



Ports and
Logistics

AECTPL/ENV/KPL/HYC/2024/26

Date: 07.05.2024

To,
The General Manager (Marine Services)
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 (AECTPL)- Submission of Half yearly Compliance (October 2023 to March 2024) of Environmental Clearance issued to Kamarajar Port Limited 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: 31/03/2014
3. Vide order no: 10-28/2005-IA-III dated: 24/12/2014

With reference to the above captioned subject, Adani Ennore Container Terminal Private Limited is submitting the Half yearly compliance report (for the period October 2023 to March 2024) 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 receipt of the same.

For M/s. Adani Ennore Container Terminal Private Limited,



Premnath R
Head - Environment & Sustainability

Encl.: As above.



Adani Ennore Container Terminal Pvt Ltd
No.1/2, Ramcons Fortuna Towers,
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Chennai 600034
Tamil Nadu, India
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Ports and
Logistics

**ADANI ENNORE CONTAINER TERMINAL PRIVATE LIMITED (AECTPL)
C/o. KAMARAJAR PORT LIMITED, VALLUR POST,
PONNERI TALUK, ENNORE, TIRUVALLUR DISTRICT, CHENNAI- 600 120
TAMIL NADU**



CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]
Compliance Report
for the Period
OCTOBER 2023 TO MARCH 2024

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

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**CRZ & ENVIRONMENTAL CLEARANCE
COMPLIANCE REPORT**

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]**

S. No.	Conditions	Compliance Status
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.
II.	Groins and other suitable structures should be constructed to prevent the closing of the mouth 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.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]**

S. No.	Conditions	Compliance Status
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.
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 be 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.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]**

S. No.	Conditions	Compliance Status
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. First phase of the container terminal construction is completed, and the terminal is under operation. Adequate measures will be taken during the construction of remaining phase.
XVI.	The project affected people, of any should be properly compensated and rehabilitated.	Status by KPL.



Adani Ennore Container Terminal Pvt Ltd

**From: October 2023
To : March 2024**

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]**

S. No.	Conditions	Compliance Status
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 is engaging NABL accredited laboratory for regular monitoring of Ambient Air Quality, Ambient Noise Level, DG Stack Emission, Meteorological data, Soil Quality, Marine Surface & Bottom Water quality and Sea Sediment quality. The monitored results are submitted to KPL and Tamil Nadu Pollution Control Board on monthly basis and also as part of Six-monthly compliance report. Monitoring reports are properly maintained and made available for inspection to Pollution Control Agencies, as and when required. Environment Monitoring report for the period October 2023 – March 2024 is attached as Annexure - I.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]**

S. No.	Conditions	Compliance Status																														
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.	<p>Complied.</p> <p>First phase of the container terminal construction is completed, and the terminal is under operation. Adequate measures will be taken during the construction of remaining phase.</p>																														
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 provided. No Sewage and other liquid wastes without treatment should be allowed to enter into the water bodies.	<p>Complied.</p> <p>AECTPL is operating 25 KLD capacity Sewage Treatment Plant to treat the domestic effluent being generated from various sources such as washing water from canteen and toilet flushing water from office buildings. The entire treated sewage water is reused for green belt maintenance within the port premises after confirming permissible limit. Inlet & outlet characteristic of Sewage water is regularly monitored and analysed by NABL accredited laboratory.</p> <p>The monitoring results for the period October'23 to March'24 is enclosed as Annexure - I.</p> <p>Summary of STP treated water analysis results during compliance period as mentioned below.</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>Min</th> <th>Max</th> <th>TNPCB Limit</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>-</td> <td>7.04</td> <td>7.21</td> <td>6.5 to 9</td> </tr> <tr> <td>TSS</td> <td>mg/l</td> <td>15</td> <td>22</td> <td>30</td> </tr> <tr> <td>BOD</td> <td>mg/l</td> <td>11</td> <td>17</td> <td>20</td> </tr> <tr> <td>COD</td> <td>mg/l</td> <td>30</td> <td>50.4</td> <td>100</td> </tr> <tr> <td>Faecal Coliform</td> <td>MPN/100ml</td> <td>87</td> <td>106</td> <td><1000</td> </tr> </tbody> </table>	Parameter	Unit	Min	Max	TNPCB Limit	pH	-	7.04	7.21	6.5 to 9	TSS	mg/l	15	22	30	BOD	mg/l	11	17	20	COD	mg/l	30	50.4	100	Faecal Coliform	MPN/100ml	87	106	<1000
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Adani Ennore Container Terminal Pvt Ltd

**From: October 2023
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Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]**

S. No.	Conditions	Compliance Status
		All the parameters are well within the prescribed norms.
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.	<p>Status by KPL.</p> <p>Education: A total of 642 students benefitted through 21 AEEC center this (March) month. Encouraging their studies and concentrating slow learners to develop their fundamental core and supporting their academic subjects.</p> <p>146 students from AEEC program have written 10th Std Board Exams.</p> <p>Supported the government school students on the occasion of Republic Day celebration-On January 26, Republic Day, we extend our support to schools in Ramanathapuram and Lighthouse Kuppam to celebrate this significant national occasion. Through various activities such as flag hoisting ceremonies,</p>



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From: October 2023
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**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]**

S. No.	Conditions	Compliance Status
		<p>cultural performances, and educational programs, we aim to instill a sense of patriotism and civic responsibility among students. Additionally, we provide resources and assistance to ensure the smooth organization of these events, emphasizing the importance of commemorating India's democratic heritage and unity in diversity. By actively participating in Republic Day celebrations, we contribute to fostering a strong sense of national identity and pride among students in these communities.</p> <ul style="list-style-type: none">• Through the Udaan project 2500 students visited the port and got exposure to port related work and its functions. <p>Health: Through the Mobile Health care program, we could be able to provide medical health care for the rural communities especially the elders in the community. From Oct 23 to March 24, we reached 11348 persons.70% of beneficiaries are from the coastal communities.</p> <p>Suposhan: Through Suposhan program we have provided our support to 3200 persons: Pregnant women, Lactating Mothers, Adolescent Girls & Children.</p> <ul style="list-style-type: none">• We have provided a Dengue awareness program in Thiruvellaivoyal government Higher Secondary School where 420 students benefited.• We have got an award as a Change Maker in health care in providing medical support for the elderly population. <p>Emergency response:</p> <ul style="list-style-type: none">• In response to severe flooding in the aftermath of Cyclone Michaung, our teams have provided food to 13400 residents in 10-gram panchayats (GP) in Minjur block, Tiruvallur district (TN), *working closely with the


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S. No.	Conditions	Compliance Status																					
		<p>district administration and GPs*. These are Pulicat, Koraikuppam, Thangalperumbulam, Light House, Kattur, Neithavoyal, AR Palayam, Thathamani, Nanthiyampakkam, and Kadapakkam GPs.</p> <ul style="list-style-type: none"> Our mobile healthcare unit is touring the affected areas to address the people’s health concerns. The relief work is ongoing, and our teams are standing with the community to help alleviate suffering and distress. <table border="1"> <thead> <tr> <th>S.No</th> <th>Description</th> <th>Amount (Rs in Lakhs)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Education</td> <td>19.28</td> </tr> <tr> <td>2</td> <td>Health</td> <td>28.17</td> </tr> <tr> <td>3</td> <td>Sustainable Livelihood Development</td> <td>29.91</td> </tr> <tr> <td>4</td> <td>Community Infrastructure Development</td> <td>198.5</td> </tr> <tr> <td>5</td> <td>Emergency Response</td> <td>4.75</td> </tr> <tr> <td colspan="2">Total</td> <td>280.61</td> </tr> </tbody> </table>	S.No	Description	Amount (Rs in Lakhs)	1	Education	19.28	2	Health	28.17	3	Sustainable Livelihood Development	29.91	4	Community Infrastructure Development	198.5	5	Emergency Response	4.75	Total		280.61
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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.	<p>Complied</p> <p>First phase of the container terminal construction is completed, and the terminal is under operation. Adequate measures will be taken during the construction of remaining phase.</p>																					
IX.	For employing unskilled, semi-skilled and skilled workers for the project, preference should be given to local people.	<p>Complied.</p> <p>AECTPL has considered local people during construction phase & also during Operation Phase through Contracts.</p>																					

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-28/2005- IA.III dated: 19/05/2006]**

S. No.	Conditions	Compliance Status
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 of the Company.	<p>Complied.</p> <p>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 Deputy General Manager – Environment, who is reporting directly to Chief Executive Officer of the company. He is well supported by Environment Management Team at H.O.</p>  <pre> graph TD CEO[CEO] --> COO[COO] COO --> CO[Corporate Office Head - Environment & Sustainability (APSEZ)] COO --> HES[Head - Environment (Southern Ports)] CO --> CET[Corporate Environment Team] CO --> CST[Corporate Sustainability Team] HES --> ET[Environment Team (2 Environment Engineers)] HES --> SC[Sustainability Champions (8 Executives)] ET --> EMT[Environment Monitoring team (NABL Accredited Lab)] ET --> WM[Waste Management (1 IWMS Operator)] </pre>

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S. No.	Conditions	Compliance Status																					
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.	<p>Complied</p> <p>Separate budget for the Environment Protection is earmarked every year. All the expenses are recorded in advanced accounting system of the organization. Expenditure for Environment Management measures during October 2023 to March 2024 is Rs. 19.83 Lakhs. The breakup details are as follows;</p> <table border="1"> <thead> <tr> <th>S.No</th> <th>Description</th> <th>Amount (Rs in Lakhs)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Environmental Monitoring</td> <td>7.73</td> </tr> <tr> <td>2</td> <td>Greenbelt</td> <td>3.12</td> </tr> <tr> <td>3</td> <td>STP – O&M</td> <td>2.98</td> </tr> <tr> <td>4</td> <td>Housekeeping</td> <td>4.14</td> </tr> <tr> <td>5</td> <td>Integrated Waste Management</td> <td>1.86</td> </tr> <tr> <td colspan="2">Total</td> <td>19.83</td> </tr> </tbody> </table>	S.No	Description	Amount (Rs in Lakhs)	1	Environmental Monitoring	7.73	2	Greenbelt	3.12	3	STP – O&M	2.98	4	Housekeeping	4.14	5	Integrated Waste Management	1.86	Total		19.83
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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.	<p>Noted for compliance.</p> <p>Full support is being extended to the officers of IRO, MoEF & CC, Chennai, CPCB & TNPCB during their inspection and site visit. During the compliance period monthly visits were made by TNPCB Officials and all the necessary supports were extended and the same shall be continued in future also.</p>																					

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S. No.	Conditions	Compliance Status
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 protection, which shall be complied with.	Noted for Compliance

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

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S. No.	Conditions	Compliance Status
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.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[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
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 2023 to December 2023 was submitted to KPL vide letter No. AECTPL/ENV/KPL/HYC/2024/03 dated 31.01.2024.
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.


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S.No	Environmental Clearance conditions	Compliance Status
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 vide their order nos: 2108136876855 & 2108236876855 under Water and Air Acts dated: 24.08.2021 valid till 31.03.2026

B. GENRAL CONDITIONS:

S.No	Environmental Clearance conditions	Compliance Status
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 was completed, and project is in operation phase.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

S.No	Environmental Clearance conditions	Compliance Status
iii	<p>The project authorities must 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.</p>	<p>Complied</p> <p>AECTPL has installed and operating 25 KLD sewage treatment plant to collect and treat the sewage generated from the terminal. The entire treated sewage water is reused for green belt maintenance within the port premises after confirming permissible limit. Inlet & outlet characteristic of Sewage water is regularly monitored and analysed by NABL accredited laboratory.</p>  <p>AECTPL has implemented Integrated Waste Management System (IWMS) - Waste Segregation Yard.</p> <p>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.</p>

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S.No	Environmental Clearance conditions	Compliance Status
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.	<p>Complied</p> <p>Tamil Nadu Pollution Control Board accorded Renewal of Consent to Operate orders vide their order nos: 2108136876855 & 2108236876855 under Water and Air Acts dated: 24.08.2021 valid till 31.03.2026.</p>
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.	<p>Complied</p> <p>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 October 2023 – March 2024 is attached as Annexure - I.</p> <p>Reports are made available for inspection to the concerned State/Central officials during their visits.</p>
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.	<p>Complied</p> <p>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.</p> <p>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 October 2023 – March 2024 is attached as Annexure - I.</p>

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

S.No	Environmental Clearance conditions	Compliance Status																					
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.	<p>Complied</p> <p>Environmental Expenditure carried out during October 2023 – March 2024 is Rs. 19.83 Lakhs. Breakup details are as follows;</p> <table border="1"> <thead> <tr> <th>S.No</th> <th>Description</th> <th>Amount (Rs in Lakhs)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Environmental Monitoring</td> <td>7.73</td> </tr> <tr> <td>2</td> <td>Greenbelt</td> <td>3.12</td> </tr> <tr> <td>3</td> <td>STP – O&M</td> <td>2.98</td> </tr> <tr> <td>4</td> <td>Housekeeping</td> <td>4.14</td> </tr> <tr> <td>5</td> <td>Integrated Waste Management System</td> <td>1.86</td> </tr> <tr> <td colspan="2">Total</td> <td>19.83</td> </tr> </tbody> </table>	S.No	Description	Amount (Rs in Lakhs)	1	Environmental Monitoring	7.73	2	Greenbelt	3.12	3	STP – O&M	2.98	4	Housekeeping	4.14	5	Integrated Waste Management System	1.86	Total		19.83
S.No	Description	Amount (Rs in Lakhs)																					
1	Environmental Monitoring	7.73																					
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Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

S.No	Environmental Clearance conditions	Compliance Status
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.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

S.No	Environmental Clearance conditions	Compliance Status
xv	<p>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.</p>	<p>Status by KPL.</p>
xvi	<p>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.</p>	<p>Status by KPL.</p>

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance [Vide order no: 10-28/2005-IA-III dated: 24/12/2014]

A. SPECIFIC CONDITIONS:

S.No	Environmental Clearance conditions	Compliance Status
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 vide their order nos: 2108136876855 & 2108236876855 under Water and Air Acts dated: 24.08.2021 valid till 31.03.2026.
ii	Quality of Cargo should be handled in accordance with the details provided in the Form-I.	Complied. 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.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

vi	The commitment made by the proponent to the issue raised during Public Hearing shall be implemented by the Proponent.	Status by KPL.
vii	<p>Corporate Environmental Responsibility:</p> <p>a. The Company shall have a well laid down Environmental Policy approved by the Board of Directors.</p> <p>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.</p> <p>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.</p> <p>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.</p>	<p>a. AECTPL having approved QHSE policy.</p> <p>b. AECTPL having approved SOPs.</p> <p>c. Status by KPL.</p> <p>d. Standard procedures are made available to address corrective & preventive deviation and violations.</p>

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

B. GENERAL CONDITIONS:

S.No	Environmental Clearance conditions	Compliance Status
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.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

	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 October 2023 – March 2024 is Rs. 19.83 Lakhs. Breakup details are as follows;																					
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Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

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 EIA Notification 1994, including the amendments and rules made thereafter.	Noted.
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.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

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 uploaded by the project proponent in its website.	Complied. The compliance to the various conditions stipulated for environmental safeguards are uploaded in our Company website and KPL website. https://www.adaniports.com/Downloads and https://ennoreport.gov.in/content/innerpage/environment.php
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.

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

13.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Status by KPL.
14.	The Environmental Statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of Clearance conditions and shall also be sent to the respective Regional Office of MoEF & CC by email.	Complied. Environment Statement (Form V) submitted FY 2022-23 vide our Letter No. AECTPL/ENV/TNPCB/ES/2023/26 dated 23.09.2023 is enclosed as Annexure – II.



Adani Ennore Container Terminal Pvt Ltd

**From: October 2023
To : March 2024**

Name of the Project: Ennore Port Expansion Proposals – Development of Terminals for Marine Liquids, Coal, Iron and Containers in Second Phase and associated capital dredging at Ennore Port Environment Clearance.

Enclosures:

Annexure Number	Details of Annexure
Annexure I:	Environmental Monitoring reports for the period October 2023 to March 2024
Annexure II:	Environmental Statement – Form V for the FY 2022-23

ANNEXURE - 1

**ENVIRONMENT MONITORING REPORT
(Oct'23 to Mar'24)**

**REPORT ON
COMPREHENSIVE ENVIRONMENTAL MONITORING
FOR**

**ADANI ENNORE CONTAINER TERMINAL CONTAINER PRIVATE LIMITED
(AECTPL)
(WITHIN KAMARAJAR PORT LIMITED)
VALLUR POST, PONNERI TALUK, CHENNAI - 600 056.**

October 2023 - March 2024



PREPARED BY:

**M/S. SV ENVIRO LABS & CONSULTANTS,
(MoEF & CC Recognized, NABL & NABET Accredited,
ISO 9001 & 45001 Certified Laboratory),
B1, Block-B, IDA, Autonagar,
Visakhapatnam - 530012.**

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1.0 INTRODUCTION

M/s. Adani Ennore Container Terminal Pvt Ltd (AECTPL) located inside Kamarajar Port, Ennore is operating container berth and handling containerized Import/Export cargoes.

AECTPL have engaged M/s. SV ENVIRO LABS AND CONSULTANTS, an Accredited Consultant by NABL to carry out the Comprehensive Environmental monitoring studies in AECTPL continuously as per the Statuary Requirement. This report covers the monitored environmental data for the Period of Oct 2023 to March 2024.

1.1 LOCATION OF THE PROJECT

The Project site is located at Port area inside the Kamarajar Port Limited.

The location map is shown in Fig - 1

Fig – 1 – Location Map



2.0 SCOPE OF WORK

The scope of Comprehensive Environmental monitoring includes the following environmental components;

1. Meteorological data
2. Ambient Air Quality
3. Ambient Noise Level
4. Marine Sampling
5. Treated STP / ETP Water.
6. Potable water
7. DG Set Emission

The parameters covered under the scope for each of the above attributes are given below:

SCOPE OF WORK

S.No	Attribute	Scope	Frequency
1.	Meteorological Data	Collection of micrometeorological data on hourly basis by installing an auto weather monitoring station at plant site covering the following parameters: <ul style="list-style-type: none"> • Wind speed • Wind direction • Rainfall • Relative Humidity • Temperature • Barometric pressure • Solar Radiation 	Daily
2.	Ambient Air Quality	Sampling of ambient air at 03 stations for analysing the following parameters: <ul style="list-style-type: none"> • PM10 • PM2.5 • SO₂ • NO₂ • CO • Lead • Ozone • Ammonia • Benzene • Benzo Pyrene • Arsenic • Nickel 	Weekly Twice
3.	Ambient Noise	Collection of Noise levels on hourly basis at 3 locations <ul style="list-style-type: none"> • L_{eq} – Day (Max and Min) • L_{eq} – Night (Max and Min) 	Monthly Once

4.			
4a.	Surface and Bottom Water	<p>Collection of Surface and Bottom Water analysed for -1location</p> <ul style="list-style-type: none"> • Temperature • pH @ 25°C • Total Suspended Solids • BOD at 27 °C for 3 days • Dissolved oxygen • Salinity at 25 °C • Oil & Grease • Nitrate as NO₃ • Nitrite as NO₂ • Ammoniacal Nitrogen as N • Total phosphates as PO₄ • Total Nitrogen, • COD • Turbidity • Total Iron as Fe • Colour • Odour • Mercury as Hg • Cadmium as Cd • Total Chromium as Cr • Copper as Cu • Lead as Pb • Nickel as Ni • Iron • Zinc • Particulate Organic Carbon • Petroleum Hydrocarbons 	Monthly Once
4b.	Marine Sediment	<p>Collection of Marine sediment analyzedfor-1 location</p> <ul style="list-style-type: none"> • pH • Organic Matter • Moisture Content • Conductivity • Iron • Sodium • Copper • Nickel • Zinc • Manganese • Lead • Boron • Phosphate • Chloride • Sulphate • Sulphide • Pesticide • Potassium • Total Chromium • Petroleum Hydrocarbon • Aluminium • Total Nitrogen • Organic Nitrogen • Phosphorus 	Monthly Once

		<ul style="list-style-type: none"> • Texture 	
4c.	Phytoplankton Monitoring	<ul style="list-style-type: none"> • Total Count • No. of species • Major Species 	Monthly Once
4d.	Zooplankton Monitoring	<ul style="list-style-type: none"> • Total Count • No. of species • Major 	Monthly Once
4e.	Microbiological Monitoring	<ul style="list-style-type: none"> • Pseudomonas aeruginosa • Streptococcus Faecalis • Total Coliform • Faecal Coliform • E.Coli • Total viable count • Salmonella • Shigella • Vibrio Cholera • Vibrio Parahaemolyticus 	Monthly Once
4f.	Biological Monitoring	<ul style="list-style-type: none"> • primary productivity • Chlorophyll-a • Phaeopigment • Total Biomass 	Monthly Once
4g.	Phytobenthos Monitoring data	<ul style="list-style-type: none"> • Fungus • Total Count • No. of species • Diversity Index • Major species 	Monthly Once
4h.	Total Fauna Monitoring	<ul style="list-style-type: none"> • Name of phylum • Class • Number of Individuals encountered • Total no. of species encountered • Total fauna 	Monthly Once
5.	STP Treated Water	<p>Collection of STP Inlet and Treated water analysed for – 11location</p> <ul style="list-style-type: none"> • pH • TSS • BOD • Faecal Coliforms • COD • TDS • Oil & Grease • Cl • SO₄ 	Monthly Once
6.	Potable Water analysis	<p>Collection of Drinking water sample at 01 location. Analysing As per IS 10500: 2012 – 36 Parameters</p>	Monthly Once
7.	DG Set Emissions	<p>Sampling of Emission at 02 stations for analysing the following parameters:</p> <ul style="list-style-type: none"> • PM • Carbon Monoxide • NO_x – NO₂ • SO₂ 	Monthly Once

3. METHODOLOGY

Methodologies adopted for sampling and analysis for each of the above parameters are detailed below

1	Meteorological parameters	
	Online Met station	
2	Ambient Air Quality	
	Parameters	Method
	Respirable Suspended Particulate Matter (PM10)	IS5182Part23:2006(Reaff.2017)
	Particulate Matter PM2.5	IS5182Part24:2019
	Sulphur dioxide as SO ₂	IS5182 Part02:2001(Reaff.2017)
	Oxides of Nitrogen as NO ₂	IS5182 Part06:2006(Reaff.2017)
	Lead as Pb	IS5182 Part22:2004(Reaff.2019)
	Arsenic as As	CPCB Guidelines
	Nickel as Ni	IS5182Part26:2020
	Carbon monoxide as CO	IS5182Part10:1999(Reaff.2019)
	Ozone as O ₃	IS5182Part09:1974(Reaff.2017)
	Ammonia as NH ₃	IS5182Part25:2018
	Benzene (α) pyrene	IS5182 Part12: 2004 (Reaff.2017)
	Benzene as C ₆ H ₆	IS5182Part11:2006(Reaff.2019)
3	Ambient Noise Monitoring	
	L _{eq} Day& Night	Instrument Manual, SV/LAB/SOP/Noise/001
4	Marine Sampling	
	Surface and Bottom Water	APHA Methods 23 rd Edition, 2017 Standard Methods for examination of Water and Wastewater and IS 3025 & USEPA Test Methods
	Sea Sediment	
	Phytoplankton Monitoring	
	Zooplankton Monitoring	
	Microbiological Monitoring	
	Primary Productivity Monitoring	
	Phytobenthos Monitoring data	
Total Fauna Monitoring		
5	STP Water Analysis	
	pH, TSS, BOD, Faecal Coliforms	APHA Methods 23 rd Edition, 2017 Standard Methods for examination of Water and Wastewater and IS 3025
6	Emission Monitoring	
	PM, Carbon Monoxide, NO _x – NO ₂ , SO ₂	IS 11255 Methods of measurement of emissions from Stationary source
7	New Water Analysis	
	As per IS 10500 : 2012–36 Parameters	APHA Methods 23 rd Edition, 2017 Standard Methods for examination of Water and Waste water and IS 3025

4. ENVIRONMENTAL STUDIES – OCTOBER 2023 – MARCH 2024.

S.No	ATTRIBUTE	STUDIES CARRIED OUT
1.	Meteorological parameters	Collection of micrometeorological data at project site on daily basis with hourly frequency
2.	Ambient Air Quality	Collection of ambient air at 4 locations.
3.	STP water	Collection of STP outlet water at two locations
4.	Ambient Noise	Collection of Ambient noise levels for day and night at 4 locations
5.	Drinking Water	Collection of Drinking water at Canteen Building
6.	Marine Water and Marine Sediments	Collection of Marine water and Marine Sediments at Three locations
7.	DG Set Emissions	Collection of DG Set Emissions.

1. METEOROLOGICAL DATA

Meteorological data was collected on hourly basis by installing an auto weather monitoring station at Plant site. The report depicted here under presents the data for October 2023 – March 2024.

The following parameters were recorded

- Wind speed
- Wind direction
- Temperature
- Pressure
- Relative humidity
- Rainfall

ANNEXURE - 1 MICROMETEOROLOGY DATA

October 2023

MARINE INFRASTRUCTURE DEVELOPER PVT LTD							
AVERAGE REPORT							
FROM 01.10.2023 to 31.10.2023							
Date	Atm. Temp (°C)	Relative Humidity (%)	Rainfall (mm)	Wind Speed (km/hr)	Wind Direction (degrees)	Atm. Pressure (mBar)	Solar Radiation (w/m ²)
Avg	28.8	74.7	4.3	25.6	147.9	1010.7	245.6
Min	26.3	69.6	0.1	14.8	18.4	1008.1	60.1
Max	29.7	84.8	36.9	43.6	211.9	1012.0	291.1
2023-10-01	28.6	75.5	0.3	36	211.9	1009.1	167.5
2023-10-02	29.0	75.5	0.323	42.1	204.4	1009.3	287.3
2023-10-03	28.9	77.8	0.3	43.6	201	1009.7	269.7
2023-10-04	29.0	76.9	0.1	40	202.9	1009.7	291.1
2023-10-05	29.2	76.4	0.3	37.1	203.4	1008.9	247.5
2023-10-06	29.6	74.5	2.3	28.1	197.6	1008.2	279
2023-10-07	29.7	73.2	0.6	27.4	190.3	1008.1	278.1
2023-10-08	29.2	76.5	0.5	31	193.5	1009.8	281
2023-10-09	29.3	76.4	1	28.4	198.7	1011.3	271.7
2023-10-10	29.3	74.8	0.1	25.9	197.2	1010.9	288.1
2023-10-11	29.3	74	0.081	30.2	202.3	1010.4	274.9
2023-10-12	28.8	75.6	6.7	28.4	204	1011.1	237
2023-10-13	28.9	75.2	7	20.5	189.5	1011.9	226
2023-10-14	28.5	75.8	2.212	22.3	199	1011.8	165.7
2023-10-15	28.8	74.6	6.4	25.6	192.8	1010.6	241.8
2023-10-16	27.9	78	36.868	20.5	211.3	1010.4	182.2
2023-10-17	28.3	75.8	6.4	18.4	41.3	1011.1	217.4
2023-10-18	28.6	74.4	1.192	24.5	54.9	1011.7	265.7
2023-10-19	28.7	72.8	0.238	25.2	91.6	1011.6	258.4
2023-10-20	28.8	71.1	0.8	18	118.2	1011.8	283.3
2023-10-21	28.9	71.4	0.238	19.1	86.3	1011.7	265.9
2023-10-22	29.0	71.4	0.358	17.3	113.7	1011.9	240.2
2023-10-23	28.5	72.7	3.1	22.3	174.2	1011.9	263.3
2023-10-24	28.9	72.6	2.7	19.4	189.3	1011.3	271.1
2023-10-25	28.9	72.3	8.484	14.8	170.9	1012	266.7
2023-10-26	29.3	69.6	0.7	23.8	82.8	1011.8	243.3
2023-10-27	29.3	69.6	1.6	23	61.2	1010.8	258.6
2023-10-28	29.0	72.7	0.6	18.7	85.6	1010.8	260.9
2023-10-29	28.6	73.4	5.656	18	68	1010.6	236.4
2023-10-30	26.3	84.8	30.928	22	18.4	1010.9	60.1
2023-10-31	27.7	80.2	4.172	20.5	29.5	1011	234.6

November 2023

MARINE INFRASTRUCTURE DEVELOPER LTD							
AVERAGE REPORT							
FROM 01.11.2023 TO 30.11.2023							
Date	Atm. Temp (°C)	Relative Humidity (%)	Rainfall (mm)	Wind Speed (km/hr)	Wind Direction (degrees)	Atm. Pressure (mBar)	Solar Radiation (w/m ²)
Avg	27.5	80.4	14.4	22.0	54.7	1010.8	204.3
Min	25.6	74	0	11.9	4.2	1009	95.2
Max	28.7	88.8	71.2	36	203.2	1012.4	254.3
2023-11-01	28.7	78.4	22.5	21.6	37.9	1010.9	242.8
2023-11-02	28.1	79.5	0	20.9	49	1010.1	199.7
2023-11-03	27.6	81.8	18.2	18.7	81.6	1009	142.4
2023-11-04	26.9	82.9	36.1	16.6	203.2	1009.3	95.2
2023-11-05	27.9	78.7	0	21.6	193.9	1010.5	219.1
2023-11-06	28.7	74.9	0	15.1	84.2	1011.3	234.2
2023-11-07	28.2	77.7	7.8	23	34.6	1011.4	232.0
2023-11-08	27.8	79.9	2.2	15.5	38.1	1011	181.0
2023-11-09	27.5	79.6	23.9	16.9	53.6	1011.4	147.2
2023-11-10	27.6	81	0	20.9	40	1012.3	227.9
2023-11-11	27.4	82.7	0	27.4	23.8	1012.4	242.2
2023-11-12	27.8	74	0	26.6	16.8	1012.4	199.4
2023-11-13	27.1	76.9	0	27	18.2	1011.7	216.1
2023-11-14	26.4	81.1	48.5	36	4.9	1011	186.6
2023-11-15	26.8	77.6	53.6	27.4	4.2	1010.8	224.6
2023-11-16	27.5	78.6	0	21.6	23.5	1011.3	208.9
2023-11-17	28.3	78.8	0	22.3	35	1011.3	245.5
2023-11-18	27.5	83.2	0	22.3	24.5	1010.8	185.1
2023-11-19	26.1	88.8	0	22.7	36.4	1011.1	110.8
2023-11-20	27.4	80.3	8.8	21.2	22.1	1011	207.5
2023-11-21	28.1	80.7	71.2	19.8	45.6	1010	223.3
2023-11-22	27.5	82.6	25.4	11.9	144.2	1009.8	115.4
2023-11-23	27.1	80.6	4.4	22.7	144.9	1009.8	224.7
2023-11-24	27.9	79.4	7.1	19.8	52.6	1009.8	250.7
2023-11-25	27.4	81.9	3.8	22.7	39.7	1010.8	210.7
2023-11-26	27.5	79.9	1.5	25.2	36.5	1011.5	238.4
2023-11-27	27.4	82.6	12.2	25.2	37.4	1010.3	242.3
2023-11-28	27.7	80.4	9.2	23.4	38.7	1009.6	237.7
2023-11-29	27.2	81.3	65.8	22.3	35.4	1009.7	183.5
2023-11-30	25.6	85.9	8.6	20.5	40.6	1010.7	254.3

December - 2023

MARINE INFRASTRUCTURE DEVELOPER LTD							
AVERAGE REPORT							
FROM 01.12.2023 TO 31.12.2023							
Date	Atm. Temp (°C)	Relative Humidity (%)	Rainfall (mm)	Wind Speed (km/hr)	Wind Direction (degrees)	Atm. Pressure (mBar)	Solar Radiation (w/m ²)
Avg	26.9	79.6	8.2	27.5	72.8	1011.2	200.0
Min	25.3	73.8	0	13.3	14.8	1006.9	25.2
Max	28.9	88.9	46.796	34.9	357.5	1014.2	250
01-12-2023	26.3	85	1.9	27	14.8	1009.6	82
02-12-2023	27.1	77.9	0.119	16.6	357.5	1008	118
03-12-2023	28.3	74.7	0.238	13.3	225.4	1007.6	185.8
04-12-2023	28.9	77.5	3.9	18.7	199.2	1006.9	234.9
05-12-2023	28.9	78.8	2.4	22	204.6	1007	250
06-12-2023	28.8	78.2	2.4	21.6	197.9	1008.6	227.1
07-12-2023	28.8	76.6	0	19.1	188	1009.7	236.3
08-12-2023	28.7	75.9	0.379	15.5	121.3	1010.4	239.7
09-12-2023	28.4	78.5	13.372	22	45.4	1011.2	240
10-12-2023	27.7	80.3	31.588	28.4	38.2	1010.6	231.9
11-12-2023	27.5	79.9	30.992	28.4	39.6	1011.1	201.3
12-12-2023	27.1	76.7	0	28.4	37.3	1010.6	168.2
13-12-2023	26.8	73.8	0	31.7	39.1	1011.1	187.5
14-12-2023	26.5	74.1	0.596	30.2	20.2	1012	217.6
15-12-2023	26.5	80.2	5.6	30.6	19.4	1012	193.2
16-12-2023	25.9	86.5	31.623	31.3	16.9	1011.1	163
17-12-2023	25.7	87.8	46.796	33.1	36	1010.5	99
18-12-2023	25.3	88.9	27.722	34.2	41.5	1011.6	25.2
19-12-2023	25.5	84	16.04	32	21.7	1012.4	184.5
20-12-2023	25.8	82.3	0	32.4	19.3	1012.3	207.6
21-12-2023	26	83.4	17.192	30.6	22.9	1012.4	215.8
22-12-2023	26.3	80.7	0	25.6	28.2	1012.7	229
23-12-2023	26.1	78.4	0	24.8	31.1	1013.6	240.8
24-12-2023	25.9	79.8	0.596	28.4	23.5	1014.2	225.7
25-12-2023	26.3	80.2	0	31.3	34.8	1013.5	236
26-12-2023	26.1	77.1	0	31.7	28.9	1013.7	221.4
27-12-2023	26.6	74.6	0	34.6	22.6	1013.5	225
28-12-2023	26.8	80.9	12.158	34.9	30.3	1012.6	236.7
29-12-2023	26.6	77.8	0	32.8	38.6	1012.8	242.3
30-12-2023	26.5	77	0	32.4	39.7	1012.6	233
31-12-2023	26.4	74.4	0	31.3	38	1012.5	248.5

JANUARY- 2024

MARINE INFRASTRUCTURE DEVELOPER LTD							
AVERAGE REPORT							
FROM 01.01.2024 TO 31.01.2024							
Date	Atm. Temp (°C)	Relative Humidity (%)	Rainfall (mm)	Wind Speed (km/hr)	Wind Direction (degrees)	Atm. Pressure (mBar)	Solar Radiation (w/m ²)
Avg	26.8	73.8	2.0	26.3	42.2	1012.8	225.6
Min	25.3	65.0	0	15.8	21.8	1011.2	19.3
Max	27.6	90.4	43.85	33.1	60.7	1015.3	279.2
01-01-2024	26.9	71.8	0.0	26.3	35.9	1012.7	213.5
02-01-2024	26.9	75.6	0.0	29.2	42.2	1012.3	185.4
03-01-2024	26.8	75.4	0.0	26.3	40.5	1011.7	198.9
04-01-2024	27.2	75.5	0.0	22.7	48.1	1011.4	168.0
05-01-2024	27.1	79.5	5.6	21.6	33.5	1011.5	180.7
06-01-2024	27.2	80.0	0.0	24.8	37.4	1011.2	229.8
07-01-2024	27.0	80.7	1.8	25.6	21.8	1011.3	221.1
08-01-2024	27.0	81.2	2.1	27.7	27.4	1012.1	232.2
09-01-2024	25.3	90.4	43.9	24.8	32.3	1012.2	19.3
10-01-2024	25.7	82.8	1.8	30.6	24.8	1012.2	100.5
11-01-2024	26.4	76.5	0.0	33.1	31.1	1012.7	193.3
12-01-2024	26.5	74.3	0.0	29.9	28.4	1012.7	214.8
13-01-2024	26.8	71.7	0.0	24.5	33.5	1013.3	132.2
14-01-2024	26.6	75.4	0.0	28.8	44.6	1013.0	248.6
15-01-2024	26.2	69.7	0.0	25.9	44.0	1012.8	263.7
16-01-2024	25.9	65.0	0.0	22.0	50.9	1012.0	239.5
17-01-2024	25.7	69.1	0.0	15.8	49.2	1011.3	270.5
18-01-2024	26.9	77.5	0.0	22.7	47.0	1011.4	228.8
19-01-2024	27.1	75.7	3.7	26.3	46.8	1011.6	248.8
20-01-2024	27.3	75.4	0.0	27.4	47.5	1012.7	262.0
21-01-2024	27.6	76.9	0.0	25.9	50.2	1012.9	263.8
22-01-2024	27.4	74.4	0.0	27.7	52.5	1013.9	268.4
23-01-2024	27.0	69.7	0.0	26.3	50.8	1013.8	272.5
24-01-2024	26.9	68.2	0.0	23.8	60.7	1013.6	273.3
25-01-2024	26.9	66.7	0.0	24.1	60.0	1014.2	269.2
26-01-2024	27.0	66.2	0.0	29.2	47.5	1015.3	277.0
27-01-2024	27.3	65.0	0.0	30.6	43.9	1015.3	279.2
28-01-2024	27.0	67.4	0.0	29.5	43.3	1014.7	275.0
29-01-2024	27.1	68.0	0.0	28.1	43.6	1014.3	272.1
30-01-2024	26.9	68.9	0.0	27.0	46.2	1013.5	266.5
31-01-2024	27.6	73.4	0.9	26.3	56.8	1013.3	250.2

FEBRUARY - 2024

MARINE INFRASTRUCTURE DEVELOPER LTD							
AVERAGE REPORT							
FROM 01.02.2024 TO 29.02.2024							
Date	Atm. Temp (°C)	Relative Humidity (%)	Rainfall (mm)	Wind Speed (km/hr)	Wind Direction (degrees)	Atm. Pressure (mBar)	Solar Radiation (w/m ²)
Avg	28.0	70.5	0.2	28.9	60.0	1013.2	268.0
Min	26.6	65.7	0	17.6	36.2	1010.6	199.5
Max	29	75.4	1.5	35.6	166.7	1015.5	295.6
01-02-2024	28.3	74.7	1.5	23.0	68.3	1013.6	234.0
02-02-2024	28.2	75.4	1.5	24.8	75.0	1013.4	253.3
03-02-2024	28.1	70.1	0	28.4	61.3	1013.8	275.5
04-02-2024	27.7	69.6	0	28.8	44.4	1015.2	280.8
05-02-2024	27.4	71.1	0	28.1	39.5	1015.5	282.3
06-02-2024	27.3	68.9	0	30.2	46.1	1015.2	276.3
07-02-2024	26.6	70.5	0	27.0	41.8	1015.0	273.9
08-02-2024	27.1	71.5	0	25.6	51.3	1013.8	272.4
09-02-2024	27.5	72.1	0	31.0	51.0	1013.9	285.0
10-02-2024	28.3	66.9	0	33.1	51.4	1015.1	216.1
11-02-2024	27.9	67.5	0	33.1	51.2	1015.5	284.1
12-02-2024	27.0	70.5	0	31.0	36.2	1014.9	199.5
13-02-2024	27.7	71.3	0	34.6	40.1	1014.1	280.0
14-02-2024	27.9	73.2	0	32.8	41.1	1013.6	280.7
15-02-2024	27.8	69.8	0	33.8	40.1	1013.5	208.7
16-02-2024	27.9	71.4	0	33.8	43.0	1013.6	284.6
17-02-2024	27.9	71.5	0	31.3	41.2	1012.8	278.5
18-02-2024	27.9	70.3	0	29.2	54.4	1012.3	286.6
19-02-2024	28.0	70.7	0	27.0	53.3	1012.6	204.8
20-02-2024	28.3	69.3	0	24.1	60.4	1012.6	288.6
21-02-2024	28.2	68.5	0	23.0	73.0	1011.8	293.6
22-02-2024	28.6	69.5	0	20.2	126.2	1011.7	290.3
23-02-2024	29.0	72.5	0	17.6	166.7	1011.2	295.6
24-02-2024	28.7	73.3	0.14	23.8	115.5	1011.1	264.2
25-02-2024	28.6	68.6	0	29.2	68.1	1010.6	280.0
26-02-2024	28.6	72.5	1.21	33.1	49.7	1010.9	288.1
27-02-2024	28.7	69.9	0	35.6	47.9	1011.6	278.4
28-02-2024	28.2	67.4	0	34.2	53.4	1011.0	281.1
29-02-2024	28.0	65.7	0	29.9	47.0	1011.5	255.2

MARCH 2024

MARINE INFRASTRUCTURE DEVELOPER LTD							
AVERAGE REPORT							
FROM 01.03.2024 TO 31.03.2024							
Date	Atm. Temp (°C)	Relative Humidity (%)	Rainfall (mm)	Wind Speed (km/hr)	Wind Direction (degrees)	Atm. Pressure (mBar)	Solar Radiation (w/m ²)
Avg	29.2	65.2	0.3	24.2	79.2	1011.6	300.5
Min	28	60.4	0	17.3	50.1	1009.1	246
Max	30.5	70.1	4.7	31.3	139.2	1014.1	321.5
01-03-2024	28.5	69.1	0	31.3	50.1	1012.7	246
02-03-2024	28.2	68.5	0	23.4	54.2	1012.6	265.5
03-03-2024	28.4	67.8	0	24.1	67.2	1011.6	283
04-03-2024	28	66	0	24.8	64.5	1011.6	305.6
05-03-2024	28.1	67.6	0	26.3	64.8	1011.8	305.7
06-03-2024	28.2	70	0	23	74.1	1011.9	258.1
07-03-2024	28.3	63.6	0	21.6	81.7	1011.1	266
08-03-2024	28.7	65.3	0	17.3	90.9	1011.4	309.7
09-03-2024	29.3	65	0	18.4	103.5	1011.3	305
10-03-2024	29.3	62.6	0	23.8	88.6	1012.9	310.2
11-03-2024	29.4	65.2	0	27	64.5	1014.1	306.8
12-03-2024	29.3	66.3	0	25.9	72.8	1013.6	310.2
13-03-2024	29	62.3	0	18.7	105.4	1012.7	304.7
14-03-2024	28.7	63.4	0	22	119.8	1012.2	307.2
15-03-2024	29.6	65	0	20.2	139.2	1011.2	314.2
16-03-2024	29.7	69.3	0	20.2	113.5	1011.6	315.5
17-03-2024	29.7	61.5	0	22.3	83.4	1012	320.2
18-03-2024	29.1	64.2	0	23.4	76.1	1011.7	316.5
19-03-2024	29.2	61.3	0	22.3	80.7	1011.1	318.7
20-03-2024	29.1	62.7	0	25.9	81.3	1010.9	319
21-03-2024	29.5	70.1	3.87	29.5	66.1	1010.5	287.3
22-03-2024	30.1	69.4	1.55	29.9	63.4	1009.1	308
23-03-2024	30.1	65.6	0	27.4	64.8	1009.2	308.5
24-03-2024	30	65	0	24.1	67	1010.7	302.5
25-03-2024	29.7	64	0	28.1	62.5	1011.2	317.9
26-03-2024	29.6	60.4	0	26.3	61.2	1011.8	321.5
27-03-2024	29.9	69.2	0	24.8	62	1013	268.4
28-03-2024	30.5	60.5	4.7	25.2	72.8	1011.4	299.2
29-03-2024	29.9	61.2	0	24.8	101.8	1010.8	312.9
30-03-2024	29.8	51.7	0	21.6	97.8	1011.8	319.6
31-03-2024	30	63.7	0	22	111.1	1012.3	286.8

i. AMBIENT AIR QUALITY

Ambient air quality monitoring is required to determine the existing quality of air, evaluation of the effectiveness of control system and to identify areas in need of restoration and their prioritization. In order to generate background data, air quality monitoring is conducted to assess existing level of contamination and to assess possible effects of air contamination occurring in future.

Frequency of Monitoring

The frequency of monitoring that has been followed for sampling of ambient air quality is that one sample per weekly twice at three locations.

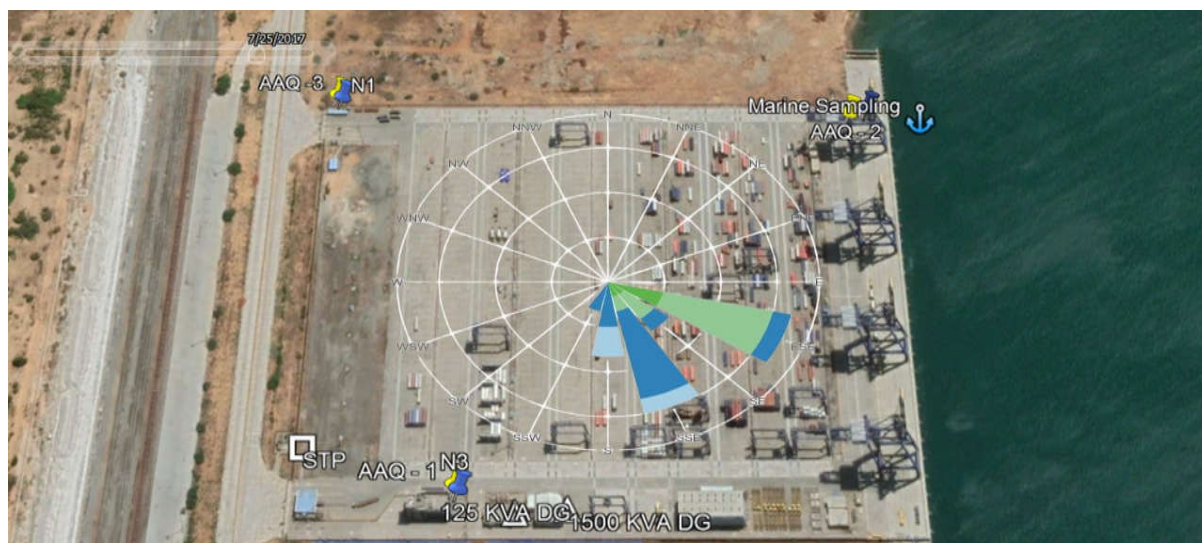
DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS

Station code	Location	Geographical location	Environmental setting
AAQ1	Port operating building	13.270444° N 80.334657° E	Industrial
AAQ2	RMU Building	13.273412° N 80.337600° E	Industrial
AAQ3	In Terminal Gate	13.273715° N 80.333810° E	Village

Fig - 2. AMBIENT AIR SAMPLING STATIONS LOCATION MAP



Fig.3.AMBIENT AIR SAMPLINGS STATIONS WITH RESPECT TO WIND



TECHNIQUES USED FOR AMBIENT AIR QUALITY MONITORING

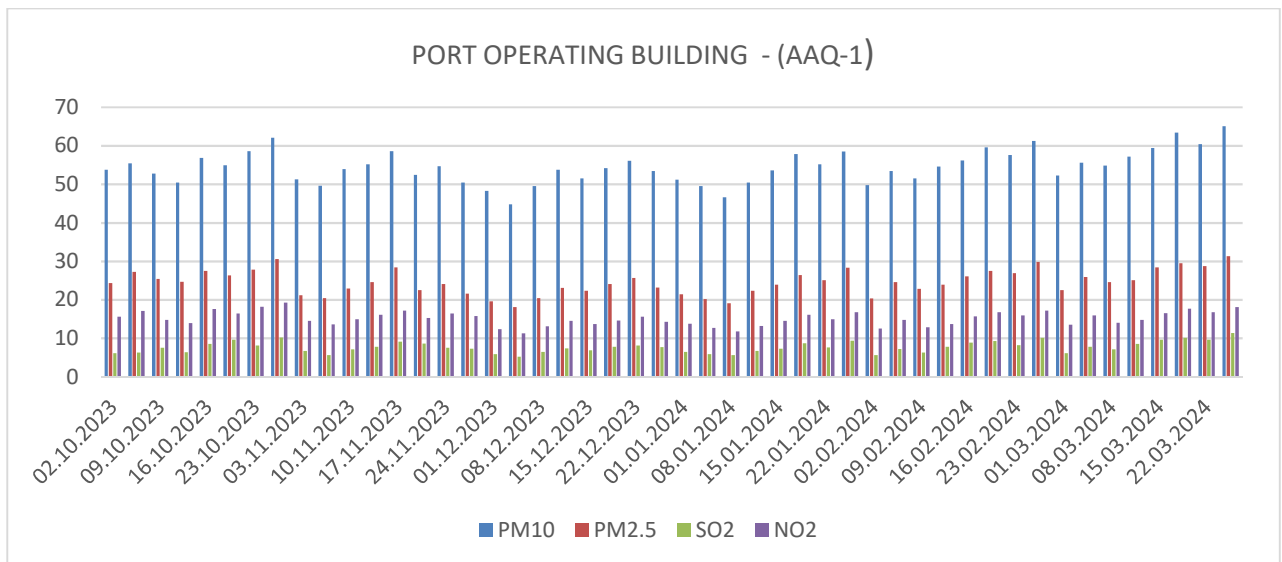
S.No	Parameter	Technique	Unit	Minimum Detectable Limit
1	PM ₁₀	Respirable Dust Sampler (Gravimetric method)	µg/m ³	1.0
2	PM _{2.5}	Fine particle Sampler (Gravimetric method)	µg/m ³	5.0
3	Sulphur Dioxide	Modified West and Gaeke method	µg/m ³	4.0
4	Nitrogen Oxide	Jacob & Hochheiser method	µg/m ³	6.0
5	Lead	Atomic Absorption Spectrometry	µg/m ³	0.5
6	Carbon Monoxide	Draggers Tube	mg/m ³	0.1
7	Ozone	UV Photometric	µg/m ³	2.0
8	Ammonia	Indophenol blue method	µg/m ³	2.0
9	Benzene	Gas Chromatography	µg/m ³	1.0
10	Benzene (α) pyrene	Gas Chromatography	ng/m ³	0.1
11	Arsenic	Atomic Absorption Spectrometry	ng/m ³	1.0
12	Nickel	Atomic Absorption Spectrometry	ng/m ³	5.0

Results and Discussion

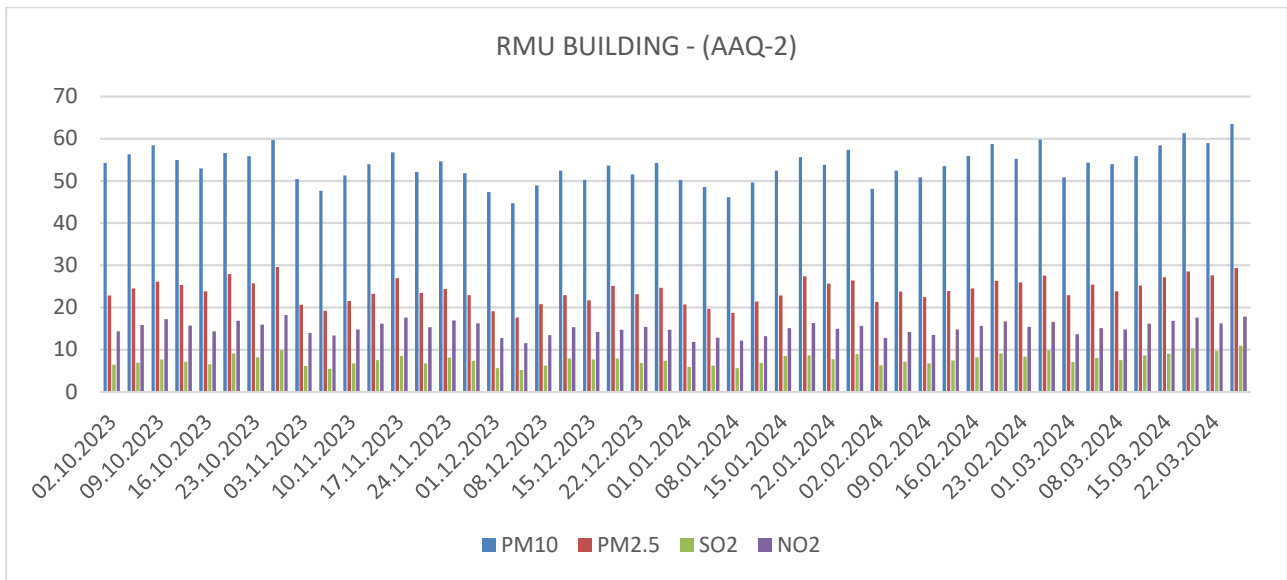
The results of the ambient air quality for the study period are submitted. The minimum, maximum 98th percentile and average values have been computed from the observed raw data for all the AAQ monitoring stations. The summary of these results for all the locations is presented in the Table and the detailed analytical results are shown in Annexure - 2. These are compared with the standards prescribed by Central Pollution Control Board (CPCB) for “Industrial, Rural, Residential and other areas”

ANNEXURE - 2 RESULTS OF AMBIENT AIR QUALITY MONITORING DATA

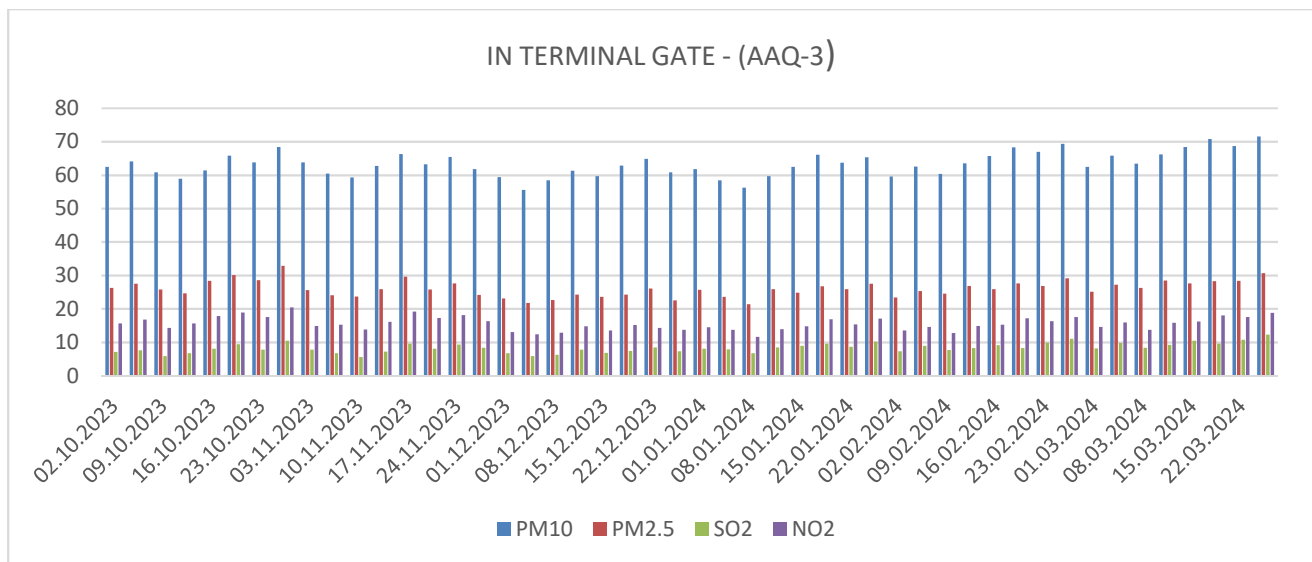
PORT OPERATING BUILDING - (AAQ1)													
Parameters		Particular matter PM10	Particular matter PM2.5	Sulphur dioxide as SO2	Nitrogen dioxide as NO2	Lead as Pb	Carbon monoxide as CO	Ozone as O3	Ammonia as NH3	Arsenic as As	Nickel as Ni	Benzene as C6H6	Benzo (a) pyrene as BaP
Unit		µg/m3	µg/m3	µg/m3	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												
1	02.10.2023	53.8	24.3	6.1	15.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
2	06.10.2023	55.4	27.2	6.3	17.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
3	09.10.2023	52.8	25.4	7.5	14.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
4	13.10.2023	50.4	24.7	6.4	13.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
5	16.10.2023	56.8	27.5	8.5	17.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
6	20.10.2023	54.9	26.3	9.6	16.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
7	23.10.2023	58.6	27.8	8.1	18.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
8	27.10.2023	62.1	30.6	10.2	19.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
9	03.11.2023	51.3	21.2	6.7	14.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
10	06.11.2023	49.6	20.4	5.6	13.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
11	10.11.2023	53.9	22.9	7.1	14.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
12	13.11.2023	55.2	24.6	7.8	16.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
13	17.11.2023	58.6	28.4	9.1	17.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
14	20.11.2023	52.4	22.5	8.6	15.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
15	24.11.2023	54.7	24.1	7.5	16.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
16	27.11.2023	50.4	21.6	7.3	15.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
17	01.12.2023	48.3	19.6	5.9	12.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
18	04.12.2023	44.8	18.1	5.2	11.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
19	08.12.2023	49.5	20.4	6.5	13.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
20	11.12.2023	53.8	23.1	7.4	14.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
21	15.12.2023	51.5	22.3	6.9	13.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
22	18.12.2023	54.2	24.1	7.8	14.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
23	22.12.2023	56.1	25.7	8.1	15.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
24	25.12.2023	53.4	23.2	7.7	14.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
25	01.01.2024	51.2	21.4	6.5	13.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
26	05.01.2024	49.5	20.2	5.9	12.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
27	08.01.2024	46.6	19.1	5.6	11.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
28	12.01.2024	50.4	22.3	6.7	13.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
29	15.01.2024	53.6	23.9	7.3	14.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
30	19.01.2024	57.8	26.4	8.7	16.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
31	22.01.2024	55.2	25.1	7.6	14.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
32	26.01.2024	58.5	28.3	9.4	16.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
33	02.02.2024	49.8	20.3	5.6	12.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
34	05.02.2024	53.4	24.6	7.2	14.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
35	09.02.2024	51.5	22.8	6.3	12.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
36	12.02.2024	54.6	23.9	7.8	13.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
37	16.02.2024	56.2	26.1	8.9	15.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
38	19.02.2024	59.6	27.5	9.3	16.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
39	23.02.2024	57.6	26.9	8.2	15.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
40	26.02.2024	61.2	29.8	10.1	17.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
41	01.03.2024	52.3	22.5	6.1	13.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
42	04.03.2024	55.6	25.9	7.8	15.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
43	08.03.2024	54.8	24.6	7.1	14	<0.1	<1	<10	<2	<2	<2	<1	<0.1
44	11.03.2024	57.2	25.1	8.5	14.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
45	15.03.2024	59.4	28.4	9.6	16.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
46	18.03.2024	63.4	29.5	10.1	17.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
47	22.03.2024	60.4	28.7	9.6	16.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1



RMU BUILDING - (AAQ2)													
Parameters		Particular matter PM10	Particular matter PM2.5	Sulphur dioxide as SO2	Nitrogen dioxide as NO2	Lead as Pb	Carbon monoxide as CO	Ozone as O3	Ammonia as NH3	Arsenic as As	Nickel as Ni	Benzene as C6H6	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												
1	02.10.2023	54.2	22.8	6.4	14.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
2	06.10.2023	56.3	24.5	6.9	15.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
3	09.10.2023	58.4	26.1	7.6	17.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
4	13.10.2023	54.9	25.3	7.1	15.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
5	16.10.2023	52.9	23.8	6.5	14.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
6	20.10.2023	56.6	27.9	9.1	16.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
7	23.10.2023	55.8	25.7	8.2	15.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
8	27.10.2023	59.7	29.6	9.9	18.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
9	03.11.2023	50.4	20.6	6.1	13.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
10	06.11.2023	47.6	19.2	5.4	13.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
11	10.11.2023	51.3	21.5	6.7	14.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
12	13.11.2023	53.9	23.2	7.5	16.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
13	17.11.2023	56.7	26.9	8.5	17.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
14	20.11.2023	52.1	23.4	6.7	15.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
15	24.11.2023	54.6	24.3	8.1	16.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
16	27.11.2023	51.8	22.9	7.3	16.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
17	01.12.2023	47.3	19.1	5.6	12.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
18	04.12.2023	44.7	17.6	5.1	11.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
19	08.12.2023	48.9	20.8	6.2	13.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
20	11.12.2023	52.4	22.9	7.9	15.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
21	15.12.2023	50.2	21.7	7.6	14.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
22	18.12.2023	53.6	25.1	7.9	14.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
23	22.12.2023	51.5	23.1	6.8	15.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
24	25.12.2023	54.2	24.6	7.3	14.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
25	01.01.2024	50.2	20.7	5.9	11.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
26	05.01.2024	48.5	19.6	6.2	12.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
27	08.01.2024	46.1	18.7	5.6	12.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
28	12.01.2024	49.6	21.4	6.8	13.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
29	15.01.2024	52.4	22.8	8.5	15.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
30	19.01.2024	55.6	27.4	8.6	16.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
31	22.01.2024	53.8	25.6	7.7	14.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
32	26.01.2024	57.3	26.4	8.9	15.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
33	02.02.2024	48.1	21.3	6.3	12.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
34	05.02.2024	52.4	23.7	7.1	14.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
35	09.02.2024	50.8	22.4	6.7	13.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
36	12.02.2024	53.5	23.9	7.4	14.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
37	16.02.2024	55.9	24.5	8.2	15.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
38	19.02.2024	58.7	26.3	9.1	16.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
39	23.02.2024	55.2	25.9	8.3	15.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
40	26.02.2024	59.8	27.5	9.8	16.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
41	01.03.2024	50.8	22.9	7	13.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
42	04.03.2024	54.3	25.4	8	15.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
43	08.03.2024	53.9	23.8	7.5	14.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
44	11.03.2024	55.8	25.2	8.6	16.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
45	15.03.2024	58.4	27.1	9	16.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
46	18.03.2024	61.3	28.5	10.3	17.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
47	22.03.2024	58.9	27.6	9.7	16.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
48	25.03.2024	63.5	29.3	10.9	17.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1



IN TERMINAL GATE - (AAQ3)													
Parameters		Particular matter PM10	Particular matter PM2.5	Sulphur dioxide as SO2	Nitrogen dioxide as NO2	Lead as Pb	Carbon monoxide as CO	Ozone as O3	Ammonia as NH3	Arsenic as As	Nickel as Ni	Benzene as C6H6	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												
1	02.10.2023	62.4	26.3	7.1	15.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
2	06.10.2023	64.1	27.5	7.6	16.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
3	09.10.2023	60.8	25.8	5.9	14.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
4	13.10.2023	58.9	24.6	6.7	15.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
5	16.10.2023	61.4	28.4	8.1	17.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
6	20.10.2023	65.8	30.1	9.4	18.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
7	23.10.2023	63.8	28.6	7.8	17.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
8	27.10.2023	68.4	32.9	10.5	20.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
9	03.11.2023	63.8	25.6	7.8	14.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
10	06.11.2023	60.4	24.1	6.7	15.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
11	10.11.2023	59.3	23.7	5.6	13.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
12	13.11.2023	62.7	25.9	7.2	16.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
13	17.11.2023	66.3	29.6	9.6	19.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
14	20.11.2023	63.2	25.8	8.1	17.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
15	24.11.2023	65.4	27.6	9.3	18.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
16	27.11.2023	61.8	24.2	8.4	16.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
17	01.12.2023	59.4	23.1	6.7	13.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
18	04.12.2023	55.6	21.8	5.9	12.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
19	08.12.2023	58.4	22.6	6.3	12.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
20	11.12.2023	61.3	24.3	7.8	14.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
21	15.12.2023	59.7	23.6	6.8	13.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
22	18.12.2023	62.8	24.3	7.4	15.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
23	22.12.2023	64.8	26.1	8.5	14.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
24	25.12.2023	60.8	22.5	7.3	13.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
25	01.01.2024	61.8	25.7	8.1	14.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
26	05.01.2024	58.4	23.6	7.9	13.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
27	08.01.2024	56.2	21.4	6.7	11.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
28	12.01.2024	59.7	25.9	8.5	13.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
29	15.01.2024	62.4	24.8	8.9	14.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
30	19.01.2024	66.1	26.7	9.6	16.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
31	22.01.2024	63.7	25.9	8.7	15.4	<0.1	<1	<10	<2	<2	<2	<1	<0.1
32	26.01.2024	65.3	27.5	10.2	17.1	<0.1	<1	<10	<2	<2	<2	<1	<0.1
33	02.02.2024	59.6	23.4	7.3	13.5	<0.1	<1	<10	<2	<2	<2	<1	<0.1
34	05.02.2024	62.5	25.3	8.9	14.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
35	09.02.2024	60.3	24.5	7.7	12.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
36	12.02.2024	63.5	26.8	8.3	14.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
37	16.02.2024	65.7	25.9	9.1	15.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
38	19.02.2024	68.3	27.6	8.3	17.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
39	23.02.2024	66.9	26.8	9.9	16.3	<0.1	<1	<10	<2	<2	<2	<1	<0.1
40	26.02.2024	69.3	29.1	11	17.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
41	01.03.2024	62.4	25.1	8.2	14.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
42	04.03.2024	65.8	27.2	9.8	15.9	<0.1	<1	<10	<2	<2	<2	<1	<0.1
43	08.03.2024	63.4	26.3	8.4	13.7	<0.1	<1	<10	<2	<2	<2	<1	<0.1
44	11.03.2024	66.2	28.5	9.2	15.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1
45	15.03.2024	68.4	27.6	10.5	16.2	<0.1	<1	<10	<2	<2	<2	<1	<0.1
46	18.03.2024	70.8	28.3	9.6	18	<0.1	<1	<10	<2	<2	<2	<1	<0.1
47	22.03.2024	68.7	28.4	10.8	17.6	<0.1	<1	<10	<2	<2	<2	<1	<0.1
48	25.03.2024	71.5	30.7	12.3	18.8	<0.1	<1	<10	<2	<2	<2	<1	<0.1



**NATIONAL AMBIENT AIR QUALITY STANDARDS
CENTRAL POLLUTION CONTROL BOARD**

**NOTIFICATION
New Delhi, the 18th November, 2009**

No.B-29016/20/90/PCI-L—In exercise of the powers conferred by Sub-section (2) (b) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No. 14 of 1981), and in super session of the Notification No(s), S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time Weighted average	Concentration in Ambient Air		Methods of Measurement
			Industrial, Residential, Rural and Other Area	Ecologically sensitive area (notified by Central Govt.)	
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO ₂), µg/m ³	Annual*	50	20	<ul style="list-style-type: none"> Improved West and Geake Ultraviolet fluorescence
		24 hours**	80	80	
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual*	40	30	<ul style="list-style-type: none"> Modified Jacob & Hochheiser (Na-Arsenite) Chemiluminescence
		24 hours**	80	80	
3	Particulate Matter (size less than 10 µm) or PM ₁₀ , µg/m ³	Annual*	60	60	<ul style="list-style-type: none"> Gravimetric TOEM Beta attenuation
		24 hours**	100	100	
4	Particulate Matter (size less than 2.5 microns) or PM _{2.5} , µg/m ³	Annual*	40	40	<ul style="list-style-type: none"> Gravimetric TOEM Beta attenuation
		24 hours**	60	60	
5	Ozone (O ₃), µg/m ³	8 hours **	100	100	<ul style="list-style-type: none"> UV photometric Chemiluminescence Chemical method
		1 hour **	180	180	
		Annual*	0.5	0.5	
6	Lead (Pb) µg/m ³	Annual*	0.5	0.5	<ul style="list-style-type: none"> AAS / ICP method after sampling on EPM 2000 or equivalent filter paper ED - XRF using Teflon filter
		24 hours**	1.0	1.0	

7	Carbon Monoxide (CO) mg/m ³	8 hours**	2	2	Non Dispersive Infra RED (NDIR) Spectroscopy
		1 hour**	4	4	
8	Ammonia (NH ₃) µg/m ³	Annual*	100	100	<ul style="list-style-type: none"> Chemiluminescence Indophenol blue method
		24 hours**	400	400	
9	Benzene (C ₆ H ₆) µg/m ³	Annual*	5	5	<ul style="list-style-type: none"> Gas chromatography based continuous analyser Adsorption and desorption followed by GC analysis
10	Benzo (a) Pyrene (BaP) - particulate phase only ng/m ³	Annual*	1	1	Solvent extraction followed by HPLC / GC analysis
11	Arsenic (As) ng/m ³	Annual*	6	6	AAS / ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni) ng/m ³	Annual*	20	20	AAS / ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note: Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

ii. **AMBIENT NOISE LEVEL INTENSITY**

Collection of ambient noise levels at four locations. Spot noise levels were measured with a precalibrated Noise Level Meter - SL- 4023 SD for day and night periods.

DETAILS OF NOISE MONITORING LOCATIONS

STATION CODE	LOCATIONS	Geographical Location
N1	Port operating building	13.270444° N 80.334657° E
N2	RMU Building	13.273412° N 80.337600° E
N3	In Terminal Gate	13.273715° N 80.333810° E

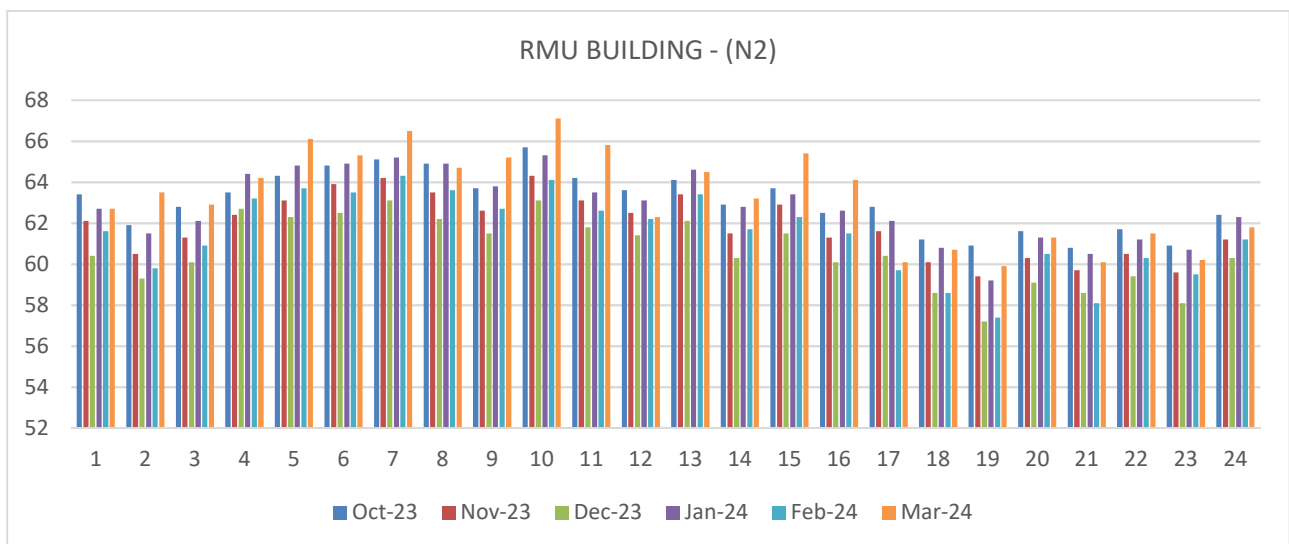
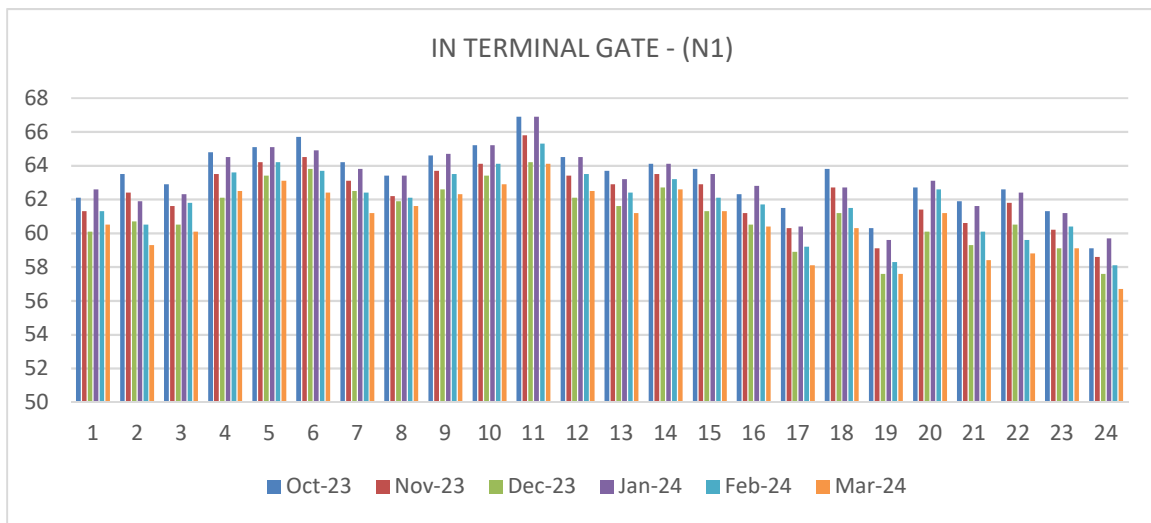
Fig - 4. Noise Level Sampling Locations



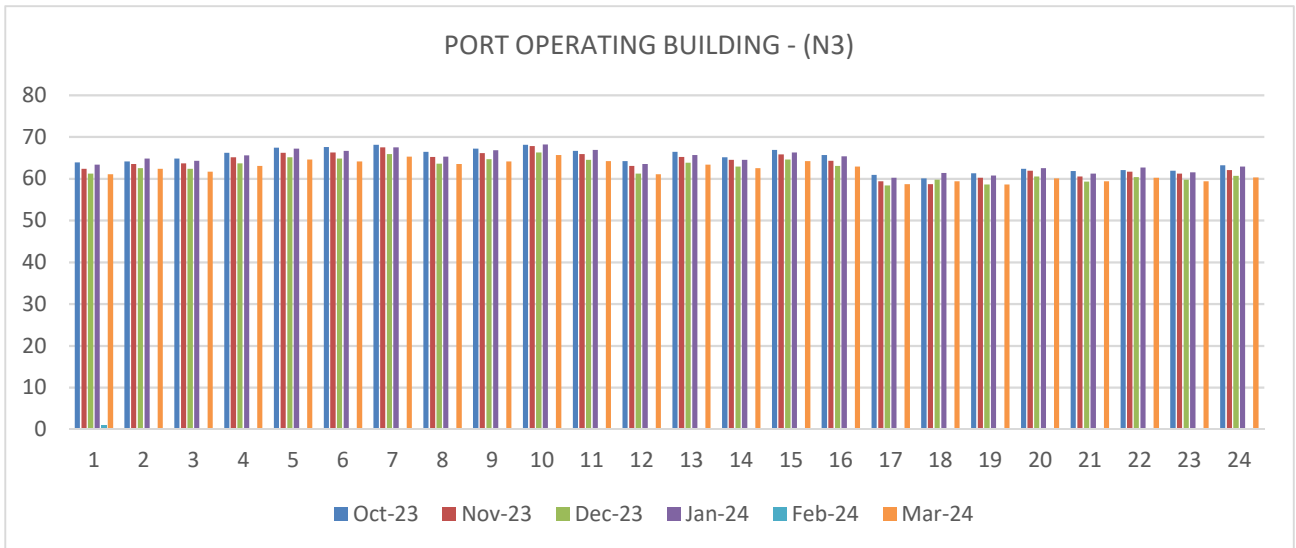
The noise levels monitored during the study period are given hereunder in form of Leq day, Leq night compared with CPCB Standards.

ANNEXURE - 3 RESULTS OF AMBIENT NOISE LEVEL MONITORING DATA

Location		IN TERMINAL GATE - (N1)					RMU BUILDING - (N2)						
		oct- 23	Nov- 23	Dec- 23	Jan'24	Feb'24	Mar'24	oct- 23	Nov- 23	Dec- 23	Jan'24	Feb'24	Mar'24
Month & Year		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.N	Time of Sampling	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)
1	06.00 – 07.00 (Day)	62.1	61.3	60.1	62.6	61.3	60.5	63.4	62.1	60.4	62.7	61.6	62.3
2	07.00 – 08.00	63.5	62.4	60.7	61.9	60.5	59.3	61.9	60.5	59.3	61.5	59.8	58.4
3	08.00 – 09.00	62.9	61.6	60.5	62.3	61.8	60.1	62.8	61.3	60.1	62.1	60.9	59.2
4	09.00 – 10.00	64.8	63.5	62.1	64.5	63.6	62.5	63.5	62.4	62.7	64.4	63.2	61.3
5	10.00 – 11.00	65.1	64.2	63.4	65.1	64.2	63.1	64.3	63.1	62.3	64.8	63.7	62.4
6	11.00 – 12.00	65.7	64.5	63.8	64.9	63.7	62.4	64.8	63.9	62.5	64.9	63.5	62.5
7	12.00 – 13.00	64.2	63.1	62.5	63.8	62.4	61.2	65.1	64.2	63.1	65.2	64.3	63.1
8	13.00 – 14.00	63.4	62.2	61.9	63.4	62.1	61.6	64.9	63.5	62.2	64.9	63.6	62.4
9	14.00 – 15.00	64.6	63.7	62.6	64.7	63.5	62.3	63.7	62.6	61.5	63.8	62.7	61.6
10	15.00 – 16.00	65.2	64.1	63.4	65.2	64.1	62.9	65.7	64.3	63.1	65.3	64.1	62.8
11	16.00 – 17.00	66.9	65.8	64.2	66.9	65.3	64.1	64.2	63.1	61.8	63.5	62.6	61.5
12	17.00 – 18.00	64.5	63.4	62.1	64.5	63.5	62.5	63.6	62.5	61.4	63.1	62.2	60.9
13	18.00 – 19.00	63.7	62.9	61.6	63.2	62.4	61.2	64.1	63.4	62.1	64.6	63.4	62.4
14	19.00 – 20.00	64.1	63.5	62.7	64.1	63.2	62.6	62.9	61.5	60.3	62.8	61.7	60.3
15	20.00 – 21.00	63.8	62.9	61.3	63.5	62.1	61.3	63.7	62.9	61.5	63.4	62.3	61.1
16	21.00 – 22.00	62.3	61.2	60.5	62.8	61.7	60.4	62.5	61.3	60.1	62.6	61.5	60.4
17	22.00 – 23.00 (Night)	61.5	60.3	58.9	60.4	59.2	58.1	62.8	61.6	60.4	62.1	59.7	57.9
18	23.00 – 00.00	63.8	62.7	61.2	62.7	61.5	60.3	61.2	60.1	58.6	60.8	58.6	57.4
19	00.00 – 01.00	60.3	59.1	57.6	59.6	58.3	57.6	60.9	59.4	57.2	59.2	57.4	55.9
20	01.00 – 02.00	62.7	61.4	60.1	63.1	62.6	61.2	61.6	60.3	59.1	61.3	60.5	59.8
21	02.00 – 03.00	61.9	60.6	59.3	61.6	60.1	58.4	60.8	59.7	58.6	60.5	58.1	57.3
22	03.00 – 04.00	62.6	61.8	60.5	62.4	59.6	58.8	61.7	60.5	59.4	61.2	60.3	59.1
23	04.00 – 05.00	61.3	60.2	59.1	61.2	60.4	59.1	60.9	59.6	58.1	60.7	59.5	58.7
24	05.00 – 06.00	59.1	58.6	57.6	59.7	58.1	56.7	62.4	61.2	60.3	62.3	61.2	60.4



Location		PORT OPERATING BUILDING – (N3)					
Month & Year		oct- 23	Nov- 23	Dec- 23	Jan'24	Feb'24	Mar'24
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)	63.9	62.4	61.2	63.4	62.7	61.1
2	07.00 –08.00	64.1	63.5	62.5	64.8	63.5	62.4
3	08.00 – 09.00	64.8	63.7	62.4	64.3	62.9	61.7
4	09.00 – 10.00	66.2	65.1	63.7	65.6	64.2	63.1
5	10.00 – 11.00	67.4	66.2	65.1	67.2	66.1	64.6
6	11.00 – 12.00	67.6	66.3	64.8	66.7	65.3	64.1
7	12.00 – 13.00	68.1	67.5	65.9	67.5	66.5	65.3
8	13.00 – 14.00	66.4	65.2	63.6	65.3	64.7	63.5
9	14.00 – 15.00	67.2	66.1	64.7	66.8	65.2	64.1
10	15.00 – 16.00	68.1	67.8	66.3	68.2	67.1	65.7
11	16.00 – 17.00	66.7	65.9	64.5	66.9	65.8	64.2
12	17.00 – 18.00	64.2	63.1	61.2	63.5	62.3	61.1
13	18.00 – 19.00	66.4	65.2	63.8	65.7	64.5	63.4
14	19.00 –20.00	65.1	64.5	62.9	64.5	63.2	62.5
15	20.00 – 21.00	66.9	65.8	64.6	66.3	65.4	64.2
16	21.00 – 22.00	65.7	64.3	63.1	65.4	64.1	62.9
17	22.00 – 23.00 (Night)	60.9	59.4	58.4	60.2	60.1	58.7
18	23.00 – 00.00	60.1	58.7	59.8	61.4	60.7	59.4
19	00.00 – 01.00	61.3	60.2	58.6	60.8	59.9	58.6
20	01.00 – 02.00	62.4	61.9	60.5	62.5	61.3	60.1
21	02.00 – 03.00	61.8	60.5	59.3	61.2	60.1	59.4
22	03.00 – 04.00	62.1	61.7	60.4	62.7	61.5	60.2
23	04.00 – 05.00	61.9	61.2	59.8	61.5	60.2	59.4
24	05.00 – 06.00	63.2	62.1	60.7	62.9	61.8	60.3



Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area / Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

- Note:-
1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
 2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
 3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
 4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period.

iii. DG SET EMISSIONS

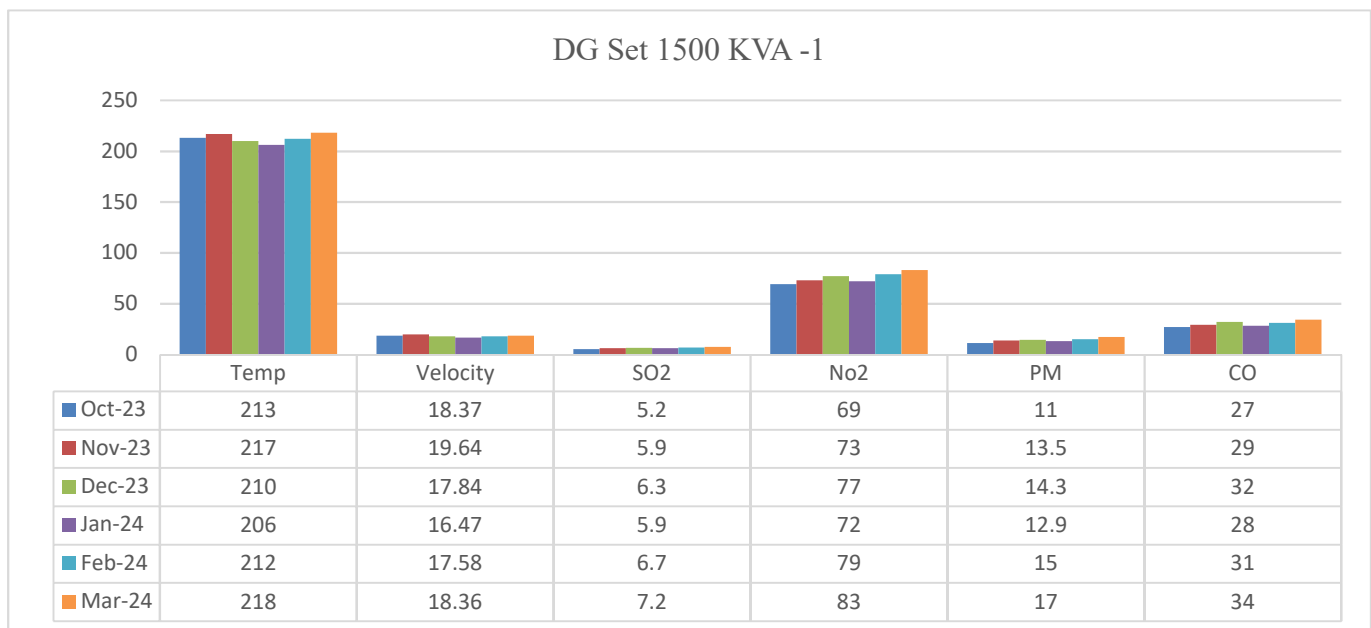
Sampling of Flue gas emission of 2000 KVA DG Set was done and its emissions were determined along with its noise intensity. The Detailed report has been is enclosed as Annexure - 4

DETAILS OF EMISSION MONITORING LOCATIONS

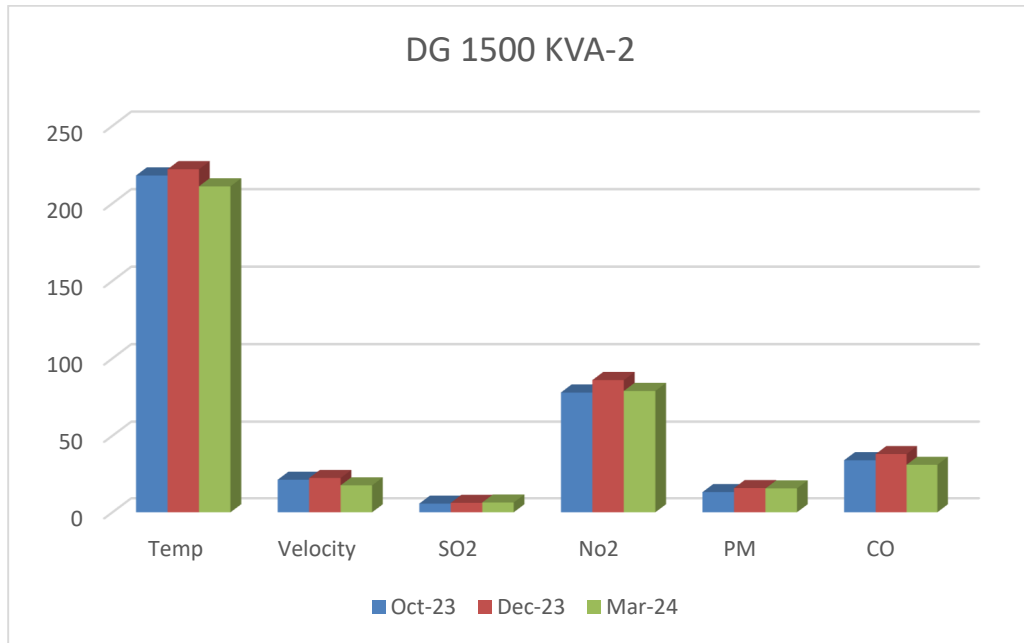
STATION CODE	LOCATIONS	Geographical Location
SM-01	DG – 1 1500 KVA (Near MRSS)	13°16'13.40"N 80°20'8.15"E
SM-02	DG – 2 1500 KVA (Near MRSS)	13°16'13.40"N 80°20'8.15"E
SM-03	DG-4 125 KVA (Near MRSS)	13°16'13.16"N 80°20'7.19"E

ANNEXURE - 4 RESULTS OF SOURCE EMISSION MONITORING DATA

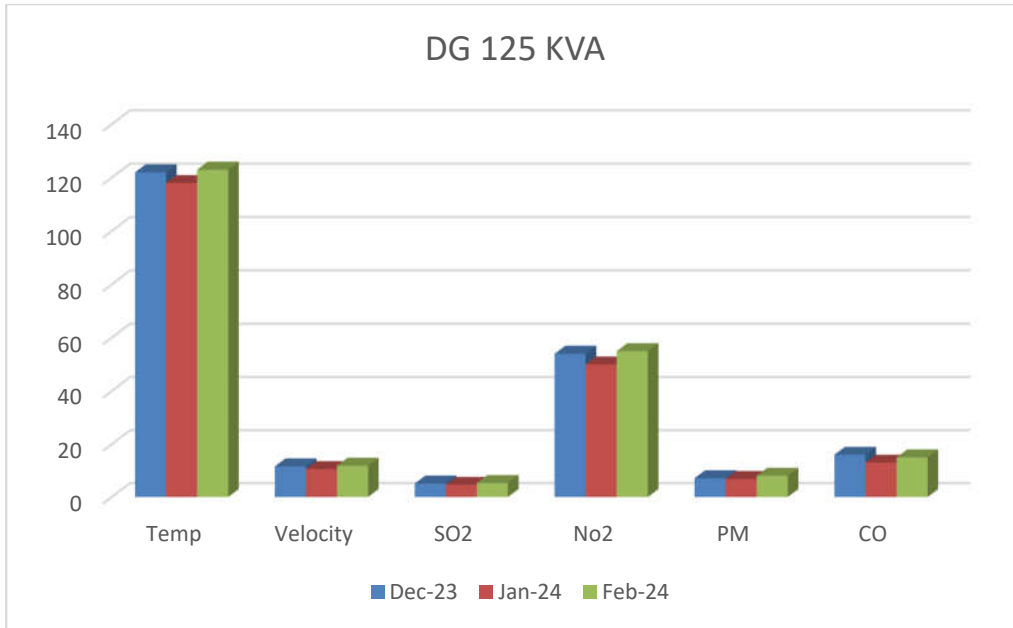
STACK MONITORING							
Location		DG 1500 KVA - 1					
Month & Year		Oct - 23	Nov - 23	Dec - 23	Jan'24	Feb'24	Mar'24
S.No.	Parameters						
1	Stack Temperature, °C	213	217	210	206	212	218
2	Flue Gas Velocity, m/s	18.37	19.64	17.84	16.47	17.58	18.36
3	Sulphur Dioxide, mg/Nm3	5.2	5.9	6.3	5.9	6.7	7.2
4	NOX (as NO2) in ppmv	69	73	77	72	79	83
5	Particular matter, mg/Nm3	11.0	13.5	14.3	12.9	15	17
6	Carbon Monoxide, mg/Nm3	27	29	32	28	31	34
7	Gas Discharge, Nm3/hr	14869	15579	15938	14536	15496	15982



STACK MONITORING							
Location		DG 1500 KVA - 2					
Month & Year		Oct - 23	Nov'23	Dec'23	Jan'24	Feb'24	Mar'24
S.No.	Parameters						
1	Stack Temperature, °C	218	-	222	-	-	211
2	Flue Gas Velocity, m/s	21.26	-	22.41	-	-	17.59
3	Sulphur Dioxide, mg/Nm3	5.7	--	6.2	-	-	6.4
4	NOX (as NO2) in ppmv	78	-	86	-	-	79
5	Particular matter, mg/Nm3	13.2	-	15.8	-	-	15.6
6	Carbon Monoxide, mg/Nm3	34	-	38	-	-	31
7	Gas Discharge, Nm3/hr	17324	-	17863	-	-	15269



STACK MONITORING							
Location		DG 125 KVA					
Month & Year		Oct - 23	Nov - 23	Dec - 23	Jan'24	Feb'24	Mar'24
S.No.	Parameters						
1	Stack Temperature, °C	-	-	122	118	123	-
2	Flue Gas Velocity, m/s	-	-	11.59	10.56	11.87	-
3	Sulphur Dioxide, mg/Nm3	-	-	5.1	4.6	5.3	-
4	NOX (as NO2) in ppmv	-	-	54	50	55	-
5	Particular matter, mg/Nm3	-	-	7.10	6.81	8.05	-
6	Carbon Monoxide, mg/Nm3	-	-	16	13	15	-
7	Gas Discharge, Nm3/hr	-	-	1010	964	1023	-



Parameter	Area Category	Total engine rating of the plant (includes existing as well as new generator sets)	Generator sets commissioning date		
			Before 1.7.2003	Between 1.7.2003 and 1.7.2005	On or after 1.7.2005
NO _x (as NO ₂) (At 15% O ₂ , dry basis, in ppmv)	A	Up to 75 MW	1100	970	710
	B	Up to 150 MW			
	A	More than 75 MW	1100	710	360
	B	More than 150 MW			
NMHC (as C) (at 15% O ₂), mg/Nm ³	Both A and B		150	100	
PM (at 15% O ₂), mg/Nm ³	Diesel Fuels- HSD & LDO	Both A and B	75	75	
	Furnace Oils- LSHS & FO	Both A and B	150	100	
CO (at 15% O ₂), mg/Nm ³	Both A and B		150	150	

¹ Inserted by Rule 2(b) of the Environment (Protection) Second Amendment Rules, 2008 notified by G.S.R.280(E), dated 11.4.2008.

² Serial No.96 and entries relating thereto inserted by Rule 2 of the Environment (Protection) Third Amendment Rules, 2002 notified vide Notification G.S.R.489(E), dated 9.7.2002.

iv. STP WATER SAMPLE ANALYSIS

Water samples were collected at the following points.

- 25 KLD Inlet and Treated Water Outlet

DETAILS OF STP WATER LOCATIONS

STATION CODE	LOCATIONS	Geographical Location
STP – 1	25 KLD	13°16'15.33"N 80°20'0.46"E

Analysis results of the water sample collected from the above location are enclosed as Annexure - 5.

ANNEXURE - 5 RESULTS OF STP WATER QUALITY DATA

STP WATER													
Location		STP 25KLD INLET						STP 25KLD OUTLET					
Month & Year		Oct - 23	Nov - 23	Dec - 23	Jan'24	Feb'24	Mar'24	Oct - 23	Nov - 23	Dec - 23	Jan'24	Feb'24	Mar'24
S.N	Parameters												
1	pH @ 25°C	6.71	6.89	6.63	6.79	6.70	6.85	7.05	7.15	7.04	7.21	7.04	7.16
2	Total Suspended	86.0	79.0	83.0	90.0	85.0	81.0	17.0	15.0	18.0	22.0	19.0	16.0
3	BOD at 27°C for 3	106	102	110	122	115	106	13.0	11.0	14.0	17.0	15.0	12.0
4	Fecal Coliform	1060	900	952	970	940	886	104	90	98	106	94	87
5	COD	304	289	314	330	310	275	39.7	35.1	41.0	50.4	40.0	30.0
6	Oil & Grease	5.0	4.7	5.0	5.5	4.8	4.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7	Total Dissolved Solids	760	726	816	910	836	785	687	644	720	796	742	697
8	Chlorides (as Cl)	380	362	378	406	380	363	327	315	324	345	328	315
9	Sulphates (as SO ₄)	48	40	45	49	46	42	35	31	35	38	34	30

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 13th October, 2017

G.S.R. 1265(E).—In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:—

1. **Short title and commencement.**—(1) These rules may be called the Environment (Protection) Amendment Rules, 2017.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in Schedule – I, after serial number 104 and the entries relating thereto, the following serial number and entries shall be inserted, namely:—

Sl. No.	Industry	Parameters	Standards	
1	2	3	4	
		Effluent discharge standards (applicable to all mode of disposal)		
105	Sewage Treatment Plants (STPs)		Location	
			Concentration not to exceed	
			(a)	
			(b)	
		pH	Anywhere in the country	6.5-9.0
		Bio-Chemical Oxygen Demand (BOD)	Metro Cities*, all State Capitals except in the State of Arunachal Pradesh, Assam, Manipur, Meghalaya Mizoram, Nagaland, Tripura Sikkim, Himachal Pradesh, Uttarakhand, Jammu and Kashmir, and Union territory of	20
			Andaman and Nicobar Islands, Dadar and Nagar Haveli Daman and Diu and Lakshadweep	
			Areas/regions other than mentioned above	30
		Total Suspended Solids (TSS)	Metro Cities*, all State Capitals except in the State of Arunachal Pradesh, Assam, Manipur, Meghalaya Mizoram, Nagaland, Tripura Sikkim, Himachal Pradesh, Uttarakhand, Jammu and Kashmir and Union territory of Andaman and Nicobar Islands, Dadar and Nagar Haveli Daman and Diu and Lakshadweep	<50
			Areas/regions other than mentioned above	<100
		Fecal Coliform (FC) (Most Probable Number per 100 milliliter, MPN/100ml)	Anywhere in the country	<1000

*Metro Cities are Mumbai, Delhi, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad and Pune.

v. **DRINKING WATER SAMPLE ANALYSIS**

Drinking Water samples were collected at the Canteen or Office Building. Analysis results of the water sample collected from the above location are enclosed as Annexure - 6.

vi. **RAW WATER SAMPLE ANALYSIS**

Raw water samples were collected at the Pond. Analysis results of the water sample collected from the above location are enclosed as Annexure - 7.

ANNEXURE - 6 RESULTS OF WATER SAMPLE (DRINKING WATER) QUALITY DATA

DRINKING WATER								
S.No.	Month & Paramete	Unit	Oct - 23	Nov - 23	Dec - 23	Jan'24	Feb'24	Mar'24
1	pH @ 25°C	-	6.89	6.91	6.84	6.95	6.78	6.85
2	Total Hardness as CaCo3	mg/L	16.9	14.23	12.3	16.2	9.43	7.24
3	Chloride as Cl	mg/L	16.4	14.2	11.2	16.7	10.7	13.2
4	Total Dissolved Solids	mg/L	49.2	40.5	33.9	47.0	31.5	39.2
5	Calcium as Ca	mg/L	4.18	3.49	2.96	3.54	2.08	2.64
6	Sulphate as SO4	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
7	Total Alkalinity as CaCo3	mg/L	27.6	24.8	20.6	28.2	19.8	24.6
8	Magnesium as Mg	mg/L	1.59	1.34	1.21	1.79	1.09	1.48
9	Color	Hazen	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
10	Odour	-	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
11	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
12	Turbidity	NTU	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
13	Nitrate as No3	mg/L	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)
14	Iron as Fe	mg/L	0.06	0.04	0.02	0.05	0.03	0.05
15	Total Residual Chlorine	mg/L	BDL (D.L.<0.01)	BDL (D.L.<0.01)	BDL (D.L.<0.01)	BDL (D.L.<0.01)	BDL (D.L.<0.01)	BDL (D.L.<0.01)
16	Copper as Cu	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
17	Manganese as Mn	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
18	Fluoride as F	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
19	Phenolic compounds as	mg/L	Nil	Nil	Nil	Nil	Nil	Nil
20	Mercury as Hg	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
21	Cadmium as Cd	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
22	Selenium as Se	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
23	Arsenic as As	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
24	Lead as Pb	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
25	Zinc as Zn	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
26	Anionic Detergents as MBAS	mg/L	Nil	Nil	Nil	Nil	Nil	Nil
27	Total Chromium as Cr	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
28	Phenolphthalein Alkalinity as CaCO3	mg/L	Nil	Nil	Nil	Nil	Nil	Nil
29	Aluminium as Al	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
30	Boron as B	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
31	Mineral Oil	mg/L	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)	BDL (D.L.0.01)
32	Polynuclear Aromatic Hydrocarbons as	mg/L	BDL (D.L.0.0001)	BDL (D.L.0.0001)	BDL (D.L.0.0001)	BDL (D.L.0.0001)	BDL (D.L.0.0001)	BDL (D.L.0.0001)
33	Pesticides	mg/L	Absent	Absent	Absent	Absent	Absent	Absent
34	Cyanide as CN	mg/L	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)
35	E. coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent
36	Total Coliform	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent

ANNEXURE - 7 RESULTS OF RAINWATER HARVESTING POND WATER SAMPLE QUALITY DATA

RAW WATER SAMPLE								
Month & Year		Unit	Oct - 23	Nov - 23	Dec - 23	Jan'24	Feb'24	Mar'24
S.No.	Parameters							
1	pH @ 25°C	-	-	7.41	7.25	7.10	7.01	6.91
2	Total Hardness as CaCo3	mg/L	-	362	340	327	337	326
3	Chloride as Cl	mg/L	-	580	557	536	552	529
4	Total Dissolved Solids	mg/L	-	1280	1226	1128	1190	1147
5	Calcium as Ca	mg/L	-	62.6	60.3	58.2	60.1	58.6
6	Sulphate as SO4	mg/L	-	71.6	67.1	60.7	64.5	59.6
7	Total Alkalinity as CaCo3	mg/L	-	390	360	334	358	330
8	Magnesium as Mg	mg/L	-	49.8	46.2	44.3	45.6	43.9
9	Color	Hazen	-	<1.0	<1.0	<1.0	<1.0	<1.0
10	Odour	-	-	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
11	Taste	-	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
12	Turbidity	NTU	-	0.58	0.49	0.43	0.49	0.40
13	Nitrate as No3	mg/L	-	10.5	9.04	8.34	9.81	8.36
14	Iron as Fe	mg/L	-	0.19	0.15	0.11	0.15	0.10
15	Total Residual Chlorine	mg/L	-	BDL(DL 0.1)	BDL(DL 0.1)	BDL(DL 0.1)	BDL(DL 0.1)	BDL(DL 0.1)
16	Copper as Cu	mg/L	-	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)
17	Manganese as Mn	mg/L	-	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)
18	Fluoride as F	mg/L	-	0.58	0.52	0.47	0.52	0.47
19	Phenolic compounds as C6H5OH	mg/L	-	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)
20	Mercury as Hg	mg/L	-	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)
21	Cadmium as Cd	mg/L	-	BDL(DL 0.003)	BDL(DL 0.003)	BDL(DL 0.003)	BDL(DL 0.003)	BDL(DL 0.003)
22	Selenium as Se	mg/L	-	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)
23	Arsenic as As	mg/L	-	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)
24	Lead as Pb	mg/L	-	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)	BDL(DL 0.01)
25	Zinc as Zn	mg/L	-	0.039	0.035	0.030	0.034	0.031
26	Anionic Detergents as MBAS	mg/L	-	Nil	Nil	Nil	Nil	Nil
27	Total Chromium as Cr	mg/L	-	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)
28	Phenolphthalein Alkalinity as CaCO ₃	mg/L	-	Nil	Nil	Nil	Nil	Nil
29	Aluminium as Al	mg/L	-	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)
30	Boron as B	mg/L	-	BDL(DL 0.1)	BDL(DL 0.1)	BDL(DL 0.1)	BDL(DL 0.1)	BDL(DL 0.1)
31	Mineral Oil	mg/L	-	Nil	Nil	Nil	Nil	Nil
32	Polynuclear Aromatic Hydrocarbons as	mg/L	-	Nil	Nil	Nil	Nil	Nil
33	Pesticides	mg/L	-	Nil	Nil	Nil	Nil	Nil
34	Cyanide as CN	mg/L	-	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)
35	E. coli	Per 100ml	-	Absent	Absent	Absent	Absent	Absent
36	Total Coliform	Per 100ml	-	Absent	Absent	Absent	Absent	Absent

vii. Marine Sampling

Marine Water samples and sediment samples were collected at locations South side berth and North side berth. Analysis data of Marine and sediments as represented in Annexure - 8 & 9.

DETAILS OF MARINE WATER AND SEDIMENT LOCATIONS

STATION CODE	LOCATIONS	Geographical Location
MW - 1 / MS - 1	CB - 1	13° 18' 50" N 80° 20' 51" E
MW - 2 / MS - 2	CB - 2	13° 18' 46" N 80° 20' 49" E
MW - 3 / MS - 3	BERTH - 3	13° 18' 41" N 80° 21' 4" E

Fig - 5. Water and Marine Sampling Locations



ANNEXURE – 8 RESULTS OF MARINE WATER QUALITY DATA

MARINE WATER														
S.NO	PARAMETER	UNITS	Berth Area											
			Oct - 23		Nov - 23		Dec - 23		Jan'24		Feb'24		Mar'24	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
Physicochemical Parameters			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	Colour	Hazan	19	35	17	33	14	29	17	32	19	34	22	37
2	Odour	-	Unobject ionable	Unobjectio nable	Unobjecti onable	Unobject ionable	Unobject ionable	Unobject ionable	Unobject ionable	Unobjecti onable	Unobject ionable	Unobject ionable	Unobject ionable	Unobject ionable
3	pH @ 25°C	-	8.16	8.10	8.28	8.14	9.21	8.10	9.14	8.56	9.05	8.78	8.87	8.56
4	Temperature	°C	28.3	28.2	28.1	28.0	28.0	27.8	28.2	27.9	28.4	28.0	28.6	28.3
5	Turbidity	NTU	16	23	14	21	12	17	14	19	17	21	19	24
6	Total Suspended Solids	mg/L	26	32	22	29	25	33	28	35	31	38	33	41
7	BOD at 27 oC for 3 days	mg/L	3.1	3.3	3.0	3.1	3.1	3.3	3.2	3.4	3.4	3.6	3.3	3.4
8	COD	mg/L	92.8	98.4	89.8	95.3	84.6	90.5	88.5	92.7	90.6	95.4	87.5	92.5
9	Dissolved oxygen	mg/L	3.6	3.3	3.7	3.4	3.5	3.3	3.4	3.2	3.3	3.1	3.4	3.2
10	Salinity at 25 °C	ppt	35.5	35.7	35.3	35.5	35.1	35.3	34.9	35.1	35.1	35.3	35.3	35.5
11	Oil & Grease	mg/L	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)
Nutrient Parameters														
12	Nitrate as No3	mg/L	5.89	8.26	5.71	8.08	5.40	7.62	5.96	8.06	6.24	8.30	7.36	9.11
13	Nitrite as No2	mg/L	2.76	3.39	2.62	3.25	2.48	3.11	2.54	3.29	2.70	3.58	2.89	3.75
14	Ammonical Nitrogen as N	mg/L	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)
15	Total Nitrogen	mg/L	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)
16	Inorganic phosphates as PO4	mg/L	4.48	6.50	4.35	6.38	4.18	6.20	4.30	6.48	4.56	6.54	4.88	6.72
17	Silica as SiO2	mg/L	5.78	7.05	5.62	6.93	5.36	6.58	6.11	6.89	6.58	7.12	7.23	7.58
18	Particulate Organic Carbon	µgC/L	10	12	08	11	06	10	08	13	10	15	12	17
19	Pertoleum Hydrocarbons	µg/L	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)	BDL (DL : 1.0)
Heavy Metals														
20	Cadmium as Cd	mg/L	BDL (DL : 0.001)	BDL (DL : 0.01)	BDL (DL : 0.001)	BDL (DL : 0.01)	BDL (DL : 0.001)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)
21	Copper as Cu	mg/L	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)
22	Total Iron as Fe	mg/L	0.75	0.84	0.75	0.84	0.71	0.80	0.63	0.77	0.61	0.71	0.57	0.68
23	Zinc as Zn	mg/L	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)
24	Lead as Pb	mg/L	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)
25	Mercury as Hg	mg/L	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)
26	Nickel as Ni	mg/L	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)
27	Total Chromium as Cr	mg/L	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)	BDL (DL : 0.01)
Bacteriological Parameters														
28	Escherichia Coli (ECLO)	per100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
29	Faecal Coliform (FCLO)	per100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
30	Pseudomonas aeruginosa (PALO)	per100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
31	Streptococcus faecalis (SFA)	per100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
32	Shigella (SHLO)	per100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
33	Salmonella (SLO)	per100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
34	Total Coliform (TC)	per100m	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
35	Total Viable Count (TVC)	cfu/ml	12	18	09	15	14	21	19	28	24	36	31	45
36	Vibrio cholera (VC)	per100m	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
37	Vibrio parahaemolyticus (VPA)	per100m	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

CB - 1														
Month & Year			Oct - 23		Nov - 23		Dec - 23		Jan'24		Feb'24		Mar'24	
S.No	Parameters	Unit	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
38	Primary Productivity	mg C/m3 /hr	8.77	9.15	8.79	9.17	8.81	9.19	8.79	9.16	8.76	9.14	8.73	9.11
39	Chlorophyll a	mg /m3	6.17	6.79	6.19	6.81	6.21	6.84	6.18	6.82	6.15	6.78	6.12	6.75
40	Phaeopigment	mg /m3	2.93	3.57	2.94	3.59	2.96	3.62	2.93	3.58	2.91	3.55	2.88	3.52
41	Total Biomass	ml /100 m3	1.91	2.21	1.92	2.22	1.94	2.23	1.91	2.20	1.89	2.16	1.85	2.13
PHYTOPLANKTON														
42	Bacteriastrium hyalinum	nos/ml	25	20	29	17	31	19	28	17	25	14	23	11
43	Bacteriastrium varians	nos/ml	13	16	15	21	17	24	14	20	17	23	15	21
44	Chaetoceros didymus	nos/ml	17	13	19	16	21	17	28	21	25	16	27	18
45	Chaetoceros decipiens	nos/ml	13	21	10	19	12	23	17	29	22	31	20	26
46	Biddulphia mobiliensis	nos/ml	32	22	35	26	38	28	45	31	41	35	36	31
47	Ditylum brightwellii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
48	Gyrosigma sp	nos/ml	8	5	11	9	8	6	4	2	6	4	3	2
49	Cladophysis sps	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
50	Coscinodiscus centralis	nos/ml	28	23	33	24	31	22	38	29	35	24	33	21
51	Coscinodiscus granii	nos/ml	19	14	22	18	25	20	27	23	22	19	19	17
52	Cylotella sps	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
53	Hemidiscus hardmanianus	nos/ml	27	17	34	21	31	18	37	24	35	21	31	14
54	Laudaria annulata	nos/ml	33	25	29	22	27	20	29	23	25	20	21	15
55	Pyropacus horologicum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
56	Pleurosigma angulatum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
57	Leptocylindrus danicus	nos/ml	18	13	15	10	14	08	10	05	15	08	12	05
58	Guinardia flaccida	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
59	Rhizosolenia alata	nos/ml	25	16	30	19	34	21	28	17	33	15	29	11
60	Rhizosolenia impricata	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
61	Rhizosolenia semispina	nos/ml	25	21	21	16	24	19	31	24	34	27	30	24
62	Thalassionema nitzschioides	nos/ml	28	18	34	21	38	23	34	18	39	20	35	16
63	Triceratium reticulatum	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
64	Ceratium trichoceros	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
65	Ceratium furca	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
66	Ceratium macroceros	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
67	Ceracium longipes	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
ZOOPLANKTONS														
68	Acrocalanus gracilis	nos/ml	27	19	34	22	42	27	48	31	44	28	41	25
69	Acrocalanus sp	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
70	Paracalanus parvus	nos/ml	18	23	15	20	21	25	18	21	15	19	13	15
71	Eutintinus sps	nos/ml	5	3	9	5	9	4	7	5	9	4	13	7
72	Centropages furcatus	nos/ml	28	19	32	22	24	14	21	16	25	18	28	21
73	Corycaeus dana	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
74	Oithona brevicornis	nos/ml	24	32	20	28	20	27	24	35	29	38	27	35
75	Euterpina acutifrons	nos/ml	11	16	16	23	23	31	20	27	24	32	22	28
76	Metacalanus aurivilli	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
77	Copepod nauplii	nos/ml	17	12	19	13	18	13	16	10	11	05	08	03
78	Cirripede nauplii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
79	Bivalve veliger	nos/ml	25	21	31	26	29	27	33	29	27	25	24	21
80	Gastropod veliger	nos/ml	22	27	17	24	11	16	15	21	11	16	15	21

ANNEXURE - 9 RESULTS OF MARINE SEDIMENT QUALITY DATA

SEA SEDIMENT								
Location		CB - 1						
Month & Year		Uni	Oct - 23	Nov - 23	Dec - 23	Jan'24	Feb'24	Mar'24
S.No.	Parameters							
1	Total organic matter	%	0.57	0.54	0.51	0.54	0.59	0.62
2	% Sand	%	23	26	29	32	30	35
3	%silt	%	39	36	41	39	42	43
4	%Clay	%	38	38	30	29	28	22
5	Iron (as Fe)	mg/kg	18.9	17.8	19.5	17.8	18.6	20.3
6	Aluminium (as Al)	mg/kg	8852	8781	8452	8258	8324	8136
7	Chromium (as cr)	mg/kg	48	45	41	38	40	44
8	Copper (as cu)	mg/kg	43	41	38	35	37	39
9	Manganese (as Mn)	mg/kg	51	47	45	42	44	48
10	Nickel (as Ni)	mg/kg	44	42	38	36	39	41
11	Lead (as Pb)	mg/kg	16	14	11	08	11	13
12	Zinc (as Zn)	mg/kg	234	224	218	211	224	232
13	Mercury(as Hg)	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
14	Total phosphorus as P	mg/kg	135	131	124	121	114	116
15	Octane	mg/kg	BDL(D.L. 01)	BDL(D.L. 01)	BDL(D.L. 01)	BDL(D.L. 01)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
16	Nonane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
17	Decane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
18	Undecane	mg/kg	0.48	0.43	0.39	0.34	0.37	0.39
19	Dodecane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
20	Tridecane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
21	Tetradecane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
22	Phntadecane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
23	Hexadecane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
24	Heptadecane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
25	Octadecane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
26	Nonadecane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
27	Elcosane	mg/kg	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)	BDL(D.L. 0.1)
I. Nematoda								
28	Oncholaimussp	mg/kg	32	35	32	38	36	31
29	Tricomasp	mg/kg	25	27	24	26	23	20
II. Foraminifera								
30	Ammonia beccarii	mg/kg	21	17	19	15	13	11
31	Quinulinasp	mg/kg	32	29	33	30	27	25
32	Discorbinellasp.,	mg/kg	24	28	30	34	31	29
33	Bolivinaspathulata	mg/kg	19	21	23	25	23	21
34	Elphidiumsp	mg/kg	18	23	27	21	18	15
35	Noniondepressula	mg/kg	22	26	29	31	28	26
III. Molluscs-Bivalvia								
36	Meretrixveligers	mg/kg	34	38	35	28	24	22
37	Anadoraveligers	mg/kg	15	18	15	13	11	08
	Total No. of individuals	mg/kg	242	262	267	261	234	208
	Shanon Weaver Diversity Index	mg/kg	2.27	2.27	2.28	2.26	2.25	2.24




ANNEXURE - 2

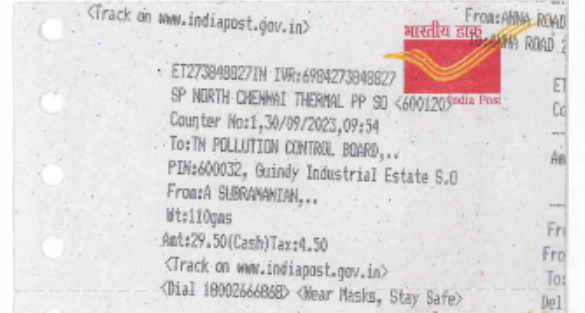
**ANNUAL ENVIRONMENT STATEMENT
2022-23**

AECTPL/ENV/TNPCB/ES/2023/26

Date: 23.09.2023

To,

The Member Secretary,
Tamil Nadu Pollution Control Board,
76, Mount Salai,
Guindy,
Chennai - 600 032



Dear Sir,

Sub: Submission of Environmental Statement (Form V) for the financial year ending 31st March, 2023 of Adani Ennore Container Terminal Private Limited (AECTPL) - Reg.

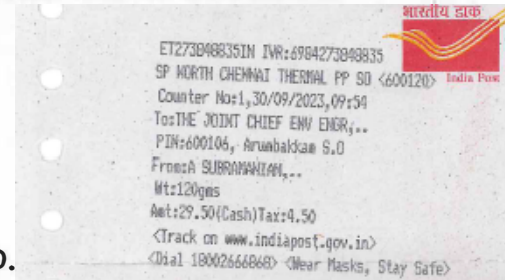
Ref: 1. Consent to Operate Order No. 2108136876855 dated 24.08.2021 under Water Act
2. Consent to Operate Order No. 2108236876855 dated 24.08.2021 under Air Act

With reference to the captioned subject and cited references above, we submit herewith the Environmental Statement of M/s Adani Ennore Container Terminal Private Limited, in Form-V prescribed under Rule 14 of the Environment (Protection) Rules 1986 for the financial year ending 31st March 2023.

Submitted for your kind information and records.

Thanking you,

For, M/s. ADANI ENNORE CONTAINER TERMINAL PRIVATE LIMITED.



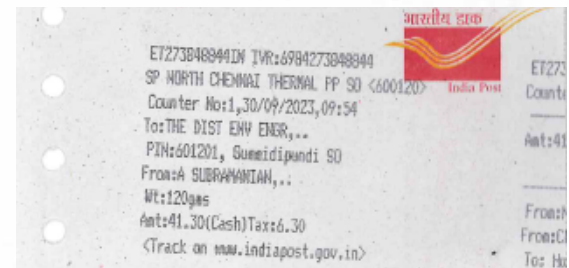

Sudip Dasgupta
Chief Executive Officer



Enclosure: as above

Copy To:

- 1) The Joint Chief Environmental Engineer, Tamilnadu Pollution Control Board, First Floor, 950/1, Poonamallee High Road, Arumbakkam, Chennai-600 106
- 2) The District Environmental Engineer, Tamil Nadu Pollution Control Board, Gummidipoondi - 601201.



Adani Ennore Container Terminal Pvt Ltd
Adani House
C/o. Kamarajar Port Limited
Ponneri Taluk, Tiruvallur District
Tamil Nadu- 600 120.

Tel +91 44 2824 3062

info@adani.com
www.adani.com

CIN: U61200GJ2014PTC078795



Form-V

(See rule 14 of Environment (Protection) Rules, 1986)

Environmental Statement for the financial year ending 31st March 2023

PART - A

i) Name and Address of the owner / occupier of the industry operation or process	:	Mr. Sudip Dasgupta Chief Executive Officer Adani Ennore Container Terminal Private Limited C/O Kamarajar Port Limited Vallur Post, Ennore Thiruvallur District- 600 120 Tamil Nadu, India
ii) Industry Category	:	Primary : Red Secondary : 1065 - Ports and Harbour, Jetties and Dredging Operations.
iii) Production Capacity	:	Cargo Handling Capacity : 11.68 MMTPA of Container cargo
iv) Year of establishment	:	2016
v) Date of the last environmental statement submitted	:	Vide our Letter No. AECTPL/TNPCB/2022-23/128 dated 22.09.2022

PART - B

WATER AND RAW MATERIAL CONSUMPTION

(i) Water Consumption

S. No	Water Consumption (m³/Calendar Day)	2021-2022	2022-2023
1.	Process	NIL	NIL
2.	Cooling	NIL	NIL
3.	Domestic	12.6	12.1

(ii) Raw Material Consumption

S. No.	Name of Raw Material	Name of Products	Consumption of Raw Material per Unit of output	
			During the previous financial year (2021-22)	During the current financial year (2022-23)
1	Not Applicable	Not Applicable	NIL	NIL

The unit does not undergo any manufacturing process. Hence, there is no raw material consumption.

PART - C

POLLUTION DISCHARGE TO ENVIRONMENT/ UNIT OF OUTPUT

(Parameters as specified in the consent issued)

Pollutants	Quality of Pollutants Discharged (Mass/day)	Concentration of Pollutants discharges (mass/volume)	Percentage of variation from prescribed standards with reason	
a) Water	STP Treated Water Characteristics: -			
	Parameter	Consent Limit	Actual	% Variation with prescribed standard
	pH	5.5-9	7.6	-Nil-
	Total Suspended Solids (mg/l)	30	25.83	-Nil-
	BOD (3 days at 27°C) (mg/l)	20	19.18	-Nil-
Fecal Coliform (MPN/100ml)	1000	214.17	-Nil-	
b) Air	<p>DG sets are provided as standby power source and are used during power failure only. The Height of DG stacks as per CPCB/ TNPCB Standards. All the monitored parameters are within standards.</p> <p>All the DG Sets are retrofitted to reduce the Particulate Matter emission level. Efficiency of the retrofitting equipment is observed above 90% against the TNPCB requirement of >70%.</p> <p>All the monitored parameters are well within the prescribed standards.</p>			
	Particulate Matter (mg/Nm ³)	DG stack emission report is enclosed as Annexure 1		
	Sulphur Dioxide (mg/Nm ³)			
	Nitrogen Oxide (ppm)			

PART-D

HAZARDOUS WASTES

(As specified under Hazardous Waste Management and Handling Rules 1989)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous Financial Year (2021-22)	During the current Financial Year (2022-23)
(a) From Process	<ul style="list-style-type: none">Used/Spent Oil (5.1) – 2500 Liters (2.268 Tons)Wastes or residue containing oil (5.2) - 800 Liters (0.72 Tons)	Nil
(b) From Pollution control facilities	NA	NA

PART-E

SOLID WASTES

TOTAL QUANTITY GENERATED			
Solid Waste		During the previous Financial Year (2021-22)	During the current Financial Year (2022-23)
a)	From process	NIL	NIL
b)	From pollution control facilities- STP	99.3 kgs	106.8 kgs
c)	1. Quantity recycled or reutilized within the Unit	99.3 kgs	106.8 kgs
	2. Sold	NIL	NIL
	3. Disposed	NIL	NIL

PART-F

Please specify the characterization (in terms of Composition and quantum) of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes:

- **"Zero Waste to Landfill" Initiative** – No waste is being sent to landfill or incineration facility. AECTPL is having Integrated Waste Management System (IWMS) to proper segregate & recover the materials and are handled as per 5R (Reduce, Reuse, Recycle, Recover and Reprocess) principle.
- AECTPL has awarded with Zero Waste to Landfill Management System (ZWTL MS 2020) from TÜV Rheinland India Pvt. Ltd (Annexure – 2).
- Hazardous wastes include Used oil, Filters contaminated with Oil and Empty barrels / containers contaminated with hazardous wastes. All the hazardous wastes are collected and stored properly in Integrated Waste Management Shed & are being disposed to TNPCB authorized /registered recyclers in line with Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016 (As amended).
- The used batteries and E –wastes are also stored in Integrated Waste Management Shed and disposed off through approved vendor in line to E-Waste Management Rules 2016 (as amended).
- Hazardous waste Annual returns in Form 4 was submitted in line with the Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016.
- E-waste returns in Form 3 was submitted in line with the E-waste Management Rules, 2016.
- 100% utilization of STP sludge for greenbelt maintenance as manure.
- AECTPL certified as "Single Use Plastic (SUP) Free" site from CII –ITC Centre of Excellence for Sustainable Development.

PART-G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production

- Adani Ennore Container Terminal Private Limited is having electrified cranes only and hence the diesel consumption by the cranes is eliminated completely.
- All the DG Sets are retrofitted to reduce the Particulate Matter emission level. Efficiency of the retrofitting equipment is observed above 90% against the TNPCB requirement of >70%.
- All the domestic wastewaters being generated at port is treated at existing sewage treatment plant and the treated water is being reused within port premises for gardening/horticulture purpose.
- Sewage Treatment Plant (STP) is in continuous operation and the treated effluent water quality is meeting the TNPCB norms. The total cost spent on STP operation during the year 2022-23 is Rs. 6.11 Lakhs.
- Regular Environmental monitoring is being carried out through NABL accredited laboratory. All the monitored environmental parameters are well within the prescribed norms & the details of monitored data is being submitted regularly to TNPCB, CPCB, MoEF&CC and other concerned authorities.
- Unit is continuously developing and maintaining Greenbelt within the port premises.
- Implemented Integrated Waste Management System (IWMS) for managing all types of wastes in line with 5R (Reduce, Reuse, Recycle, Recover and Reprocess) principle.

PART-H

Additional measures/investment proposal for Environmental protection including abatement of pollution, prevention of pollution.

<u>Regular Expenditure (Cost in INR lakhs/year)</u>		
S. No.	Description	Cost
1	Environmental monitoring & Environment Studies	12.28
2	Green belt & Horticulture development	5.11
3	Annual maintenance contractor of STP operation	6.11
4	Operation & Maintenance of Integrated Waste Management System	3.14
5	Housekeeping	8.27

PART-I

ANY OTHER PARTICULARS IN RESPECT TO ENVIRONMENT

- Handling of all types of wastes in line with 5R (Reduce, Reuse, Recycle, Recover and Reprocess) Principle.
- Paperless Operation is in place (Except for Statutory requirements) using application tools and Software – Terminal Info Gateway (TIG).
- Energy Conservation Committee to measure the amount of energy consumed and take actions to reduce the energy consumed through port operations
- Water Warriors committee to identify and reduce the water consumption. The committee would propose innovative water solutions.
- Integrated Management System (ISO 9001:2015, 14001:2015, 45001:2018 and 50001:2018) certified Port.
- Obtained “5S” Certification at MIDPL
- AECTPL is bestowed with the top honors and the details of accolades received during the year 2022-23 are mentioned here under (photos attached at **Annexure-3**);
 - EKDKN’s “**Platinum Award**” under **Environment Improvement** category

- **Community Development:**

Kattupalli Port has been propagating the community development through a broad based Corporate Social Responsibility (CSR) program in the project area through Adani Foundation since 2018 to ensure inclusive growth and catering to the developmental needs of the community at the grassroots level. The *project area encompasses 11 panchayats covering about 46 villages within 10 Km radius of the Kattupalli Port*. The key interventions introduced in the project area are as under:

- Education
- Community Health
- community Infrastructure facility
- Sustainable Livelihood development
- Tree Plantation & Bio-Diversity development program
- Special Focus Groups
- COVID / Cyclone relief measures

Significant highlights during the year 2022-23 are as follows.

Education: 20 Adani Evening Education Centers where 600 students from fishermen, Irulars and other backward communities get benefit through this program.

Established Computer Smart Lab for government school students, where 450 students get benefit through this program, Pulicat Panchyat, Minjur and Tiruvallur, Tamilnadu.

Health: Addressing health issues of rural communities through mobile health care program where 1600 persons get benefit every month through this program.

Suposhan: Creating awareness and preventing unwanted health issues faced by mothers and children below 5 years of age working closely with government system and ensuring to improve the health condition of the children below 5 years of age.

Sustainable Livelihood Development: Natural Farming: Ensuring 100 farmers do natural farming by assisting them to ensure to adopt and implement the natural farming protocols as per the norms of government where government will certify them under PGS program.

Livelihood Enhancement program for 121 women through group based entrepreneurship program and providing livelihood support to 30 individuals- widows, destitute and persons with disabilities.

Community Infrastructure Development: Installed 10 high mast lights in the rural communities, Established 6 RO plants in the community, Government Schools and Government Hospitals in addressing to access to drinking water, Community Toilet for women was constructed, Desilted Kattupalli pond and gave life to the pond, built toilet block for girl students of government school students, Pulicat Panchayats which will be benefited by girl students from four panchayats, planned to build a community hall for Satangkuppam and to do Desiltation of boat parking areas of fishermen in 18 locations.

Date: 23.09.2023

(Signature of a person carrying out an industry operation or process)

Name : **Sudip Dasgupta**

Designation: **Chief Executive Officer**

Address : Adani Ennore Container Terminal Pvt Ltd
C/O Kamarajar Port Limited
Vallur post, Ennore
Thiruvallur District- 600 120.



ANNEXURE - 1

AECTPL- STACK MONITORING (April'2022 to March'2023)													
Location		DG - 1 1500KVA											
Month & Year		Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
S.No.	Parameters	20.04.22	21.05.22	19.06.22	21.07.22	19.08.22	16.09.22	22.10.22	16.11.22	27.12.22	24.01.23	17.02.23	24.03.23
1	Stack Temperature, °C	241.0	253.0	240.0	228.0	218.0	221.0	237.0	214.0	225.0	216.0	210.0	207.0
2	Flue Gas Velocity, m/s	23.3	24.1	24.9	23.5	21.1	22.4	24.0	22.1	21.3	21.0	22.8	22.6
3	Gas Discharge, Nm ³ /hr	6124.0	6159.0	6520.0	6316.0	5771.0	6093.0	6342.0	6096.0	5739.0	5771.0	6346.0	6340.0
4	Sulphur Dioxide, mg/Nm ³	7.5	7.9	7.4	6.9	6.0	6.9	8.1	7.8	7.0	7.7	6.4	6.3
5	NOX (as NO ₂) in ppmv	136.0	142.0	135.0	122.0	110.0	118.0	129.0	117.0	98.0	98.0	92.0	87.0
6	Particular matter, mg/Nm ³	11.0	9.6	8.2	8.9	8.1	9.2	8.5	9.3	7.4	31.6	8.5	11.3
7	Carbon Monoxide, mg/Nm ³	38.0	40.0	38.0	33.0	35.0	37.0	34.0	31.0	28.0	68.0	30.0	41.0
Location		DG-2 1500KVA											
Month & Year		Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
S.No.	Parameters	20.04.22	21.05.22	19.06.22	21.07.22	19.08.22	16.09.22	22.10.22	16.11.22	27.12.22	24.01.23	17.02.23	24.03.23
1	Stack Temperature, °C	230.0	-	-	238.0	244.0	231.0	219.0	210.0	218.0	214.0	231.0	125.0
2	Flue Gas Velocity, m/s	22.0	-	-	23.9	23.1	23.8	22.0	22.5	22.0	20.7	21.0	13.2
3	Gas Discharge, Nm ³ /hr	5879.0	-	-	6295.0	6004.0	6362.0	6005.0	6262.0	6052.0	5720.0	5595.0	626.0
4	Sulphur Dioxide, mg/Nm ³	7.1	-	-	8.4	8.7	9.2	7.8	7.3	6.5	7.3	7.8	6.1
5	NOX (as NO ₂) in ppmv	130.0	-	-	136.0	139.0	132.0	115.0	104.0	94.0	93.0	96.0	76.0
6	Particular matter, mg/Nm ³	9.6	-	-	9.4	10.3	9.8	7.4	8.1	7.6	8.6	7.0	9.7
7	Carbon Monoxide, mg/Nm ³	35.0	-	-	39.0	41.0	37.0	30.0	27.0	25.0	31.0	36.0	32.0

Location		DG-3 1500KVA											
Month & Year		Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
S.No.	Parameters	20.04.22	21.05.22	19.06.22	21.07.22	19.08.22	16.09.22	22.10.22	16.11.22	27.12.22	24.01.23	17.02.23	24.03.23
1	Stack Temperature, °C	-	-	-	221.0	230.0	218.0	227.0	221.0	-	-	-	-
2	Flue Gas Velocity, m/s	-	-	-	22.1	20.7	21.7	22.8	20.7	-	-	-	-
3	Gas Discharge, Nm3/hr	-	-	-	6004.0	5531.0	5938.0	6121.0	5632.0	-	-	-	-
4	Sulphur Dioxide, mg/Nm3	-	-	-	8.0	8.4	8.6	8.0	6.9	-	-	-	-
5	NOX (as NO2) in ppmv	-	-	-	128.0	132.0	125.0	122.0	115.0	-	-	-	-
6	Particular matter, mg/Nm3	-	-	-	8.0	9.5	9.0	9.6	9.0	-	-	-	-
7	Carbon Monoxide, mg/Nm3	-	-	-	36.0	39.0	35.0	38.0	33.0	-	-	-	-
Location		DG-4 125KVA											
Month & Year		Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
S.No.	Parameters	20.04.22	21.05.22	19.06.22	21.07.22	19.08.22	16.09.22	22.10.22	16.11.22	27.12.22	24.01.23	17.02.23	24.03.23
1	Stack Temperature, °C	-	129.0	121.0	118.0	123.0	120.0	125.0	120.0	-	-	-	-
2	Flue Gas Velocity, m/s	-	12.5	12.0	12.5	13.2	14.7	13.2	13.0	-	-	-	-
3	Gas Discharge, Nm3/hr	-	586.0	578.0	603.0	630.0	709.0	626.0	623.0	-	-	-	-
4	Sulphur Dioxide, mg/Nm3	-	4.0	4.2	4.4	4.6	5.0	5.4	5.1	-	-	-	-
5	NOX (as NO2) in ppmv	-	56.0	50.0	56.0	59.0	62.0	57.0	50.0	-	-	-	-
6	Particular matter, mg/Nm3	-	4.9	4.5	4.8	4.5	5.4	5.0	5.5	-	-	-	-
7	Carbon Monoxide, mg/Nm3	-	21.0	17.0	19.0	21.0	23.0	21.0	19.0	-	-	-	-



Certificate

Standard: **Zero Waste to Landfill Management System (ZWTL MS 2020)**

Certificate Holder: **Adani Ennore Container Terminal Private Limited**
Ennore Terminal, C/O Kamarajar Port Ltd,
Tiruvallur - 600120, Tamil Nadu, India

Scope: **Providing Port facilities for Handling and Storage of Containerized Cargo**

Validity: This certificate is valid from 01-06-2021 until 31-05-2024
Subject to satisfactory annual surveillance audits.

Certificate No. TUV/ZWLMS/2021/Adani Ports/0503

A handwritten signature in black ink, appearing to be 'Gang...'.

New Delhi, 01-06-2021

TÜV Rheinland India Pvt. Ltd.
Office 610, 6th Floor, iThum
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Noida- 201301, India

Sustainable Development Foundation - Platinum Award - 2022

