Per 100 ml	Absence						Absence			
20	Salmonella	Per 100 ml	Absence						Absence			
21	Shigella	Per 100 ml	Absence						Absence			
22	Vibrio cholerae	Per 100 ml	Absence						Absence			
23	Vibrio parahaemolyticus	Per 100 ml	Absence						Absence			
24	Enterococci	Per 100 ml	Absence						Absence			
25	Octane	µg/L	156	142	135	144	162	169	150	158	141	150
26	Nonane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
27	Decane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
28	Undecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
29	Tridecane	µg/L	7.3	7	6.2	6.8	7.1	8.2	7.7	7.5	7	6.5
30	Tetradecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
31	Pentadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
32	Hexadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
33	Octadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
34	Nonadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
35	Elcosane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
36	Primary Productivity	mg C/m^3 /hr	9.05	9.56	8.17	8.43	8.56	8.63	9.78	9.12	8.54	8.68
37	Chlorophylla	mg $/m^3$	6.44	7.05	5.98	5.06	6.1	7.5	6.96	7.31	6.26	6.47
38	Phaeophytin	mg $/m^3$	0.61	0.69	0.81	0.87	0.92	1.07	0.65	0.6	0.73	0.79
39	Oxidisable Paticular Organic	mg /L	7.17	8.01	8.76	9.12	9.16	10.38	7.86	7.54	8.09	8.85
	PHYTOPLANKTON											
40	Bacteriastrum hyalinum	nos/ml	17	15	13	16	18	20	14	17	15	19
41	Bacteriastrum varians	nos/ml	13	16	7	9	10	13	17	14	10	12
42	Chaetoceros didymus	nos/ml	11	13	10	14	15	18	8	10	12	16
43	Chaetoceros decipiens	nos/ml	14	11	4	8	9	11	12	9	8	10
44	Biddulphia mobiliensis	nos/ml	12	14	6	10	11	14	16	15	14	11
45	Ditylum brightwellii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
46	Gyrosigma sp	nos/ml	7	6	8	11	12	15	8	5	7	5
47	Cladophyxis sps	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
48	Coscinodiscus centralis	nos/ml	10	12	14	10	13	16	15	16	9	6
49	Coscinodiscus granii	nos/ml	9	8	5	7	9	12	7	9	11	8
50	Cylcotella sps	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
51	Hemidiscus hardmanianus	nos/ml	17	19	10	13	15	19	19	22	13	15
52	Laudaria annulata	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
53	Pyropacus horologicum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
54	Pleurosigma angulatum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
55	Leptocylindrus danicus	nos/ml	18	17	8	12	13	17	20	18	16	19
56	Guinardia flaccida	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
57	Rhizosolenia alata	nos/ml	15	9	12	15	17	22	18	11	11	14
58	Rhizosolena impricata	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
59	Rhizosolena semispina	nos/ml	16	18	15	17	18	26	14	16	8	13
60	Thalassionema nitzschioides	nos/ml	8	11	14	19	20	29	10	13	17	21
61	Triceratium reticulatum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
62	Ceratium trichoceros	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
63	Ceratium furca	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
64	Ceratium macroceros	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
65	Ceracium longipes	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	ZOOPLANKTONS											
66	Acrocalanus gracilis	nos/ml	16	12	10	14	15	17	14	10	8	11
67	Acrocalanus sp	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
68	Paracalanus parvus	nos/ml	9	11	8	10	12	15	11	15	11	15
69	Eutintinus sps	nos/ml	11	14	11	12	14	18	13	17	15	10
70	Centropages furcatus	nos/ml	14	10	9	6	8	10	16	14	12	8
71	Corycaeus dana	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
72	Oithona brevicornis	nos/ml	13	9	7	9	11	14	16	13	14	17
73	Euterpina acutifrons	nos/ml	12	15	12	13	15	17	10	12	9	14
74	Metacalanus aurivilli	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
75	Copipod nauplii	nos/ml	10	16	14	16	18	21	12	18	7	12
76	Cirripede nauplii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
77	Bivalve veliger	nos/ml	19	13	7	5	7	9	17	19	16	9
78	Gastropod veliger	nos/ml	17	19	13	8	9	13	15	17	10	13

Location			Bottom Water									
Month & Year		Unit	Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19	Jan - 19	Feb - 19	Mar - 19	Apr - 19
S.No.	Parameters		Bollard 4	Bollard 1	Bollard 5	Bollard 2	Bollard 12	Bollard 25	Bollard 24	Bollard 27	Bollard 25	Bollard 25
1	pH @ 25°C	-	7.84	7.5	7.6	7.74	7.82	7.64	7.7	7.61	7.42	7.69
2	Temperature	°C	29	29	29	29	29	29	29	29	29	29
3	Total Suspended Solids	mg/L	27	30	26	32	35	38	31	33	30	35
4	BOD at 27 °C for 3 days	mg/L	19	18	15	19	21	23	15	14	16	17
5	Dissolved oxygen	mg/L	2.4	2.6	2.4	2.2	2.6	1.4	2.6	3	2.8	2.6
6	Salinity at 25 °C	-	42	40.8	35.9	37	39	37	39.1	38.6	38.1	39.7
7	Oil & Grease	mg/L	BDL(DL 1.0)						BDL(DL 1.0)			
8	Nitrate as No_3	mg/L	8.05	7.33	8.01	6.98	7.13	8.59	7.79	6.81	7.45	7.81
9	Nitrite as No_2	mg/L	5.14	4.95	4.28	4.96	5.28	6.08	4.93	4.02	4.59	5.25
10	Ammonical Nitrogen as N	mg/L	BDL(DL 1.0)						BDL(DL 1.0)			
11	Ammonia as NH3	mg/L	BDL(DL 0.01)						BDL(DL 0.01)			
12	Kjeldahl Nitrogen as N	mg/L	BDL(DL 1.0)						BDL(DL 1.0)			
13	Total phosphates as PO4	mg/L	3.9	4.3	4.75	5.04	6.02	7.36	4.07	5.16	4.36	5.62
14	Total Nitrogen	mg/L	BDL(DL 1.0)						BDL(DL 1.0)			
15	Total Dissolved Solids	mg/L	41234	40985	37512	39864	40156	41285	39982	38190	39147	42056
16	COD	mg/L	110	118	105	125	132	156	103	123	136	143
17	Total bacterial count	cfu/ml	86	90	97	91	93	96	79	85	92	84
18	Coliforms	Per 100 ml	Absence						Absence			
19	Escherichia coli	Per 100 ml	Absence						Absence			
20	Salmonella	Per 100 ml	Absence						Absence			
21	Shigella	Per 100 ml	Absence						Absence			
22	Vibrio cholerae	Per 100 ml	Absence						Absence			
23	Vibrio parahaemolyticus	Per 100 ml	Absence						Absence			
24	Enterococci	Per 100 ml	Absence						Absence			
25	Colour	Hazan	10	15	10	15	20	13	15	9	5	10
26	Odour	-	Unobjectionable						Unobjectionable			
27	Taste	-	Disagreeable						Disagreeable			
28	Turbidity	NTU	36	41	38	35	38	42	40	47	44	41
29	Calcium as Ca	mg/L	581	577	528	597	402	516	559	538	551	623
30	Chloride as Cl	mg/L	23244	22582	19852	20458	20551	20787	21646	21340	21120	21964
31	Cyanide as CN	mg/L	BDL(DL 0.01)						BDL(DL 0.01)			
32	Fluoride as F	mg/L	0.4	0.37	0.21	0.33	0.36	0.41	0.35	0.32	0.39	0.3
33	Magnesium as Mg	mg/L	1286	1156	1058	1155	1214	1239	1194	1042	1067	1248
34	Total Iron as Fe	mg/L	0.45	0.53	0.42	0.61	0.63	0.74	0.39	0.57	0.53	0.66
35	Residual Free Chlorine	mg/L	BDL(DL 0.1)						BDL(DL 0.1)			
36	Phenolic Compounds as C6H5OH	mg/L	BDL(DL 1.0)						BDL(DL 1.0)			
37	Total Hardness as CaCO3	mg/L	6810	6260	5729	6305	6372	6451	6372	5687	5824	6757
38	Total Alkalinity as CaCO3	mg/L	293	317	341	398	406	518	278	289	310	424
39	Sulphide as H2S	mg/L	BDL(DL 0.5)						BDL(DL 0.5)			
40	Sulphate as SO4	mg/L	2705	2673	2446	2215	2234	2305	2671	2540	2603	2756
41	Anionic surfactants as MBAS	mg/L	BDL(DL 1.0)						BDL(DL 1.0)			
42	Monocrotophos	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
43	Atrazine	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
44	Ethion	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
45	Chiorpyrifos	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
46	Phorate	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
47	Mehyle parathion	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
48	Malathion	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
49	DDT (o,p and p,p-Isomers of DDT,DDE	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
50	Gamma HCH (Lindane)	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
51	Alppha HCH	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
52	Beta HCH	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
53	Delta HCH	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
54	Endosulfan (Alpha,beta and sulphate)	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
55	Butachlor	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
56	Alachlor	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
57	Aldrin/Dieldrin	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
58	Isoproturon	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
59	2,4-D	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
60	Polychlorinated Biphenyls (PCB)	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
61	Polynuclear aromatic hydrocarbons	µg/L	BDL(DL 0.01)						BDL(DL 0.01)			
62	Arsenic as As	mg/L	BDL(DL 0.01)						BDL(DL 0.01)			
63	Mercury as Hg	mg/L	BDL(DL 0.001)						BDL(DL 0.001)			
64	Cadmium as Cd	mg/L	BDL(DL 0.003)						BDL(DL 0.003)			
65	Total Chromium as Cr	mg/L	BDL(DL 0.05)						BDL(DL 0.05)			
66	Copper as Cu	mg/L	BDL(DL 0.05)						BDL(DL 0.05)			
67	Lead as Pb	mg/L	BDL(DL 0.01)						BDL(DL 0.01)			
68	Manganese as Mn	mg/L	BDL(DL 0.05)						BDL(DL 0.05)			
69	Nickel as Ni	mg/L	BDL(DL 0.05)						BDL(DL 0.05)			
70	Selenium as Se	mg/L	BDL(DL 0.01)						BDL(DL 0.01)			
71	Barium as Ba	mg/L	BDL(DL 0.1)						BDL(DL 0.1)			
72	Silver as Ag	mg/L	BDL(DL 0.01)						BDL(DL 0.01)			
73	Molybdenum as Mo	mg/L	BDL(DL 0.01)						BDL(DL 0.01)			
74	Octane	µg/L	183	180	163	175	177	182	178	172	170	180
75	Nonane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
76	Decane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
77	Undecane	µg/L	8.6	8.3	7.2	7.6	8.1	10.3	8.2	7.8	6.7	7.2
78	Tridecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
79	Tetradecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
80	Pentadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
81	Hexadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			

Location		Bottom Water									
Month & Year		Unit	Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19	Jan - 19	Feb - 19	Mar - 19	Apr - 19
S.No.	Parameters		Bollard 4	Bollard 1	Bollard 5	Bollard 3	Bollard 5	Bollard 6	Bollard 24	Bollard 27	Bollard 25	Bollard 27
82	Heptadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
83	Octadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
84	Nonadecane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
85	Elcosane	µg/L	BDL(DL 0.1)						BDL(DL 0.1)			
86	Primary Productivity	mg C/m^3 /hr	10.2	10.46	9.06	9.71	10.1	11.5	10.5	10.71	9.41	9.97
87	Chlorophyll a	mg /m^3	7.18	7.94	6.54	5.96	6.12	8.2	7.83	8.05	7.27	7.69
88	Phaeophytin	mg /m^3	0.76	0.85	0.93	0.98	1.32	2.81	0.79	0.72	0.79	0.85
89	Oxidisable Paticular Organic	mg /L	8.59	8.92	9.72	9.98	10.5	11.9	8.81	8.16	8.9	9.43
	PHYTOPLANKTON											
90	Bacteriastrum hyalinum	nos/ml	19	16	18	22	23	27	16	20	16	20
91	Bacteriastrum varians	nos/ml	15	18	9	14	15	19	19	17	13	15
92	Chaetoceros didymus	nos/ml	13	15	13	15	16	20	10	12	15	17
93	Chaetoceros decipiens	nos/ml	17	13	7	10	12	16	15	11	11	12
94	Biddulphia mobiliensis	nos/ml	14	17	10	8	10	15	17	19	9	10
95	Ditylum brightwellii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
96	Gyrosigma sp	nos/ml	9	7	11	12	13	18	12	8	10	13
97	Cladophyxis sps	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
98	Coscinodiscus centralis	nos/ml	12	14	12	9	10	12	11	13	17	14
99	Coscinodiscus granii	nos/ml	11	12	7	11	13	16	8	10	12	9
100	Cylcotella sps	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
101	Hemidiscus hardmanianus	nos/ml	16	18	14	16	18	23	14	15	18	11
102	Laudaria annulata	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
103	Pyropacus horologicum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
104	Pleurosigma angulatum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
105	Leptocylindrus danicus	nos/ml	21	22	15	17	19	21	19	21	14	18
106	Guinardia flaccida	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
107	Rhizosolenia alata	nos/ml	10	6	4	8	10	13	14	7	8	16
108	Rhizosolena impricata	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
109	Rhizosolena semispina	nos/ml	18	20	12	10	11	14	13	17	11	7
110	Thalassionema nitzschioides	nos/ml	15	8	9	13	15	22	9	11	19	23
111	Triceratium reticulatum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
112	Ceratium trichoceros	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
113	Ceratium furca	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
114	Ceratium macroceros	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
115	Ceracium longipes	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	ZOOPLANKTONS											
116	Acrocalanus gracilis	nos/ml	17	15	12	16	18	21	18	13	11	14
117	Acrocalanus sp	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
118	Paracalanus parvus	nos/ml	12	14	15	12	11	14	10	12	9	13
119	Eutintinus sps	nos/ml	10	8	7	11	13	17	12	15	14	17
120	Centropages furcatus	nos/ml	19	13	5	4	6	8	17	11	13	15
121	Corycaeus dana	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
122	Oithona brevicornis	nos/ml	15	11	10	13	15	19	19	20	15	18
123	Euterpina acutifrons	nos/ml	14	10	13	15	16	20	13	16	10	12
124	Metacalanus aurivilli	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
125	Copipod nauplii	nos/ml	16	17	16	18	19	25	20	14	12	10
126	Cirripede nauplii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
127	Bivalve veliger	nos/ml	23	16	11	14	15	18	21	18	8	11
128	Gastropod veliger	nos/ml	11	18	9	10	12	16	14	10	16	9

SEA SEDIMENT

Location		Sea Sediment									
Month & Year		Unit	Jan - 19	Feb - 19	Mar - 19	Apr - 19	May - 19	Jun - 19	Jan - 19	Feb - 19	Mar - 19	Apr - 19
S.No.	Parameters		Bollard 4	Bollard 1	Bollard 5	Bollard 2	Bollard 12	Bollard 12	Bollard 24	Bollard 27	Bollard 25	Bollard 25
1	Total organic matter	%	0.48	0.54	0.49	0.61	0.72	0.84	0.56	0.61	0.56	0.64
2	% Sand	%	31	35	31	27	25	30	29	28	20	24
3	%silt	%	20	23	24	21	22	20	17	22	27	25
4	%Clay	%	49	42	45	52	53	50	54	50	53	51
5	Iron (as Fe)	mg/kg	19.1	18.7	21.3	23.1	26.2	28.3	19.5	19	20.8	22.3
6	Aluminium (as Al)	mg/kg	12853	11946	10342	11258	11562	11596	12561	12080	11793	11567
7	Chromium (as cr)	mg/kg	70	67	58	50	52	57	64	69	61	55
8	Copper (as cu)	mg/kg	74	71	64	68	71	78	69	62	52	59
9	Manganese (as Mn)	mg/kg	318	303	297	283	292	301	305	314	301	262
10	Nickel (as Ni)	mg/kg	14	12.9	9.6	10.7	12.6	13.5	15.3	13.6	11.4	12.1
11	Lead (as Pb)	mg/kg	55	50	44	39	41	44	61	58	50	42
12	Zinc (as Zn)	mg/kg	293	285	211	250	256	260	278	261	236	264
13	Mercury(as Hg)	mg/kg	0.59	0.64	0.42	0.45	0.51	0.58	0.55	0.6	0.57	0.5
14	Total phosphorus as P	mg/kg	136	147	135	138	143	151	162	159	143	156
15	Octane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
16	Nonane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
17	Decane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
18	Undecane	mg/kg	0.71	0.78	0.82	0.87	0.91	1.29	0.8	0.85	0.9	0.78
19	Dodecane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
20	Tridecane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
21	Tetradecane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
22	Phntadecane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
23	Hexadecane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
24	Heptadecane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
25	Octadecane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
26	Nonadecane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
27	Elcosane	mg/kg	BDL(DL 0.1)						BDL(DL 0.1)			
	I. Nematoda											
28	Oncholaimussp	nos/m^2	17	19	23	13	15	17	22	24	21	18
29	Tricomasp	nos/m^2	13	15	18	8	10	12	15	18	15	12
	II. Foraminifera											
30	Ammoniabeccarii	nos/m^2	11	13	15	16	17	20	14	16	13	15
31	Quinqulinasp	nos/m^2	14	17	14	30	15	18	16	13	10	8
32	Discorbinellasp.,	nos/m^2	18	14	12	18	19	23	10	15	17	21
33	Bolivinaspathulata	nos/m^2	15	16	20	15	17	19	17	12	16	14
34	Elphidiumsp	nos/m^2	21	18	11	7	9	11	24	20	14	13
35	Noniondepressula	nos/m^2	12	20	23	21	22	25	15	19	22	18
	III. Molluscs-Bivalvia											
36	Meretrixveligers	nos/m^2	14	18	16	22	24	28	11	17	12	10
37	Anadoraveligers	nos/m^2	24	22	19	25	27	29	20	25	27	24
	Total No. of individuals	nos/m^2	165	172	171	158	175	182	164	179	167	153
	Shanon Weaver Diversity Index		2.28	2.29	2.27	2.24	2.25	3.56	2.27	2.28	2.26	2.25

Annexure - II

AECTPL/KPT/GMP/CB/ENV/ES 2017-18

Date: 10/09/2018

To,

The District Environmental Engineer,

Tamil Nadu Pollution Control Board,

EPIB Building, A.O Block,

Gummidipoondi Industrial Complex,

Gummidipoondi – 601201.

Dear Sir,

Sub: Submission of Environmental statement (Form V) for the Financial Year 2017-18

With reference to the captioned subject, we are submitting the "Environmental Statement in Form V for the financial year 2017-18" as per rule 14 of the Environmental (Protection) Rules, 1986.

Submitted for your kind information and records.

Thanking you sir,

Yours faithfully,

for **Adani Ennore Container Terminal Private Limited (AECTPL)**

R. Sathish Kumar

Senior Manager - Environment

Adani Ennore Container Terminal Pvt. Ltd. Chennai 600 034

Enclosures: As above

19 SEP 2018

Adani Ennore Container Terminal Pvt Ltd
Adani House
Nr Mithakhali Circle, Navrangpura
Ahmedabad 380 009
Gujarat, India

Tel +91 79 2656 56 5555
Fax +91 79 2555 5500
info@adani.com
www.adani.com
CIN: U61200GJ2014PTC078795

Registered Office: Adani House, Nr Mithakhali Circle, Navrangpura, Ahmedabad 380 009, Gujarat, India

Form-V

Environmental Statement for the financial year ending 31st March 2018

Part-A

i)	Name and Address	:	Ennarasu Karunesan CEO – Southern Ports Adani Ennore Container Terminal Private Limited C/O Kamarajar Port Limited Vallur post, Ennore Thiruvallur – 600120 Tamil Nadu, India
ii)	Industry Category	:	Container Terminal
iii)	Production Capacity	:	**Handling Capacity :** 11.68 MMTPA Containers 11.68 MMTPA
iv)	Year of establishment	:	2016
v)	Date of the last environmental statement submitted	:	First Environmental Statement in the name of Adani Ennore Container Terminal Private Limited

Part –B

WATER AND RAW MATERIAL CONSUMPTION

(i) Water Consumption

S.No	**Water Consumption (m^3/Calendar Day)**	**2016-2017**	**2017-2018**
1	Domestic	-	10.64

The project activity does not involve any product to be generated except for the operation of the port in material handling. Hence there is no water consumption per product generated. However the water is consumed for the purposes as mentioned above.

(ii) Raw Material Consumption

S.No	Name of the Raw Material/Chemicals/Other Consumptions.	Consumption during the financial year 2015 – 16.	Consumption during the financial year 2016 – 17.
1	Not Applicable	NIL	NIL
The project activity does not involve any product to be generated except for the operation of the port in material handling. Hence there is no water consumption per product generated. However the water is consumed for the purposes as mentioned above.			

Part-C

Pollution Generated
(As per consent order)

WATER

Parameter	Consent Limit	Actual	% Variation with prescribed standard
pH	5.5-9	7.31	-Nil-
Total Suspended Solids (mg/l)	30	6	-Nil-
BOD (3 days at 27ºC) (mg/l)	20	4	-Nil-
Water sewage discharged (KLD)	25	15	-Nil-

AIR

Point source emission with stack:

Parameter	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	% Variation with prescribed standard
PM_{10}	Since there is no product produced, so no measurement made on mass per day basis for the products.	45	-Nil-
$PM_{2.5}$		9	-Nil-
SO_2		5	-Nil-
NO_2		9	-Nil-

Part-D

HAZARDOUS WASTES

S.No.	Hazardous Wastes.		Quantity (2016-2017)	Quantity (2017-2018)
1.	Process	5.1 Used Oil.	Nil	Nil
2.		5.2 Waste / residues containing oil.	Nil	Nil
3.		3.3 Sludge and filters contaminated with oil.	Nil	Nil
5.		21.1 Waste & Residues [Paint wastes].	Nil	Nil
6.		33.3 Discarded containers/barrels/liners contaminated with hazardous wastes/chemicals.	Nil	Nil

Part-E

SOLID WASTES

Solid Waste		Quantity (2016-2017)	Quantity (2017-2018)
a)	From process	Processes from this Project activity does not generate any Solid Waste	
b)	From pollution control facilities	Nil	Nil

Part-F

Characteristics & disposal practices for hazardous and solid wastes

- **Used oil & Waste Containing Oil**

  At Adani Ennore Container Terminal Private Limited (AECTPL), used oil to be handled is mainly generated from diesel generators. Used oils are collected and stored in barrels and are being mechanically processed to recover oil. AECTPL has tied up with M/s Lakshmi & Co for reprocessing the oil.

Part-G

Impact on pollution control measures on conservation of natural resources and consequently on the cost of production

- Adani Ennore Container Terminal Private Limited is the first container terminal to have all electrified cranes hence the diesel consumption by the cranes are totally eradicated
- Sewage Treatment Plants (STPs) were in continuous and treated water quality is meeting the norms. The total cost spent on STP operations was INR: 6,00,000
- Environmental monitoring is carried out through NABL accredited laboratory.

Since the unit has not yet reached the optimal capacity of handling the impact of the abatement measures are not measured on the cost of production

Part-H

Additional investment proposal for environment protection including abatement of pollution

	Description	
Major Investments Proposal (total project cost in INR lakhs)		
1	Integrated waste management shed	15
Regular Expenditure (cost in INR lakhs/year)		
1	Environmental monitoring of MOEF recognized third party	9
2	Green belt & Horticulture development	3
3	Annual maintenance contractor of STP operation	6

Part-I

ANY OTHER PARTICULARS IN RESPECT TO ENVIRONMENT

- Formation of Energy Conservation Committee to measure the amount of energy consumed and to actions to reduce the energy consumed through container operations
- Study by Prof.Dr.N.Kumar, Ph.D., F.H.S.I., Former Dean (Hort), Tamil Nadu Agricultural University, Coimbatore horticulture consultant for afforestration and adoption of "Woodlot Planting Technique"
- Formation of Water Warriors committee to identify and reduce the water consumption. The committee would propose innovative water solutions
- Integrated Management System certification under ISO 14001 : 2015. Stage -1 audit completed.
- Waste management in line to 5R principle.