

Subramanian A

From: Subramanian A
Sent: Wednesday, May 31, 2023 11:27 PM
To: eccompliance-tn@gov.in
Cc: monitoring-ec@nic.in; ssuresh.cpcb@nic.in; memsec@tnpcb.gov.in; DEE
Gummidipoondi; Subramanian A
Subject: MIDPL - Kattupalli Port, Chennai - Bifurcation of EC&CRZ Clearance vide F. No 10-130/2007 – IA.III - Half Yearly Compliance Report for the period of October 2022 to March 2023 – Reg.
Attachments: MIDPL HYC (Oct'22 to Mar'23).pdf

MIDPL/ENV/MoEF/EC-HYC/2023/16
31.05.2023

Date:

Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office
Ist and IInd Floor, Handloom Export Promotion Council,
34, Cathedral Garden Road, Nungambakkam,
Chennai - 600 034. Email : eccompliance-tn@gov.in

Dear Madam / Sir,

Sub: CRZ and Environmental Clearance for the development of proposed Shipyard-cum- Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District. Tamil Nadu by M/s Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance - Half yearly Compliance report for the period of October 2022 to March 2023 – Reg.

Ref: CRZ & Environmental Clearance for the development of proposed Port at Kattupalli, Tiruvallur District of Tamil Nadu by M/s Marine Infrastructure Developer Pvt. Limited – bifurcation of EC&CRZ Clearance vide F. No 10-130/2007 – IA.III dtd. 9th February 2018

With reference to the captioned subject and cited reference above; we herewith submitting the Half yearly compliance report for the compliance period **October 2022 to March 2023** to the conditions stipulated in the cited reference for your kind information and records.

Thanking you,

for **M/s. Marine Infrastructure Developer Private Ltd**

Subramanian A
Assistant Manager- Environment

Marine Infrastructure Developer Private Limited | Adani Ennore Container Terminal Pvt Ltd.

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with
Goodness

Our Values: Courage | Trust | Commitment



MIDPL/ENV/MoEF/EC-HYC/2023/16

Date: 31/05/2023

To

Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest & Climate Change,
Regional Office (South Eastern Zone),
1st and 2nd Floor, Handloom Export Promotion Council,
34, Cathedral Garden Road, Nungambakkam,
Chennai – 600 034. Email : eccompliance-tn@gov.in

Dear Sir,

Sub: Half yearly Compliance report of Environment and CRZ Clearance for the development of proposed Port at Kattupalli, Tiruvallur District of Tamil Nadu by M/s Marine Infrastructure Developer Pvt. Limited for the period of ~~October 2022~~ to March 2023 – Reg.

Ref: CRZ & Environmental Clearance for the development of proposed Port at Kattupalli, Tiruvallur District of Tamil Nadu by M/s Marine Infrastructure Developer Pvt. Limited – bifurcation of EC&CRZ Clearance vide F. No 10-130/2007 – IA.III dtd. 9th February 2018.

With reference to the captioned subject and cited reference above; we herewith submitting the **Half yearly compliance report** for the compliance period **October 2022 to March 2023** to the conditions stipulated in the cited reference for your kind information.

Submitted for your kind information and records.

Thank you,

for, **M/s. Marine Infrastructure Developer Pvt Ltd**


Ramde Karangiya
Terminal Head



Encl: As above

Copy to:

1. The Director (Monitoring –IA-III Division), Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 110003 (Email : monitoring-ec@nic.in)
2. Zonal Office, Central Pollution Control Board, A-Block, Nisarga Bhavan, 1st and 2nd Floors, 7th D Cross, Thimmaiah Road, Shivanagar, Bengaluru, Karnataka 5600879 (Email : ssuresh.cpcb@nic.in)
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032 (Email : tnpcbmembersecretary@gmail.com)
4. The District Environmental Engineer, Tamil Nadu Pollution Control Board, No.88 A, SIPCOT Industrial Complex, Gummidipoondi, Tiruvallur District -601 201. (Email : deegummidipoondi@gmail.com)
5. Member Secretary TNCZMA & Director – Dept of Environment, No.1, Jeenis Road, Panagal Building, Ground Floor, Saidapet, Chennai -600 015. (Email : tndoe@nic.in)

Marine Infrastructure Developer Pvt Ltd
(Kattupalli Port)
Kattupalli Village, Ponneri Taluk,
Tiruvalluvar District 600 120,
Tamil Nadu, India

Tel +91 44 2824 3062

CIN: U74999TN2016PTC103769



Ports and
Logistics

**MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED (MIDPL)
KATTUPALLI PORT, ADANI PORTS AND SPECIAL ECONOMIC ZONE
TIRUVALLUR DISTRICT, CHENNAI- 600 120
TAMIL NADU**



CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]

Compliance Report
for the Period
OCTOBER 2022 TO MARCH 2023

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

Index

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	Annexure III	Environmental Monitoring reports for the period October 2022 to March 2023
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Ports and
Logistics

Marine Infrastructure Developer Pvt Ltd

**From: October 2022
To : March 2023**

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance.

**CRZ & ENVIRONMENTAL CLEARANCE
COMPLIANCE REPORT
(October 2022 to March 2023)**

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
Specific Conditions		
(i)	The proponent shall comply all the conditions stipulated in the letter R.C.No. P1/2004/2008, dated 21.10.2008 of the Department of Environment, Chennai.	Complied. Compliance to letter R.C.No. P1/2004/2008, dated 21.10.2008, is enclosed as Annexure -I .
(ii)	The proponent shall comply all the commitment made vide his letter No. D/Shipyard/00/07 dated 20.03.2009.	Complied This EC is just a bifurcation of original EC of LTSB in name of MIDPL & LTSB. All applicable commitments, w.r.t letter No. D/Shipyard/00/07 dated 20.03.2009 like provision of fire station, independent port connectivity, and no reclamation on areas outside port, non-usage of Tri Butyl Tin [TBT] and treatment of wastewater in STP and recycling, disposal of hazardous waste to authorised recyclers are being complied.
(iii)	Provision shall be made for the housing of Construction labour within the site with all necessary infrastructure and facilities such as fuel or cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied. All the construction works are completed, and the port is in operation phase.
(iv)	There shall be no withdrawal of groundwater in Coastal Regulation Zone area, for this project. In any case any ground water is proposed to be withdrawn from outside the CRZ area, specific prior permission from the concerned State /Central	Complied. No withdrawal of groundwater from CRZ Area. Presently Port is procuring Desalinated water from M/s. Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), Chennai. In case of any requirement of Groundwater withdrawal outside the


Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
	Groundwater board shall be obtained in this regard.	CRZ Area, prior permission will be obtained from State/Central Groundwater Board.
(v)	No dumping of dredging materials in the sea shall be undertaken. In case of sea dumping required, an integrated Modelling study to be carried out to locate the dump site so that it does not cause any problem to Ennore port.	Complied. No maintenance dredging activity carried out during the compliance period October 2022 to March 2023.
(vi)	Shoreline changes due the project shall be monitored continuously nourishment of northern shoreline shall be carried out using the sediments from beach acceleration on the southern shoreline.	Complied. MIDPL has engaged Institute of Ocean Management, Anna University, Chennai for shoreline Change study and the report is under preparation for the year 2022. However, Report for the year 2020 is submitted along with Half Yearly Compliance Report for the period Oct'19-Mar'20 vide our Letter No. MIDPL / EC – HYC / 2020 / 11 dated 31.05.2020.
(vii)	Suitable Screens shall be installed between the construction area and the intakes so that operations of the intakes are not affected by the construction activity.	Complied. Works are completed, and the port is in operation phase. No impact envisaged.
(viii)	At least a distance of 100 meters shall be provided between intake of Chennai Water Desalination Ltd. (CWDL) and north edge of the northern breakwater as agreed in the meeting between the proponent and CWDL	Complied. Distance maintained as agreed.

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
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S. No.	Conditions	Compliance Status
		
(ix)	Independent port connectivity shall be developed.	<p>Complied.</p> <p>An independent port connectivity has been developed. Kattupalli Port is having a dedicated road connectivity connecting State Highways and National Highways. NH-5 (Chennai – Kolkata) is about 30 km from Port. The cargo handled are directly goes to the roads mentioned above which are outside the City Limits of Chennai. Handling of cargo in Kattupalli Port does not affect the regular traffic.</p> <p>The Outer Ring Road from NH-45 connecting NH 4 – NH 205 – NH 5 is getting take-off from Minjur. Further, the Outer ring road is proposed to be connected to Section I (NPAR Project) of Chennai Peripheral Ring Road on an extent of 134 km starting from Kattupalli to Mahabalipuram. The project is getting commenced shortly, which will further enhance the cargo carrying capacity of Kattupalli Port.</p> <p>Kattupalli Port is located Close proximity to majority of CFSs serving immediate hinterland and enabling faster evacuation of cargo.</p>
(x)	Rehabilitation if any shall be carried out as per law / State Government.	Complied.



Ports and
Logistics

Marine Infrastructure Developer Pvt Ltd

**From: October 2022
To : March 2023**

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
		Rehabilitation was carried out completely as per law / State Government at the time of project implementation by M/s. LTSB.

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

(xi) Fire station shall be located within the project area

Complied.

MIDPL is having dedicated fire station inside the port premises with fire tender (1 No) and 15-member fire crew (DCPO – 3 Nos, Firemen – 11 Nos, and Supervisor – 1 No).

Further, the following infrastructures are well established to strengthen the firefighting system

- 309 Nos of Fire Extinguishers (ABC, Foam, CO2) fixed in various locations in the port (with 10% additional stock) and 33 Sand Buckets.
- Fire water pumphouse with an underground storage tank of 12 lakhs Liters capacity with 5 pumps (2 Electrical, 2 Diesel and 1 Jockey Pump).
- Sea water pump house with 3 Nos of vertical pumps, 2 Nos of Jockey pump and 2 Nos of Foam Pumps (1 Electrical and 1 DG pump)
- fire hydrant points (76 Single Hydrant Points & 26 Double Hydrant Points), 4 Tower Monitors, 3 Water monitors and 20 water cum foam monitors are placed at various strategic locations.

MIDPL is facilitated with a Fire Tender with the following features:

- Water Tank Capacity – 5500 Its
- Foam Tank Capacity – 500 Its
- DCP Extinguishers - 75 kg – 2nos
- CO₂ Extinguishers - 22.5 kg – 4nos
- BA Set - 1no (Oxygen cylinder 2nos)



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**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
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S. No.	Conditions	Compliance Status															
(xii)	The Hazardous waste generated shall be properly collected and handled as per the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.	<p>Complied.</p> <p>Hazardous wastes generated are properly collected and handled inline to Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 as amended. Details of the same are submitted to TNPCB as a part of Hazardous waste annual return (Form 4) on regular basis.</p> <p>Annual Hazardous Waste Return for FY 2021-22 is attached as Annexure – II.</p>															
(xiii)	The wastewater generated from the activity shall be collected, treated and reused properly.	<p>Complied.</p> <p>MIDPL is operating ETP of 50 KLD capacity to treat the effluent generated from Liquid Tank Washings and 3 STPs of capacity 30KLD, 10KLD & 5KLD at various locations inside the port premises to treat the maximum wastewater flow of 45KLD.</p> <p>Domestic wastewater generated from various sources such as washing water from canteen and toilet flushing water from office buildings are being collected, treated in STP's and 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>Average quantity of Sewage water treated in STPs during the compliance period is as furnished below.</p> <table border="1"> <thead> <tr> <th>Location</th><th>STP/ETP Capacity</th><th>Avg. Quantity of Sewage Water Treated (Oct'22 to Mar'23)</th></tr> </thead> <tbody> <tr> <td>Near IWMS</td><td>STP 30 KLD</td><td>14.1 KLD</td></tr> <tr> <td>Near CFS</td><td>STP 5 KLD</td><td>0.9 KLD</td></tr> <tr> <td>Near Liquid Terminal</td><td>STP 10 KLD</td><td>2.2 KLD</td></tr> <tr> <td>Near Liquid Terminal</td><td>ETP 50 KLD</td><td>0.2 KLD</td></tr> </tbody> </table>	Location	STP/ETP Capacity	Avg. Quantity of Sewage Water Treated (Oct'22 to Mar'23)	Near IWMS	STP 30 KLD	14.1 KLD	Near CFS	STP 5 KLD	0.9 KLD	Near Liquid Terminal	STP 10 KLD	2.2 KLD	Near Liquid Terminal	ETP 50 KLD	0.2 KLD
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Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]

S. No.	Conditions	Compliance Status																																																																						
		<p>The monitoring results for the period October'22 to March'23 is enclosed as Annexure - III.</p> <p>Summary of STP & ETP treated water analysis results during compliance period as mentioned below.</p> <table><tr><th colspan="5">STP TREATED WATER ANALYSIS REPORT(AVG)</th></tr><tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>TNPCB Limit</th></tr><tr><td>pH</td><td>-</td><td>6.45</td><td>8.02</td><td>6.5 to 9</td></tr><tr><td>TSS</td><td>mg/l</td><td>6</td><td>21</td><td>30</td></tr><tr><td>BOD</td><td>mg/l</td><td>3.4</td><td>16</td><td>20</td></tr><tr><td>COD</td><td>mg/l</td><td>16</td><td>68</td><td>100</td></tr><tr><td>Faecal Coliform</td><td>MPN/100ml</td><td>110</td><td>260</td><td><1000</td></tr></table> <table><tr><th colspan="5">ETP TREATED WATER ANALYSIS REPORT(AVG)</th></tr><tr><th>Parameter</th><th>Unit</th><th>RO-1</th><th>RO-2</th><th>TNPCB Limit</th></tr><tr><td>pH</td><td>-</td><td>8.61</td><td>8.58</td><td>6.5 to 9</td></tr><tr><td>TSS</td><td>mg/l</td><td>20</td><td>6.4</td><td>200</td></tr><tr><td>TDS</td><td>mg/l</td><td>1500</td><td>606</td><td>2100</td></tr><tr><td>BOD</td><td>mg/l</td><td>10</td><td>3.3</td><td>100</td></tr><tr><td>Oil & Grease</td><td>mg/l</td><td>BDL</td><td>BDL</td><td>10</td></tr></table> <p>All the parameters are well within the prescribed norms.</p> <div><div></div><div></div><div></div></div> <div></div>	STP TREATED WATER ANALYSIS REPORT(AVG)					Parameter	Unit	Min	Max	TNPCB Limit	pH	-	6.45	8.02	6.5 to 9	TSS	mg/l	6	21	30	BOD	mg/l	3.4	16	20	COD	mg/l	16	68	100	Faecal Coliform	MPN/100ml	110	260	<1000	ETP TREATED WATER ANALYSIS REPORT(AVG)					Parameter	Unit	RO-1	RO-2	TNPCB Limit	pH	-	8.61	8.58	6.5 to 9	TSS	mg/l	20	6.4	200	TDS	mg/l	1500	606	2100	BOD	mg/l	10	3.3	100	Oil & Grease	mg/l	BDL	BDL	10
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(xiv)	Sewage Treatment Facility should be provided in accordance with the CRZ Notification.	<p>Complied.</p> <p>Sewage Treatment Plants (3 Nos) with total capacity of 45 KLD are provided in accordance with the CRZ notification.</p> <p>Domestic wastewater generated from various sources such as washing water from canteen and toilet flushing water from office buildings are being collected, treated in STP's and the entire treated sewage water is reused for green belt maintenance inside the port premises after confirming permissible limit. Inlet & outlet characteristic of Sewage water is regularly monitored and analysed by NABL accredited laboratory.</p> <div><div><div>30 KLD STP</div></div><div><div>10 KLD STP</div></div><div><div>5 KLD STP</div></div></div> <p>Summary of STP treated water analysis results during compliance period as mentioned below.</p> <table><tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>TNPSB Limit</th></tr><tr><td>pH</td><td>-</td><td>6.45</td><td>8.02</td><td>6.5 to 9</td></tr><tr><td>TSS</td><td>mg/l</td><td>6</td><td>21</td><td>30</td></tr><tr><td>BOD</td><td>mg/l</td><td>3.4</td><td>16</td><td>20</td></tr><tr><td>COD</td><td>mg/l</td><td>16</td><td>68</td><td>100</td></tr><tr><td>Faecal Coliform</td><td>MPN/100ml</td><td>110</td><td>260</td><td><1000</td></tr></table> <p>The monitoring results for the period October'22 to March'23 is enclosed as Annexure - III.</p> <p>All the parameters are well within the prescribed norms.</p>	Parameter	Unit	Min	Max	TNPSB Limit	pH	-	6.45	8.02	6.5 to 9	TSS	mg/l	6	21	30	BOD	mg/l	3.4	16	20	COD	mg/l	16	68	100	Faecal Coliform	MPN/100ml	110	260	<1000
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**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
(xv)	No Solid Waste will be disposed of in the Coastal Regulatory Zone area. The Solid Waste shall be properly collected segregated and disposed as per the provision of Solid Waste Management Rules, 2016.	<p>Complied.</p> <p>No solid waste is being disposed of in the CRZ area. All the solid waste generated is properly collected, source-segregation of all types of Solid Waste is practised and are disposed as per the provision of Solid Waste Management Rules 2016, as amended.</p> <p>Solid Waste Management:</p> <p>MIDPL Kattupalli Port certified as "Zero Waste to Landfill" Port from CIL. To achieve this milestone, various sources of waste and their sustainable waste management techniques were identified. Having understood the entire concept of "Zero Waste to Landfill", a firm commitment was given by the top management to implement the sustainable waste management techniques.</p> <p>A well-established Integrated waste Management system is in place and all wastes are being handled inline to 5R principle (Reduce, Reuse, Reprocess, Recycle & Recover).</p> <div style="display: flex; justify-content: space-around;">   </div> <p>All the wastes (non-hazardous and hazardous) generated from the port activities are collected, segregated and stored in the designated compartments in Integrated Waste Management Shed (IWMS).</p>

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		<p>Non-Hazardous Waste Management:</p> <p>All types of non-hazardous wastes like paper, wood, metal scraps, etc., generated from port area are being handled, stored, and disposed thorough vendors in line with 5R principle. The method of non-hazardous waste disposal is presented below.</p> <table><tr><th>S.No.</th><th>Type of waste</th><th>Storage Location within port</th><th>Method of disposal</th></tr><tr><td>1.</td><td>Dry Waste (Paper, Plastic, Metal waste, etc.)</td><td>IWMS</td><td>Material recovery Sent for Recycling</td></tr><tr><td>2.</td><td>Wet Waste (Food Waste)</td><td>Biogas Unit</td><td>Reprocess</td></tr><tr><td>3.</td><td>Solid waste Dry and Wet port</td><td>Daily Disposal</td><td>Dry and Wet Waste separately for material recovery and composting respectively.</td></tr><tr><td>4.</td><td>Sludges</td><td>STPs</td><td>Reprocessed for gardening manure</td></tr></table> <p>Hazardous & Other Waste Management:</p> <p>Hazardous wastes that include used oil and filters contaminated with oil. Used oil and the filters contaminated with oil generated during various maintenance activities are collected in barrels and kept in Integrated Waste Management Shed and are disposed through TNPCB authorized recyclers in line to Hazardous Waste Management Rules 2016, (as amended).</p> <p>Used oil is mainly generated from Rubber tyred gantry cranes and diesel generators. Used oils are collected and stored in barrels and are being mechanically processed to recover oil at TNPCB authorized recyclers facility.</p> <p>Other hazardous wastes such as used batteries and E-wastes are also stored in Integrated Waste</p>	S.No.	Type of waste	Storage Location within port	Method of disposal	1.	Dry Waste (Paper, Plastic, Metal waste, etc.)	IWMS	Material recovery Sent for Recycling	2.	Wet Waste (Food Waste)	Biogas Unit	Reprocess	3.	Solid waste Dry and Wet port	Daily Disposal	Dry and Wet Waste separately for material recovery and composting respectively.	4.	Sludges	STPs	Reprocessed for gardening manure
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Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status																														
		Management Shed and disposed through approved vendor in line to 5 R principle.																														
		Bio medical waste generated from OHC is being disposed at Common Bio Medical Waste Treatment Facility namely M/s. Tamilnadu Waste Management Limited, Maduranthagam Taluk and Kancheepuram District, in line to the Bio Medical Waste Management Rules 2016.																														
		All types of hazardous wastes generated from port operation and maintenance activity are being handled, stored and disposed as follows:																														
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**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
(xvi)	Installation and operation of DG set if any shall comply with the guidelines of CPCB.	<p>Complied.</p> <p>Tamil Nadu Electricity Board (TNEB) Power supply and inhouse Solar Plant (TMW Capacity) are available for Port Operations. However, DG set of capacities 2000 kVA (2 Nos), 500 KVA (2 Nos) and 125 KVA (1 NO) are installed inline to CPCB guidelines as backup Power. Flue gas analysis report of the DG Set stack for the period October'22 to March'23 is attached as Annexure III.</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> 
(xvii)	Air quality including the VOC shall be monitored regularly as per the guidelines of CPCB and reported.	<p>Complied.</p> <p>Ambient Air Quality (twice in a week) including VOC is monitored through NABL accredited laboratory. Quality of Ambient Air confirm to the standard laid down by TNPCB / CPCB. Summary of Ambient Air Quality Monitored during Oct'22 to Mar'23 is tabulated below.</p>

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

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S. No.	Conditions	Compliance Status																																													
		<p>Ambient Air Quality Monitoring Locations: 4 Nos.</p> <table><tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>NAAQM Norms</th></tr><tr><td colspan="5">AAQM</td></tr><tr><td>PM₁₀</td><td>µg/m³</td><td>37</td><td>59</td><td>100</td></tr><tr><td>PM_{2.5}</td><td>µg/m³</td><td>16</td><td>29</td><td>60</td></tr><tr><td>SO₂</td><td>µg/m³</td><td>4.3</td><td>8.4</td><td>80</td></tr><tr><td>NO₂</td><td>µg/m³</td><td>13.2</td><td>19.6</td><td>80</td></tr><tr><td>CO</td><td>mg/m³</td><td><1.0</td><td><1.0</td><td>2.0</td></tr><tr><td>Benzene</td><td>µg/m³</td><td><1.0</td><td><1.0</td><td>5</td></tr><tr><td>Benzo(a)Pyrene</td><td>ng/m³</td><td><0.1</td><td><0.1</td><td>1</td></tr></table> <p>Detailed Air Quality Monitoring Reports for the period October'22 to March'23 is enclosed as Annexure-III.</p> <p>We have also installed one number Continuous Ambient Air Quality Monitoring Station (CAAQMS) including BTX analyser to monitor VOC. CAAQMS has been connected to TNPCB server and data is transferred on real-time basis. All the monitored parameters are found well with the prescribed standards.</p> <div></div>	Parameter	Unit	Min	Max	NAAQM Norms	AAQM					PM ₁₀	µg/m ³	37	59	100	PM _{2.5}	µg/m ³	16	29	60	SO ₂	µg/m ³	4.3	8.4	80	NO ₂	µg/m ³	13.2	19.6	80	CO	mg/m ³	<1.0	<1.0	2.0	Benzene	µg/m ³	<1.0	<1.0	5	Benzo(a)Pyrene	ng/m ³	<0.1	<0.1	1
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**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status															
(xviii)	The project proponent shall undertake green belt development all along the periphery of the project area and also alongside the road.	<p>Complied.</p> <p>MIDPL is having adequate Greenbelt covering 26.95Ha (which includes 35,124 nos of trees covering 11.695Ha inside the Port premises and around 35,000 trees covering 15.25Ha outside the Port premises). Greenbelt has been developed along the periphery of the port area and alongside of the road and are being well maintained. 7,107 Nos of trees planted during the compliance period.</p>															
(xix)	All necessary clearances from the concerned agencies shall be obtained before initiating the project.	<p>Complied.</p> <p>The project is in operation after obtaining all the necessary clearances (as applicable) from the concerned agencies as described below.</p> <table border="1"> <thead> <tr> <th>Permission</th><th>Ref.No.</th><th>Date</th></tr> </thead> <tbody> <tr> <td>Tamil Nadu Maritime Board (TNMB) clearance</td><td>575/S1/2008</td><td>24.05.2012</td></tr> <tr> <td>Fire and Rescue License (Renewal)</td><td>159/2015</td><td>10.06.2015</td></tr> <tr> <td>PESO Licenses - 15KL</td><td>P/SC/TN/15/2514 (P266086)</td><td>25.05.2012</td></tr> <tr> <td>- 50KL</td><td>P/SC/TN/14/6260 (P266084)</td><td>16.08.2012</td></tr> </tbody> </table>	Permission	Ref.No.	Date	Tamil Nadu Maritime Board (TNMB) clearance	575/S1/2008	24.05.2012	Fire and Rescue License (Renewal)	159/2015	10.06.2015	PESO Licenses - 15KL	P/SC/TN/15/2514 (P266086)	25.05.2012	- 50KL	P/SC/TN/14/6260 (P266084)	16.08.2012
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(xx)	Project proponent shall install necessary oil spill mitigation measures in the shipyard. The details of the facilities provided shall be informed to this Ministry within 3 months from the date of receipt of this letter.	<p>Complied.</p> <p>Oil Spill contingency Plan (OSCP) is in place and MIDPL is maintaining oil spill equipment as per Coast Guard guidelines and conducting oil spill mock drills at regular intervals.</p>															


Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status												
		<p>Oil spill contingency plan along with list of available oil spill equipment submitted vide our Letter No. MIDPL/TNPCB/GMP/EC-HYC dated 14.05.2018.</p> <p>Details of Training and Mock Drill carried out during compliance period are as follows;</p> <table border="1"> <thead> <tr> <th>Activity/ Drill</th><th>Number of Persons trained</th><th>Total Manhours Trained</th></tr> </thead> <tbody> <tr> <td>OSPR Drill & Equipment inspection conducted on 07.02.2023.</td><td>15</td><td>60</td></tr> <tr> <td>OSPR Drill conducted on 08.02.2023.</td><td>28</td><td>112</td></tr> <tr> <td>Total</td><td>43</td><td>182</td></tr> </tbody> </table>	Activity/ Drill	Number of Persons trained	Total Manhours Trained	OSPR Drill & Equipment inspection conducted on 07.02.2023.	15	60	OSPR Drill conducted on 08.02.2023.	28	112	Total	43	182
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S. No.	Conditions	Compliance Status
		
(xxi)	No hazardous chemicals shall be stored in the Coastal Regulation Zone area.	Noted for Compliance. No hazardous chemical is stored in CRZ Area.
(xxii)	The project shall not be commissioned till the requisite water supply and electricity to the project are provided by the PWD/ Electricity Department.	Complied. Requisite permission for Water Supply and Electricity has been obtained from Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) and Tamil Nadu Electricity Board respectively before commissioning.
(xxiii)	Specific arrangements for rainwater harvesting shall be made in the project design and the rain water so harvested shall be optimally utilized.	Complied. MIDPL is having Rainwater Collection facilities including Storm Water drains and Rainwater Harvesting Pond. Existing Rainwater Harvesting Pond is being used for Greenbelt maintenance.


Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance.

Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]

S. No.	Conditions	Compliance Status
		<p>Water table is observed to be high in and around the Port area. Feasibility of rainwater harvesting will be explored.</p>     

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
		
(xxiv)	The facilities to be constructed in the CRZ area as part of this project shall be strictly in conformity with the provisions of the CRZ Notification, 2011 and its amendment. The facilities such as office building and residential buildings which do not require waterfront and foreshore facilities shall not be constructed within the Coastal Regulation Zone area.	<p>Complied.</p> <p>All construction has been done in line to CRZ Notification, 2011 and CRZ & Environmental clearance obtained.</p>
General Conditions:		
(i)	Construction of the proposed structures shall be undertaken meticulously conforming to the existing Central/local rules and regulations including Coastal Regulation Zone Notification 1991 &	<p>Complied.</p> <p>Project is in operation phase. All construction activity has been done in line to the existing Central/local rules including CRZ Notification, 2011 and CRZ & Environmental Clearance obtained</p>



Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
	its amendments. All the construction designs /drawings relating to the proposed construction activities must have approvals of the concerned State Government Departments /Agencies.	
(ii)	Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc. shall 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. Project is in Operation Phase.

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

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S. No.	Conditions	Compliance Status
(iii)	The project authorities shall 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>Complied.</p> <p>No solid waste is being disposed of in the CRZ area.</p> <p>Integrated waste Management system is in place. All the solid waste generated is properly collected, source segregation of all types of Solid Waste is practised and are disposed as per the provision of Solid Waste Management Rules 2016, as amended.</p> <p>Solid Waste Management:</p> <p>MIDPL Kattupalli Port certified as "Zero Waste to Landfill" Port from CII. To achieve this milestone, various sources of waste and their sustainable waste management techniques were identified. Having understood the entire concept of "Zero Waste to Landfill", a firm commitment was given by the top management to implement the sustainable waste management techniques.</p> <p>A well-established Integrated waste Management system is in place and all wastes are being handled inline to 5R principle (Reduce, Reuse, Reprocess, Recycle & Recover).</p> <p>All the wastes (non-hazardous and hazardous) generated from the port activities are collected, segregated and stored in the designated compartments in Integrated Waste Management Shed (IWMS).</p> <div style="display: flex; justify-content: space-around;">   </div>

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

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		<p>Average quantity of Sewage water treated in STPs during the compliance period is as furnished below.</p> <table><tr><th>Location</th><th>STP/ETP Capacity</th><th>Avg. Quantity of Sewage Water Treated (Oct'22 to Mar'23)</th></tr><tr><td>Near IWMS</td><td>STP 30 KLD</td><td>14.1 KLD</td></tr><tr><td>Near CFS</td><td>STP 5 KLD</td><td>0.9 KLD</td></tr><tr><td>Near Liquid Terminal</td><td>STP 10 KLD</td><td>2.2 KLD</td></tr><tr><td>Near Liquid Terminal</td><td>ETP 50 KLD</td><td>0.2 KLD</td></tr></table> <p>The monitoring results for the period October'22 to March'23 is enclosed as Annexure - III.</p> <p>Summary of STP & ETP treated water analysis results during compliance period as mentioned below.</p> <table><tr><th colspan="5">STP TREATED WATER ANALYSIS REPORT(AVG)</th></tr><tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>TNPSB Limit</th></tr><tr><td>pH</td><td>-</td><td>6.45</td><td>8.02</td><td>6.5 to 9</td></tr><tr><td>TSS</td><td>mg/l</td><td>6</td><td>21</td><td>30</td></tr><tr><td>BOD</td><td>mg/l</td><td>3.4</td><td>16</td><td>20</td></tr><tr><td>COD</td><td>mg/l</td><td>16</td><td>68</td><td>100</td></tr><tr><td>Faecal Coliform</td><td>MPN/100ml</td><td>110</td><td>260</td><td><1000</td></tr></table> <table><tr><th colspan="5">ETP TREATED WATER ANALYSIS REPORT(AVG)</th></tr><tr><th>Parameter</th><th>Unit</th><th>RO-1</th><th>RO-2</th><th>TNPSB Limit</th></tr><tr><td>pH</td><td>-</td><td>8.61</td><td>8.58</td><td>6.5 to 9</td></tr><tr><td>TSS</td><td>mg/l</td><td>20</td><td>6.4</td><td>200</td></tr><tr><td>TDS</td><td>mg/l</td><td>1500</td><td>606</td><td>2100</td></tr><tr><td>BOD</td><td>mg/l</td><td>10</td><td>3.3</td><td>100</td></tr><tr><td>Oil & Grease</td><td>mg/l</td><td>BDL</td><td>BDL</td><td>10</td></tr></table>	Location	STP/ETP Capacity	Avg. Quantity of Sewage Water Treated (Oct'22 to Mar'23)	Near IWMS	STP 30 KLD	14.1 KLD	Near CFS	STP 5 KLD	0.9 KLD	Near Liquid Terminal	STP 10 KLD	2.2 KLD	Near Liquid Terminal	ETP 50 KLD	0.2 KLD	STP TREATED WATER ANALYSIS REPORT(AVG)					Parameter	Unit	Min	Max	TNPSB Limit	pH	-	6.45	8.02	6.5 to 9	TSS	mg/l	6	21	30	BOD	mg/l	3.4	16	20	COD	mg/l	16	68	100	Faecal Coliform	MPN/100ml	110	260	<1000	ETP TREATED WATER ANALYSIS REPORT(AVG)					Parameter	Unit	RO-1	RO-2	TNPSB Limit	pH	-	8.61	8.58	6.5 to 9	TSS	mg/l	20	6.4	200	TDS	mg/l	1500	606	2100	BOD	mg/l	10	3.3	100	Oil & Grease	mg/l	BDL	BDL	10
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Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status																																																																	
		<p>All the parameters are well within the prescribed norms</p> <div><div><div>30 KLD STP</div></div><div><div>10 KLD STP</div></div><div><div>5 KLD STP</div></div></div> <p>Ambient Air Quality:</p> <p>Ambient Air Quality (twice in a week) and Noise (once in a month) Monitoring are being carried out through NABL accredited laboratory. Quality of Ambient Air and Noise level confirm to the standard laid down by TNPCB / CPCB. Summary of the same for duration from Apr'22 to Sep'22 is as summarised below.</p> <p>Total Ambient Air & Noise Sampling Locations: 4 Nos.</p> <table><tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>NAAQM Norms</th></tr><tr><td colspan="5">AAQM</td></tr><tr><td>PM₁₀</td><td>µg/m³</td><td>37</td><td>59</td><td>100</td></tr><tr><td>PM_{2.5}</td><td>µg/m³</td><td>16</td><td>29</td><td>60</td></tr><tr><td>SO₂</td><td>µg/m³</td><td>4.3</td><td>8.4</td><td>80</td></tr><tr><td>NO₂</td><td>µg/m³</td><td>13.2</td><td>19.6</td><td>80</td></tr><tr><td>CO</td><td>mg/m³</td><td><1.0</td><td><1.0</td><td>2.0</td></tr><tr><td>Benzene</td><td>µg/m³</td><td><1.0</td><td><1.0</td><td>5</td></tr><tr><td>Benzo[a] Pyrene</td><td>ng/m³</td><td><0.1</td><td><0.1</td><td>1</td></tr><tr><td colspan="5">Noise</td></tr><tr><td></td><td>Unit</td><td>Min</td><td>Max</td><td>NAAQM Norms</td></tr><tr><td>Day Time</td><td>dB(A)</td><td>42.5</td><td>66.5</td><td>75</td></tr><tr><td>Night Time</td><td>dB(A)</td><td>37.0</td><td>64.1</td><td>70</td></tr></table>	Parameter	Unit	Min	Max	NAAQM Norms	AAQM					PM ₁₀	µg/m ³	37	59	100	PM _{2.5}	µg/m ³	16	29	60	SO ₂	µg/m ³	4.3	8.4	80	NO ₂	µg/m ³	13.2	19.6	80	CO	mg/m ³	<1.0	<1.0	2.0	Benzene	µg/m ³	<1.0	<1.0	5	Benzo[a] Pyrene	ng/m ³	<0.1	<0.1	1	Noise						Unit	Min	Max	NAAQM Norms	Day Time	dB(A)	42.5	66.5	75	Night Time	dB(A)	37.0	64.1	70
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**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
		<p>All the monitoring results are well within the prescribed standard.</p> <p>We have also installed Continuous Ambient Air Quality Monitoring Station (Including BTX analyser to monitor VOC). CAAQMS has been connected to TNPCB server and data is transferred on real-time basis. All the parameters are well with the prescribed standards.</p> <p>Detailed Air and Water Quality Monitoring Reports for the period October'22 to March'23 is enclosed as Annexure -III.</p> <p>All the monitoring parameters are well within the prescribed standard.</p> <div data-bbox="791 1279 1453 1599">  </div>
(iv)	The proponent shall obtain the requisite consents for discharge of effluents and emissions under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (prevention and Control of Pollution) Act, 1981 from the Tamil	<p>Complied.</p> <p>Requisite Consents for discharge of effluents and emissions under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (prevention and Control of Pollution) Act, 1981 were obtained before commissioning of the project and submitted to</p>

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
	Nadu State Pollution Control Board before commissioning of the project and a copy of each of these shall be sent to this Ministry.	Ministry. Project is in operation phase and Consent to Operate has been obtained from the Tamil Nadu State Pollution Control Board vide Consent Order No. 2105136876761 (water Act) & 2105236876761 (Air Act) dated 13/09/2021 valid till 31.03.2026. Copies of the consent orders attached as Annexure - VIII
(v)	In order to carry out the environmental monitoring during the operational phase of the project, the project authorities shall establish 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>MIDPL is having Environmental Management Cell, staffed with qualified personnel at site supported by team at Head Office in Ahmedabad.</p> <p>Environment monitoring is being carried out through NABL accredited Laboratory.</p> <p style="text-align: center;">ENVIRONMENT TEAM - ORGANOGRAM</p> <pre> graph TD CEO[CEO (Southern Ports)] --> CO[Compliance Officer Head - Environment & Sustainability (APSE)] CEO --> HE[Head - Environment (Southern Ports)] HE --> ET[Environment Team (1 Environment Engineer)] CO --> CET[Corporate Environment Team] CO --> CST[Corporate Sustainability Team] ET --> EMT[Environment Monitoring Team (NABL Accredited Lab)] ET --> WM[Waste Management (1 PWMS Operator)] CET --> SC[Sustainability Champions (6 Executives)] </pre>

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) - bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
(vi)	The proponents 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>MIDPL is operating ETP of 50 KLD capacity to treat the effluent generated from Liquid Tank Washings and 3 STPs of capacity 30KLD, 10KLD & 5KLD at various locations inside the port premises to treat the maximum wastewater flow of 45KLD.</p> <p>Domestic wastewater generated from various sources such as washing water from canteen and toilet flushing water from office buildings are being collected, treated in STP's and 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'22 to March'23 is enclosed as Annexure - III. All the results are found well within the prescribed standard.</p> <p>Records are made available at site for inspection of State / Central officials during their visit.</p>
(vii)	The sand dunes and mangroves, if any, on the site shall not be disturbed in any way.	<p>Complied.</p> <p>No Sand dune and mangroves are present on the site.</p>
(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.	<p>Complied.</p> <p>This EC is just a bifurcation of original EC of LTSB.</p>

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status																		
(ix)	The Tamil Nadu Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's Office/Tehsildars Office for 30 days.	Complied. The condition does not pertain to project proponent																		
(x)	The funds earmarked for environment protection measures shall be maintained, in a separate account and there shall be no diversion of these funds for any other purpose. A year-wise expenditure on Environmental safeguards shall be reported to this ministry	Complied. Separate budget for the Environment Protection is earmarked every year. All the expenses are recorded in advanced accounting system (SAP) of the organization. Expenditure for Environment Management measures during October'22 to March'23 is Rs. 173.47 Lakhs. The breakup details are as follows; <table border="1"> <thead> <tr> <th>S. No.</th><th>Description of Work</th><th>Cost (Rs.) in Lakhs</th></tr> </thead> <tbody> <tr> <td>1</td><td>Comprehensive Environmental Monitoring and other Environment related studies like Impact Assessment Study, 3 Season monitoring Study, etc.,</td><td>94.87</td></tr> <tr> <td>2</td><td>Integrated Waste Management</td><td>1.20</td></tr> <tr> <td>3</td><td>O&M of STP's & ETP</td><td>9.21</td></tr> <tr> <td>3</td><td>Housekeeping</td><td>48.53</td></tr> <tr> <td>4</td><td>Greenbelt</td><td>19.66</td></tr> </tbody> </table>	S. No.	Description of Work	Cost (Rs.) in Lakhs	1	Comprehensive Environmental Monitoring and other Environment related studies like Impact Assessment Study, 3 Season monitoring Study, etc.,	94.87	2	Integrated Waste Management	1.20	3	O&M of STP's & ETP	9.21	3	Housekeeping	48.53	4	Greenbelt	19.66
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(xi)	Full support shall be extended to the officers (this Ministry's Regional Office at Chennai and the officers of the Central and State Pollution Control Boards by the project proponents during their inspection	Noted for Compliance. Full support is being extended to the officers of RO-MoEF & CC Chennai, CPCB & TNPCC during their inspection and site visit.																		

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
	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.	Further, monthly visits were made by TNPCB Officials to monitor the compliance and all the necessary supports were extended and the same shall be continued in future also.
(xii)	In case of deviation or alteration in the project including the implementing agency, a fresh reference shall be made to this ministry for modification in the clearance conditions or imposition of new ones for ensuring environmental protection.	Noted for Compliance. There is no deviation or alteration in the project including implementing agency.
(xiii)	This Ministry reserves the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.	Noted for Compliance.
(xiv)	This Ministry or any other competent authority may stipulate any other additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.	Noted for Compliance.
(xv)	The Project proponents shall inform the Regional Office at Chennai 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.	Complied. The same has been Complied by LTSB before bifurcation itself.

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
CRZ & EC Amendment letter No. 10-130/2007- A.III dated 12.05.2010:		
(i)	The details of combined effect on both the Ports (i.e. Ennore Port and Kattupalli Port) shall be carried out to monitor the impact of the post-dumping. This model study shall be carried out for a period of one year.	<p>Complied.</p> <p>M/s LTSB has already carried out detailed modelling study to understand impact of post dumping and report was submitted to Ministry.</p> <p>MIDPL engaged Institute of Ocean Management, Anna University, Chennai to carry out shoreline study along with the details of combined effect on both the ports (i.e Ennore Port and Kattupalli Port) to monitor the impact of the post dumping and the report is under preparation for the year 2022. Report for the year 2020 was submitted along with Half Yearly Compliance Report for the period Oct'19-Mar'20 vide our Letter No. MIDPL/EC-HYC/2020/11 dated 31.05.2020.</p>
(ii)	A comparison between model study and actual dumping shall be carried out to examine the impacts both on North-East and South-West of the Ports and shall be submitted to the Ministry.	<p>Complied.</p> <p>Comparison between model study and actual dumping was made to examine the impacts and report was submitted to Ministry by LTSB.</p> <p>No dumping was being carried by MIDPL during the period October'22 to March'23.</p> <p>MIDPL engaged Institute of Ocean Management, Anna University, Chennai for the above studies and the report is under preparation for the year 2022. Report for the year 2020 is submitted along with Half Yearly Compliance Report for the period Oct'19-Mar'20 vide our Letter No. MIDPL/EC-HYC/2020/11 dated 31.05.2020.</p>

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
(iii)	No reclamation of the areas outside the Port limit and Buckingham Canal shall be carried out.	Being Complied. No reclamation of the areas outside Port Limit and Buckingham Canal is being carried out.

EC & CRZ Extension of validity letter No. 10-130/2007- XIII dated 17.12.2014:

(i)	The cargo should only include (i) Container 21.60 MTPA, (ii) Ro-Ro – 0.22 MTPA, (iii) Project cargo – 0.44 MTPA, (iv) Break bulk/General cargo (Barytes/Gypsum/Limestone/Granite/Steel cargo) – 1.82 MTPA and (v) Edible oil, CBFS, Base oil and Lube oil and non-hazardous liquid cargo - 0.57 MTPA	<p>Being Complied.</p> <p>MIDPL is handling Containers, Ro-Ro, Project Cargo, Break bulk / General Cargo, Edible Oil, CBFS, Base oil and Lube Oil & Other Non-Hazardous liquid cargo only.</p> <p>MIDPL has obtained "No Increase in Pollution Load Certificate" from TNPCB Vide TNPCB Lr. No. T1/TNPCB /F.022882/RL/GMP/ NIPL / 2021 dated 12.01.2021 for the proposed change in cargo Mix (additional handling of Rock Phosphate, Dolomite, Bauxite cargos and increase the non-hazardous liquid cargo capacity from 0.57 MMTPA to 0.72 MMTPA by optimally deploying the port infrastructure being developed without change in the overall handling capacity approved in the EC & CRZ by MoEF & CC) and subsequently, obtained CTO orders vide Consent Order No. 2105236876761 (Air Act) and 2105136876761 (Water Act) on 13.09.2021 valid till 31.03.2026. Details of Cargo handled with quantity are presented in the below table.</p> <table border="1"> <thead> <tr> <th>No.</th><th>Description</th><th>Capacity</th></tr> </thead> <tbody> <tr> <td>1</td><td>Containers</td><td>21.60 MMTPA</td></tr> <tr> <td>2</td><td>Ro-Ro – Automobiles</td><td>0.07 MMTPA</td></tr> <tr> <td>3</td><td>Project Cargo</td><td>0.44 MTPA</td></tr> <tr> <td>4</td><td>Break Bulk/general cargo (Barytes / Gypsum / Limestone / Granite /</td><td>1.82 MTPA</td></tr> </tbody> </table>	No.	Description	Capacity	1	Containers	21.60 MMTPA	2	Ro-Ro – Automobiles	0.07 MMTPA	3	Project Cargo	0.44 MTPA	4	Break Bulk/general cargo (Barytes / Gypsum / Limestone / Granite /	1.82 MTPA
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Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status	
		Steel Cargo / Rock Phosphate / Bauxite / Dolomite cargoes)	
		5 Edible oil, CBFS, Base Oil, Lube and Non-Hazardous Liquid Cargo	0.72 MTPA
		Total Handling capacity at Port	24.65 MTPA
(ii)	All the conditions stipulated by the Tamil Nadu Coastal Zone Management Authority (TNCZMA) vide letter no. 6064/EC.3/2014-1 dated 26.06.2014, shall be strictly complied with.	Complied. All the conditions stipulated by the Tamil Nadu Coastal Zone Management Authority (TNCZMA) vide letter no. 6064/EC.3/2014-1 dated 26.06.2014 are being complied. Compliance status of the same is enclosed as Annexure – IV .	
(iii)	No additional land should be utilized for the proposed development.	Complied	
(iv)	As committed, the local traffic should not be disturbed.	Complied. Separate road is available for the local Traffic. Kattupalli Port is having a dedicated road connectivity connecting State Highways and National Highways. NH-5 (Chennai – Kolkata) is about 30 km from Port. The cargo handled are directly goes to the roads mentioned above which are outside the City Limits of Chennai. Handling of cargo in Kattupalli Port does not affect the regular traffic.	
5	These stipulations would be enforced among other under the provisions of water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act 1981, the	Noted for Compliance.	

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
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S. No.	Conditions	Compliance Status															
	Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991, the Hazardous Chemical (Manufacture, storage and Import) Rules, 1989, Solid Waste Management Rules, 2016 and the Coastal Regulation Zone Notification, 2011 and its subsequent amendments made there under from time to time.																
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.	<p>Complied.</p> <p>The project is in operation after obtaining all the necessary clearances (as applicable) from the concerned agencies as described below.</p> <table border="1"> <thead> <tr> <th>Permission</th><th>Ref.No.</th><th>Date</th></tr> </thead> <tbody> <tr> <td>Tamil Nadu Maritime Board (TNMB) clearance</td><td>575/S1/2008</td><td>24.05.2012</td></tr> <tr> <td>Fire and Rescue License (Renewal)</td><td>159/2015</td><td>10.06.2015</td></tr> <tr> <td>PESO Licenses - 15KL</td><td>P/SC/TN/15/2514 (P266086)</td><td>25.05.2012</td></tr> <tr> <td>- 50KL</td><td>P/SC/TN/14/6260 (P266084)</td><td>16.08.2012</td></tr> </tbody> </table>	Permission	Ref.No.	Date	Tamil Nadu Maritime Board (TNMB) clearance	575/S1/2008	24.05.2012	Fire and Rescue License (Renewal)	159/2015	10.06.2015	PESO Licenses - 15KL	P/SC/TN/15/2514 (P266086)	25.05.2012	- 50KL	P/SC/TN/14/6260 (P266084)	16.08.2012
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Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

**Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]**

S. No.	Conditions	Compliance Status
7	The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Tamil Nadu Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://envfonnic.in . The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Chennai.	Complied. Copy of the same is already submitted along with the Compliance report for the period Oct-2018 to Mar-2019 vide our Letter No. MIDPL/TNPCB/GMP/EC-HYC dated 24.05.2019.
8	Any appeal against this Environmental Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 day as prescribed under section 11 of the National Environment Appellate Act, 1997.	Noted.

Name of the Project: CRZ and Environmental Clearance for the development of proposed Shipyard-cum-Minor Port Complex at Kattupalli, Ponneri Taluka, Tiruvallur District, Tamil Nadu by M/s. Marine Infrastructure Developer Private Limited (MIDPL) – bifurcation of Environmental and CRZ Clearance.

Half yearly Compliance report on conditions stipulated in CRZ & Environmental Clearance
[File no: 10-130/2007- IA.III dated: 09/02/2018]

S. No.	Conditions	Compliance Status																											
9	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	<p>Complied.</p> <ul style="list-style-type: none"> Six monthly Compliance Report of CRZ & Environmental Clearance is uploaded on company website regularly (https://www.adaniports.com/ports-downloads) Environment Statement (Form-V) for the year 2021-2022 was submitted to TNPCB vide letter No. MIDPL/TNPCB/2021-22/179 dated 22.09.2022. Copy of the same is attached as Annexure VII. Form V for the year 2021-22 is also uploaded on Company website (Form-V Environment-Statement MIDPL FY2021 22.pdf (adaniports.com)) and sent to Regional Office of MoEF&CC through e-mail on 22.09.22. The details of the past six Half yearly compliance reports are as tabulated below for reference. <table border="1"> <thead> <tr> <th>S.No.</th><th>Compliance period</th><th>Date of submission</th></tr> </thead> <tbody> <tr> <td>1.</td><td>Oct'18 to Mar'19</td><td>24.05.2019</td></tr> <tr> <td>2.</td><td>Apr'19 to Sep'19</td><td>25.11.2019</td></tr> <tr> <td>3.</td><td>Oct'19 to Mar'20</td><td>31.05.2020</td></tr> <tr> <td>4.</td><td>Apr'20 to Sep'20</td><td>27.11.2020</td></tr> <tr> <td>5.</td><td>Oct'20 to Mar'21</td><td>20.05.2021</td></tr> <tr> <td>6.</td><td>Apr'21 to Sep'21</td><td>24.11.2021</td></tr> <tr> <td>7.</td><td>Oct'21 to Mar'22</td><td>17.05.2022</td></tr> <tr> <td>8.</td><td>Apr'22 to Sep'22</td><td>29.11.2022</td></tr> </tbody> </table>	S.No.	Compliance period	Date of submission	1.	Oct'18 to Mar'19	24.05.2019	2.	Apr'19 to Sep'19	25.11.2019	3.	Oct'19 to Mar'20	31.05.2020	4.	Apr'20 to Sep'20	27.11.2020	5.	Oct'20 to Mar'21	20.05.2021	6.	Apr'21 to Sep'21	24.11.2021	7.	Oct'21 to Mar'22	17.05.2022	8.	Apr'22 to Sep'22	29.11.2022
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8.	Apr'22 to Sep'22	29.11.2022																											
10	This CRZ and Environmental Clearance is valid till 2 nd July, 2019.	Noted.																											
11	This issue with the approval of the Competent Authority.	Noted.																											

MIDPL/TNPCB/GMP/HWM/195

Date: 03.12.2022

To,

The District Environmental Engineer,
Tamil Nadu Pollution Control Board,
No. 88A, SIPCOT Industrial Complex,
Gummidipoondi,
Tiruvallur District - 601 201.

Dear Sir,


Sub: Marine Infrastructure Developer Private Limited (MIDPL), Kattupalli Port - Submission
of Hazardous Waste Manifest in Form-10 - Reg.

Ref: Hazardous Waste Authorization No. 19HFC20312718 dated 30.04.2019

With reference to the captioned subject, M/s. Marine Infrastructure Developer Private Ltd.
is submitting the Hazardous Waste Manifest in Form-10 for the month of November 2022.

Submitted for your kind information and records.

for, M/s. Marine Infrastructure Developer Private Limited


R. Sathish Kumar
Head - Environment

Encl: As above



Marine Infrastructure Developer Pvt Ltd
(Kattupalli Port)
Kattupalli Village, Ponneri Taluk,
Tiruvalluvar District 600 120,
Tamil Nadu, India

Tel +91 44 2824 3062

CIN: U74999TN2016PTC103759


FORM 10
{see rule 19 (1)}

MANIFEST FOR HAZARDOUS AND OTHER WASTE

1. Senders name and mailing address (Including Phone No. and E-mail)	M.V. SSL CHENNAI (Kattupalli Port) MIDPL
2. Sender's Authorisation No.	19HFC 26312718
3. Manifest Document No.	
4. Transporter's Name and address Including Phone No. and E-mail	Thirupathi oil Company
5. Type of Vehicle	(Truck / Tranker / Special Vehicle)
6. Transporters Registration No.	T
7. Vehicle Registration No.	THIRUPATHI OIL COMPANY TN 52D2151
8. Receivers name and mailing address (Including Phone and E-mail)	Factory : Plot No. 7, Industrial Estate, Venmaniathur Village - 604 207 Puduvanam Taluk, Villupuram (Dt.)
9. Receivers authorisation No.	18HRC12111693 DT 17/5/2018
10. Waste Description	Oil Sludge (3.1 category)
11. Total Quantity No. of Container	8.4 M ³ or MT Nos.
12. Physical Form	Solid / Semi Solid / Sludge / Oily / Tarry / Slurry / Liquid / Other
13. Special handling instructions and additional information	
14. Senders Certificate	I hereby declare that the content of the consignment are fully and accurately described above the proper shipping name and are categorised packed, marked and labelled and are in all respects in proper conditions for transport and road according for transport by road according to applicable national government regulation.
Name and Stamp : 23/11/22	Signature Day Month Year 23 11 20 22
15. Transporter acknowledgement of receipt wastes	
Name and Stamp : Authorised Signatory	Day Month Year 23 11 20 22
16. Receivers Certification for receipt of hazardous and other waste	
Name and Stamp : Authorised Signatory	Day Month Year 23 11 20 22


ANNEXURE – 1





(DoE COMPLIANCE STATUS)


	Marine Infrastructure Developer Pvt Ltd	From : October 2022 To : March 2023
<u>Status of Compliance to RC No. P1/2004/2008, dated 21.10.2008 of Department of Environment, Chennai</u>		

Annexure -1


Sl. No	Conditions	Compliance															
i	The unit shall carry out dumping/ land filling at dredged material only on land which is not covered under CRZ	Noted for Compliance															
ii	The unit shall not carry out any ship breaking activity	Not applicable															
iii	The unit should design that the wastewater should be recycled 100% and to be used for developing greenery etc., and there should not be any wastewater let out.	<p>Complied.</p> <p>MIDPL is operating ETP of 50 KLD capacity to treat the effluent generated from Liquid Tank Washings and 3 STPs of capacity 30KLD, 10KLD & 5KLD at various locations inside the port premises to treat the maximum wastewater flow of 45KLD.</p> <p>Domestic wastewater generated from various sources such as washing water from canteen and toilet flushing water from office buildings are being collected, treated in STP's and 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>Average quantity of Sewage water treated in STPs during the compliance period is as furnished below.</p> <table border="1"> <thead> <tr> <th>Location</th><th>STP/ETP Capacity</th><th>Avg. Quantity of Sewage Water Treated (Oct'22 to Mar'23)</th></tr> </thead> <tbody> <tr> <td>Near IWMS</td><td>STP 30 KLD</td><td>14.1 KLD</td></tr> <tr> <td>Near CFS</td><td>STP 5 KLD</td><td>0.9 KLD</td></tr> <tr> <td>Near Liquid Terminal</td><td>STP 10 KLD</td><td>2.2 KLD</td></tr> <tr> <td>Near Liquid Terminal</td><td>ETP 50 KLD</td><td>0.2 KLD</td></tr> </tbody> </table> <p>The monitoring results for the period October'22 to March'23 is enclosed as Annexure - III.</p> <p>Summary of STP & ETP treated water analysis results during compliance period as mentioned below.</p>	Location	STP/ETP Capacity	Avg. Quantity of Sewage Water Treated (Oct'22 to Mar'23)	Near IWMS	STP 30 KLD	14.1 KLD	Near CFS	STP 5 KLD	0.9 KLD	Near Liquid Terminal	STP 10 KLD	2.2 KLD	Near Liquid Terminal	ETP 50 KLD	0.2 KLD
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 Ports and Logistics	Marine Infrastructure Developer Pvt Ltd	From : October 2022 To : March 2023
Status of Compliance to RC No. P1/2004/2008, dated 21.10.2008 of Department of Environment, Chennai		


		<table><tr><th colspan="5">STP TREATED WATER ANALYSIS REPORT(AVG)</th></tr><tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>TNPCB Limit</th></tr><tr><td>pH</td><td>-</td><td>6.45</td><td>8.02</td><td>6.5 to 9</td></tr><tr><td>TSS</td><td>mg/l</td><td>6</td><td>21</td><td>30</td></tr><tr><td>BOD</td><td>mg/l</td><td>3.4</td><td>16</td><td>20</td></tr><tr><td>COD</td><td>mg/l</td><td>16</td><td>68</td><td>100</td></tr><tr><td>Faecal Coliform</td><td>MPN/100ml</td><td>110</td><td>260</td><td><1000</td></tr></table> <table><tr><th colspan="5">ETP TREATED WATER ANALYSIS REPORT(AVG)</th></tr><tr><th>Parameter</th><th>Unit</th><th>RO-1</th><th>RO-2</th><th>TNPCB Limit</th></tr><tr><td>pH</td><td>-</td><td>8.61</td><td>8.58</td><td>6.5 to 9</td></tr><tr><td>TSS</td><td>mg/l</td><td>20</td><td>6.4</td><td>200</td></tr><tr><td>TDS</td><td>mg/l</td><td>1500</td><td>606</td><td>2100</td></tr><tr><td>BOD</td><td>mg/l</td><td>10</td><td>3.3</td><td>100</td></tr><tr><td>Oil & Grease</td><td>mg/l</td><td>BDL</td><td>BDL</td><td>10</td></tr></table> <p>All the parameters are well within the prescribed norms.</p> <div></div> <div></div>	STP TREATED WATER ANALYSIS REPORT(AVG)					Parameter	Unit	Min	Max	TNPCB Limit	pH	-	6.45	8.02	6.5 to 9	TSS	mg/l	6	21	30	BOD	mg/l	3.4	16	20	COD	mg/l	16	68	100	Faecal Coliform	MPN/100ml	110	260	<1000	ETP TREATED WATER ANALYSIS REPORT(AVG)					Parameter	Unit	RO-1	RO-2	TNPCB Limit	pH	-	8.61	8.58	6.5 to 9	TSS	mg/l	20	6.4	200	TDS	mg/l	1500	606	2100	BOD	mg/l	10	3.3	100	Oil & Grease	mg/l	BDL	BDL	10
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iv	The unit should tie - up with institutions like Centre for Environmental Studies or IIT for the periodical monitoring during construction phase so as to ensure the adoption of Safety measures as per the Environmental Management Plan [EMP].	Complied. LTSB carried out the studies during Construction Phase.																																																																						
v	Before commencing construction activities, Proper resettlement for the local the unit should ensure the proper	Not applicable.																																																																						

	Marine Infrastructure Developer Pvt Ltd	From : October 2022 To : March 2023
Status of Compliance to RC No. P1/2004/2008, dated 21.10.2008 of Department of Environment, Chennai		

	resettlement of local inhabitants residing at the project area to the satisfaction of District Collector and submit a report to the Department of Environment.	Complied by M/s. LTSB. Rehabilitation & resettlement was carried out completely as per law / State Government at the time of project implementation. This EC & CRZ Clearance is just a bifurcation of original EC & CRZ clearance of LTSB in name of MIDPL & LTSB.
General Conditions		
a	There should not be any extraction of Ground Water in CRZ.	Noted for compliance. No withdrawal of groundwater from CRZ Area. Presently unit is procuring desalinated water from M/s. Chennai Metropolitan Water Supply and Sewerage Board, Chennai.
b	The unit should obtain planning permission for their constructions from the CMDA/Department of Environment before the commencing the constructions	Not applicable. Project is in operation phase. This EC & CRZ Clearance is just a bifurcation of original EC & CRZ clearance of LTSB in name of MIDPL & LTSB. Required permission from concerned authorities was taken by M/s. LTSB before commencing the constructions.
c	The proposed activities should not cause coastal erosion and alter the beach configuration	Complied. MIDPL has engaged Institute of Ocean Management, Anna University, Chennai for shoreline Change study and the report is under preparation for the year 2022. However, Report for the year 2020 is submitted along with Half Yearly Compliance Report for the period Oct'19-Mar'20 vide our Letter No. MIDPL / EC – HYC / 2020 / 11 dated 31.05.2020
d	No fencing or barricading along the pipeline alignment and parallel to the coast is permissible in CRZ.	Agreed for compliance. All activities permissible as per CRZ notification 2011 & EC&CRZ clearance will only be carried out.

	Marine Infrastructure Developer Pvt Ltd	From : October 2022 To : March 2023
<p align="center"><u>Status of Compliance to RC No. P1/2004/2008, dated 21.10.2008 of Department of Environment, Chennai</u></p>		

e	No blasting or drilling activities in CRZ is permissible.	<p>Agreed for compliance.</p> <p>No blasting or drilling activity is carried in CRZ area. All activities permissible as per CRZ notification 2011 & EC&CRZ clearance will only be carried out.</p>
f	The proponent should not prevent public from easy access to the beach.	<p>Being complied.</p> <p>MIDPL will not block the access point to beach for the public.</p>
9	Chemical waste generated and the sewage generated, if any should not be discharged into the sea.	<p>Complied.</p> <p>No chemical waste is generated. MIDPL is operating ETP of 50 KLD capacity to treat the effluent generated from Liquid Tank Washings and 3 STPs of capacity 30KLD, 10KLD & 5KLD at various locations inside the port premises to treat the maximum wastewater flow of 45KLD.</p> <p>Domestic wastewater generated from various sources such as washing water from canteen and toilet flushing water from office buildings are being collected, treated in STP's and 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. All the parameters are well within the prescribed norms.</p>
h	The proponent should implement the EMP including the Green Belt as envisaged in the EIA report.	<p>Complied.</p> <p>The EMP is being implemented in letter and spirit. MIDPL is having adequate Greenbelt covering 26.95Ha (which includes 35,124 nos of trees covering 11.695Ha inside the Port premises and around 35,000 trees covering 15.25Ha outside the Port premises). Greenbelt has been developed along the periphery of the port area and alongside of the road and are being well maintained. 7,107 Nos of trees planted during the compliance period.</p> <p>Operational Phase EMP compliance status is enclosed as Annexure – VI.</p>

 Ports and Logistics	Marine Infrastructure Developer Pvt Ltd	From : October 2022 To : March 2023
<u>Status of Compliance to RC No. P1/2004/2008, dated 21.10.2008 of Department of Environment, Chennai</u>		

i	The project activity should not affect the coastal ecosystem including marine flora and fauna.	Complied. Marine water & Sediment quality are being monitored through NABL accredited laboratory on monthly basis. There is no impact on water quality in the vicinity. The details of Marine Water quality monitoring report for the period October 2022 to March 2023 is enclosed as Annexure-III.
j	The proponent should not undertake any activity, which is violate of provisions of CRZ Notification 1991 and the subsequent amendments.	Being complied. All activities permissible as per CRZ notification 2011 & EC&CRZ clearance will only be carried out.
k	The CRZ Clearance will be revoked if any of the conditions stipulated in not complied with.	Noted for compliance



ANNEXURE – 2
(HW ANNUAL RETURNS IN FORM-4)



Ports and
Logistics

KATTUPALLI PORT
CHENNAI'S NEW GATEWAY

MIDPL/TNPCB/GMP/HWR-2022/156

Date: 27/06/2022

To,

The District Environmental Engineer,
Tamil Nadu Pollution Control Board,
88A, First Cross Road,
SIPCOT Industrial Complex,
Gummidipoondi - 601201.

Dear Sir,


Sub: Submission of Annual Hazardous Waste Returns (FORM 4) for the period April'2021 to March'2022-Reg.

M/s. Marine Infrastructure Developer Private Limited has submitted the Hazardous Waste Annual Returns (Form 4) in Online Consent Management and Monitoring System (OCMMS) for the period April'21 to March'22 vide Return No. 46315655

Soft copy of the submitted Form 4 is attached herewith for your kind information and records.

Thanking you.

for, **M/s. Marine Infrastructure Developer Pvt Ltd**


R. Sathish Kumar
Head - Environment



Encl: As above

Marine Infrastructure Developer Pvt Ltd
(Kattupalli Port)
Kattupalli Village, Ponneri Taluk,
Tiruvalluvar District 600 120,
Tamil Nadu, India

Tel +91 44 2824 3062

CIN: U74999TN2015PTC103769

FORM 4

[See rules 6(5), 13(8), 16(6) and 20 (2)]

Annual Return

under

Hazardous & Other Wastes(Management & Transboundary Movement) Rules, 2016

Transboundary Movement) Rules, 2016

To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March

Return No : 46315655

Period : 2021-2022

1. Name of facility/Industry Industry Address of facility/Industry	MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED PB No. 001, KATTUPALLI PORT, KATTUPALLI VILLAGE			
2. UID	R17AMB9758447			
3. Authorisation No Date of issue: Date of Expiry	19HPC20312718 30/04/2019 29/04/2024			
4. (i) Name of the authorised person & Designation	Jai Singh Khurana Managing Director			
(ii) Correspondence Address	Ramcon Fortuna Towers, 4th floor No 1/2, Kodambakkam High Road, Nungambakkam, Chennai- 600034			
(iii) Mobile No	9176000959			
(iv) Land Line No (with area code)				
(v) Fax number (with area code)				
(vi) e-mail	sathish.r@adani.com			
5. Production during the year (product wise), wherever applicable	Sr.no	Product Name	Quantity	Unit
	1	Containers	6347685.6	Metric Ton
	2	Ro-Ro Automobiles	0	Metric Ton
	3	project Cargo	0	Metric Ton
	4	Break Bulk / General Cargo	653742.98	Metric Ton
	5	Edible Oil, CBFS, Base oil, Lube and Non-Hazardous liquid cargo	388739.48	Metric Ton

Part A. To be filled by hazardous waste generators									
Sr.no	Category	Unit	Quantity in stock at the beginning of the year	Total quantity of waste generated	Quantity dispatched to disposal facility	Quantity dispatched to recycler or co-processors or pre-processor	Quantity dispatched to others	Quantity utilised in house	Quantity in storage at the end of the year

1	Schedule 1 - 3, Cleaning, emptying and maintenance of petroleum oil storage tanks including ships - 3.1-Cargo residue, washing water and sludge containing oil	Metric Ton	0	0	0	0	0	0	0
2	Schedule 1 - 33 Disposal of barrels / containers used for handling of hazardous wastes / chemicals - 33.1. Chemical-containing residue arising from decontamination	Metric Ton	0	0	0	0	0	0	0
3	Schedule 1 - 5, Industrial operations using mineral or synthetic oil as lubricant in hydraulic systems or other applications - 5.1-Used or spent oil	Metric Ton	0	2.079	2.079	2.079	0	0	0

Part B. To be filled by Treatment, storage and disposal facility operators

Sr. no	Category	Unit	Quantity in stock at the beginning of the year	Total quantity received	Quantity treated	Quantity disposed in landfills as such and after treatment	Quantity incinerated (If applicable)	Quantity processed other than specified above	Quantity in storage at the end of the year
--------	----------	------	--	-------------------------	------------------	--	--------------------------------------	---	--

Part C. To be filled by recyclers or co-processors or other users

Sr. no	Category	Unit	Quantity in stock at the beginning of the year	Quantity of waste received during the year from Domestic sources	Quantity of waste received during the year Imported	Quantity recycled or co-processed or used	Quantity of waste generated	Quantity of waste disposed	Quantity re-exported (wherever applicable)	Quantity in storage at the end of the year
--------	----------	------	--	--	---	---	-----------------------------	----------------------------	--	--

Quantity of products dispatched during the year (wherever applicable)

Sr.no	Product dispatched	Quantity	Unit
-------	--------------------	----------	------

Date : 25/06/2022

Place : Tiruvallur

Name of the Occupier or Operator of the disposal facility

Jai Singh Khurana





ANNEXURE – 3
(MIDPL MONITORING REPORT
OCT'22 - MAR'23)

**REPORT ON
COMPREHENSIVE ENVIRONMENTAL MONITORING
FOR**

**MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED (MIDPL)
KATTUPALLI VILLAGE, PONNERI TALUK,
THIRUVALLUR DISTRICT, TAMILNADU - 600 120**

OCTOBER 2022 - MARCH 2023



PREPARED BY:



Green Chem Solutions Pvt. Ltd.

No.883, 11th Street,
Syndicate Bank Colony,
Anna Nagar West Extension,
Chennai - 600 101.

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V.	Environmental studies
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ii.	Ambient Air Quality
iii.	Ambient Noise Level Intensity
iv.	DG Set Emission
v.	STP Water Sample Analysis
vi.	Drinking water Sample Analysis
vii.	Rain water harvesting pond Water Sample Analysis
viii.	Marine sampling
Fig.No	Description
1	Location Map
2	Ambient Air Sampling Station Location Map
3	Ambient Air Sampling Station with respect to Wind
4	Noise Level Sampling Location Map
5	Water and Marine Sampling Location Map

I. INTRODUCTION

Marine Infrastructure Developer Private Limited (MIDPL), subsidiary of Adani Ports and Special Economic Zone Limited (APSEZ) is operating Kattupalli Port, having the latest technology of Terminal Operating System which is the first of its kind in India, which can support the entire supply chain in doing business smoothly.

MIDPL have engaged M/s. Green Chem Solutions (P) Ltd, an Accredited Consultant by NABL to carry out the Comprehensive Environmental monitoring studies in the Port site continuously as per the norms. This report covers the monitored environmental data for the Period Oct 2022 to Mar 2023.

II. LOCATION OF THE PROJECT

The Project site is located at Port area, Kattupalli Port Area.

The location map is shown in Fig - 1

Fig - 1 - Location Map



III. 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 04 stations for analyzing the following parameters: <ul style="list-style-type: none"> • PM10 • PM2.5 • SO₂ • NO₂ • CO • Lead • Ozone • Ammonia • Benzene • BenzoPyrene • Arsenic • Nickel 	Weekly Twice
3.	Ambient Noise	Collection of Noise levels on hourly basis at 4 locations <ul style="list-style-type: none"> • L_{eq} - Day (Max and Min) • L_{eq} - Night (Max and Min) 	Monthly Once
4.	Marine Sampling		

4a.	Surface and Bottom Water	<p>Collection of Surface and Bottom Water analyzed for - 2 location</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 NO_3 • Nitrite as NO_2 • Ammonical Nitrogen as N • Ammonia as NH_3 • Kjeldahl Nitrogen as N • Total phosphates as PO_4 • Total Nitrogen, • Total Dissolved Solids • COD • Total bacterial count, • Coliforms • Escherichia coli • Salmonella • Shigella • Vibrio cholera • Vibrio parahaemolyticus • Enterococci • Colour • Odour • Taste • Turbidity • Calcium as Ca • Chloride as Cl • Cyanide as CN • Fluoride as F • Magnesium as Mg • Total Iron as Fe • Residual Free Chlorine • Phenolic Compounds as $\text{C}_6\text{H}_5\text{OH}$ • Total Hardness as CaCO_3 • Total Alkalinity as CaCO_3 • Sulphide as H_2S • Sulphate as SO_4 • Anionic surfactants as MBAS • Monocrotophos • Atrazine • Ethion • Chlorpyrifos • Phorate • Methyl parathion • Malathion • DDT (o,p and p,p-Isomers of • DDT, DDE and DDD • Gamma HCH (Lindane) • Alpha HCH • Beta HCH 	Monthly Once
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		<ul style="list-style-type: none"> • Delta HCH • Endosulfan (Alpha,beta and sulphate) • Butachlor • Alachlor • Aldrin/Dieldrin • Isoproturon • 2,4-D • Polychlorinated Biphenyls(PCB) • Polynuclear aromatic hydrocarbons (PAH) • Arsenic as As • Mercury as Hg • Cadmium as Cd • Total Chromium as C • Copper as Cu • Lead as Pb • Manganese as Mn • Nickel as Ni • Selenium as Se • Barium as Ba • Silver as Ag • Molybdenum as Mo • Octane • Nonane • Decane • Undecane • Tridecane • Tetradecane • Pentadecane • Hexadecane • Heptadecane • Octadecane • Nonadecane • Elcosan 	
4b.	Sea Sediment	Collection of sea sediment analyzed for - 2 location <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 	Monthly Once

		<ul style="list-style-type: none"> • Potassium • Total Chromium • Petroleum Hydrocarbon • Aluminium • Total Nitrogen • Organic Nitrogen • Phosphorus • Texture 	
4c.	Phytoplankton Monitoring	<ul style="list-style-type: none"> • Total Count • No. of species • Chlorophyll-a • 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"> • Total Bacteria count • Total Coliform • Faecal Coliform • E.Coli • Enterococcus • Salmonella • Sheigella • Vibrio 	Monthly Once
4f.	Primary Productivity Monitoring	<ul style="list-style-type: none"> • Gross primary productivity • Net Primary productivity 	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	Collection of STP Treated water analyzed for - 2 locations <ul style="list-style-type: none"> • pH • TSS • BOD • Faecal Coliforms 	Monthly Once
6.	Potable Water analysis	Collection of Drinking water analyzed for - 1 locations - As per IS 10500 2012 - 36 Parameters	Monthly Once
7	DG Set Emissions - 3Nos & Liquid Terminal oil Generator	Sampling of Emission at 04 stations for analyzing the following parameters: <ul style="list-style-type: none"> • PM • Carbon Monoxide • NO_x - NO₂ • SO₂ 	Monthly Once

IV. METHODOLOGY

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

1	Meteorological parameters	
	Auto weather station	
2	Ambient Air Quality	
	Parameters	Method
	Respirable Suspended Particulate Matter (PM10)	IS5182Part23:2006
	Particulate Matter PM2.5	GCS/Lab/SOP/087, CPCB Guidelines
	Sulphur di-oxide as SO ₂	IS5182 Part2 :2001(Reaff.2006)
	Oxides of Nitrogen as NO ₂	IS5182 Part6 :2006
	Lead as Pb	IS5182 Part22:2004(Reaff.2009)
	Arsenic as As	GCS/Lab/SOP/089, CPCB Guidelines
	Nickel as Ni	GCS/Lab/SOP/090, CPCB Guidelines
	Carbon monoxide as CO	IS5182Part10:1999(Reaff.2009)
	Ozone as O ₃	IS5182Part9:1974[Reaff.2009]
	Ammonia as NH ₃	GCS/Lab/SOP/086, CPCB Guidelines
	Benzene (α) pyrene	IS 5482 - Part 12
	Benzene as C ₆ H ₆	IS5182Part11:2006
3	Ambient Noise Monitoring	
	Leq Day & Night	Instrument Manual, GCS/LAB/SOP/Noise/001
4	Marine Sampling	
	Surface and Bottom Water	APHA Methods 23 rd Edition, 2017 Standard Methods for examination of Water and Waste water 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 Waste water and IS 3025
6	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
7	Emission Monitoring	
	PM, Carbon Monoxide, NO _x - NO ₂ , SO ₂	IS 11255 Methods of measurement of emissions from Stationary source

V. ENVIRONMENTAL STUDIES - Oct 2022 - Mar 2023

S.No	ATTRIBUTE	SCOPE
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.



i. METEOROLOGICAL DATA

Meteorological data was collected on hourly basis by installing an auto weather monitoring station at Plant site. The report depicted hereunder represents the data for the period Oct 2022 - Mar 2023.

The following parameters were recorded

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

**ANNEXURE - 1 MICROMETEOROLOGY DATA
OCTOBER - 2022**

Marine Infrastructure Developer Private Ltd							
Report Type: Average Report							
From: 01-10-2022 00:00:00 To: 31-10-2022 23:59:59							
Created By: ADANI Created At: 01.11.2022 10:15:20							
Date	AQMS-Wind Speed (km/h)	AQMS-Wind Direction (Degree)	AQMS-RH (%)	AQMS Total Rain Fall (mm)	AQMS-Atm. Pressure (mBar)	AQMS-Atm. Temperature (Degree)	AQMS-Solar Radiation (w/m2)
Avg	4.5	221	92.1	208.0	1002.3	31.8	92.5
Min	1.1	176	79.4	-	1000.0	28.9	14.8
Max	9.5	251	99.9	-	1005.4	33.2	302.9
01-10-2022	1.1	251	99.9	0.5	1003.4	28.9	99.2
02-10-2022	2.5	217	94.0	0.0	1003.8	30.9	298.8
03-10-2022	3.6	216	93.8	0.0	1003.4	31.8	260.7
04-10-2022	4.3	230	95.9	0.0	1002.9	32.3	258.9
05-10-2022	4.3	225	90.6	16.5	1002.2	32.8	272.9
06-10-2022	3.6	227	93.3	2.5	1001.6	33.2	302.9
07-10-2022	4.4	189	98.6	28.0	1002.0	30.6	171.3
08-10-2022	4.1	248	99.9	6.0	1001.8	29.6	76.4
09-10-2022	4.4	209	94.0	15.0	1000.8	30.9	180.9
10-10-2022	5.4	237	90.1	12.5	1000.4	31.7	131.3
11-10-2022	9.5	231	84.1	1.5	1000.0	32.7	188.4
12-10-2022	6.3	230	89.0	1.5	1000.4	32.5	256.2
13-10-2022	4.9	230	90.5	0.5	1002.3	32.6	18.8
14-10-2022	5.5	234	95.4	8.0	1004.5	32.4	18.5
15-10-2022	3.1	236	93.5	0.0	1005.4	31.4	17.5
16-10-2022	4.5	222	92.1	19.0	1003.0	32.0	17.9
17-10-2022	4.8	237	92.7	1.5	1002.4	32.8	14.8
18-10-2022	4.4	223	90.6	0.0	1002.8	32.8	17.1
19-10-2022	5.3	237	87.2	0.0	1002.6	32.5	18.2
20-10-2022	5.6	243	79.4	12.0	1002.0	32.3	18.3
21-10-2022	5.1	208	83.5	3.5	1002.1	32.4	19.5
22-10-2022	5.8	211	84.5	11.5	1002.5	33.2	19.7
23-10-2022	3.9	213	84.5	0.0	1003.3	33.1	19.6
24-10-2022	4.5	187	86.7	0.0	1002.8	32.6	19.7
25-10-2022	4.7	182	89.1	0.0	1002.0	32.6	19.7
26-10-2022	2.9	250	96.0	0.0	1003.0	31.7	20.0
27-10-2022	4.6	176	93.7	13.5	1002.0	31.8	19.7
28-10-2022	3.8	227	99.4	0.0	1001.1	30.6	19.0
29-10-2022	3.4	227	99.9	0.5	1001.1	30.2	27.0
30-10-2022	3.8	226	99.4	0.0	1001.1	30.3	26.3
31-10-2022	4.6	176	93.7	54.0	1002.0	31.8	19.7

Nov - 2022

Marine Infrastructure Developer Private Ltd							
Report Type: Average Report							
From: 01-11-2022 00:00:00 To: 30-11-2022 23:59:59							
Created By: ADANI Created At: 01.12.2022 11:00:50							
Date	AQMS-Wind Speed (km/h)	AQMS-Wind Direction (Degree)	AQMS-RH (%)	AQMS Total Rain Fall (mm)	AQMS-Atm. Pressure (mBar)	AQMS-Amb. Temperature (Degree)	AQMS-Solar Radiation (w/m2)
Avg	5.2	169	80.11/01	399.5	1006.5	28.8	143.1
Min	1.4	88	0.0	-	1001.2	24.8	38.3
Max	10.2	288	0.0	-	1009.3	31.2	224.9
01-11-2022	2.2	260	*	141.0	1007.4	26.4	42.0
02-11-2022	2.7	206	*	84.0	1006.8	27.5	78.6
03-11-2022	4.5	223	*	2.0	1006.5	28.6	172.3
04-11-2022	3.1	174	*	16.5	1007.8	28.8	205.3
05-11-2022	4.2	101	*	0.0	1009.1	30.8	211.7
06-11-2022	6.5	88	*	0.0	1009.3	31.2	224.9
07-11-2022	6.7	156	*	7.0	1008.9	29.9	120.9
08-11-2022	6.3	141	*	1.5	1008.4	29.9	114.6
09-11-2022	6.2	151	*	1.5	1008.0	29.9	176.6
10-11-2022	7.3	138	*	16.5	1007.2	29.9	168.9
11-11-2022	10.2	111	*	49.0	1006.3	29.2	50.8
12-11-2022	7.6	98	*	40.5	1006.8	29.8	82.6
13-11-2022	3.8	202	*	15.0	1008.0	28.0	86.3
14-11-2022	4.1	211	*	0.5	1008.5	28.8	124.0
15-11-2022	4.1	177	*	2.5	1008.8	29.2	155.7
16-11-2022	5.6	129	*	0.0	1007.4	29.6	203.6
17-11-2022	5.7	150	*	0.0	1007.2	29.0	146.5
18-11-2022	7.1	182	*	0.0	1007.1	28.9	163.9
19-11-2022	9.8	125	*	0.0	1006.8	29.4	189.3
20-11-2022	6.4	248	*	0.0	1005.6	27.4	119.0
21-11-2022	8.0	279	*	8.0	1005.4	24.8	58.6
22-11-2022	7.6	288	*	12.0	1004.3	26.0	38.3
23-11-2022	4.2	196	*	2.0	1005.0	28.6	129.4
24-11-2022	1.8	157	*	0.0	1006.9	29.7	203.4
25-11-2022	1.4	207	*	0.0	1006.9	*	73.9
26-11-2022	3.0	149	*	0.0	1003.0	*	195.6
27-11-2022	3.2	134	*	0.0	1001.2	*	192.0
28-11-2022	3.9	106	*	0.0	1002.1	*	168.7
29-11-2022	4.3	101	*	0.0	1003.5	*	215.9
30-11-2022	4.7	189	*	0.0	1003.9	*	179.4
Remarks: RH & Temperature Sensor problem. Order placed for new sensor. Awaiting new sensor for replacement.							

Dec - 2022

Marine Infrastructure Developer Private Ltd							
Report Type: Average Report							
From: 01-12-2022 00:00:00 To: 31-12-2022 23:59:59							
Created By: ADANI Created At: 01.12.2022 11:00:50							
Date	AQMS-Wind Speed (km/h)	AQMS-Wind Direction (Degree)	AQMS-RH (%)	AQMS Total Rain Fall (mm)	AQMS-Atm. Pressure (mBar)	AQMS-Atm. Temperature (Degree)	AQMS-Solar Radiation (w/m2)
Avg	5.9	128	811/01	46.1	1003.1	811/01	178.9
Min	1.7	79	0.0	-	996.1	0.0	59.8
Max	12.3	211	0.0	-	1008.4	0.0	284.1
01-12-2022	4.0	88.0	-	2.0	1003.4	-	180.6
02-12-2022	3.4	86.2	-	0.0	1003.2	-	235.6
03-12-2022	4.3	90.8	-	0.0	1003.5	-	206.8
04-12-2022	5.5	92.3	-	0.0	1004.2	-	157.9
05-12-2022	4.8	88.3	-	0.0	1004.8	-	181.2
06-12-2022	8.3	82.7	-	0.0	1004.0	-	125.2
07-12-2022	8.9	142.3	-	0.0	1002.7	-	132.2
08-12-2022	11.0	211.4	-	0.0	1000.8	-	59.8
09-12-2022	12.3	145.6	-	32.5	996.1	-	69.1
10-12-2022	8.5	198.5	-	1.5	996.4	-	65.2
11-12-2022	1.7	184.3	-	0.0	1001.3	-	96.7
12-12-2022	4.9	169.3	-	0.0	1002.2	-	62.1
13-12-2022	5.5	107.9	-	0.0	1004.0	-	213.2
14-12-2022	2.5	151.3	-	0.0	1004.2	-	187.9
15-12-2022	2.7	103.9	-	0.0	1003.2	-	234.5
16-12-2022	3.3	162.0	-	0.0	1002.3	-	271.9
17-12-2022	7.0	79.0	-	0.0	1002.9	-	284.1
18-12-2022	6.1	94.0	-	0.0	1002.5	-	189.6
19-12-2022	8.4	86.1	-	0.0	1001.9	-	209.0
20-12-2022	8.6	115.4	-	0.0	1001.7	-	205.9
21-12-2022	7.5	161.9	-	0.0	1001.9	-	155.3
22-12-2022	10.2	100.4	-	0.0	1001.6	-	183.8
23-12-2022	8.8	173.5	-	0.0	1001.6	-	124.3
24-12-2022	9.2	157.0	-	4.5	1001.8	-	176.7
25-12-2022	6.9	90.1	-	3.6	1002.3	-	173.3
26-12-2022	3.2	91.2	-	0.0	1004.5	-	187.0
27-12-2022	3.2	90.9	-	2.0	1005.8	-	226.5
28-12-2022	2.1	143.0	-	0.0	1006.5	-	246.3
29-12-2022	3.0	163.4	-	0.0	1007.6	-	241.6
30-12-2022	3.0	154.2	-	0.0	1008.4	-	239.4
31-12-2022	2.8	171.2	-	0.0	1007.6	-	222.5
Remarks: RH & Temperature Sensor problem. Order placed for new sensor. Awaiting new sensor for replacement.							

Jan - 2023

Marine Infrastructure Developer Private Ltd							
Report Type: Average Report							
From: 01-01-2023 0:00:00 Hrs To: 31-01-2023 23:59:59 Hrs							
Created by Adani. Created at 01-01-2023 11:00:05 AM							
Date	AQMS-Wind_Speed (km/h)	AQMS-Wind_Direction (Degree)	AQMS-RH (%)	AQMS Total Rain Fall (mm)	AQMS-Atm. Pressure (mBar)	AQMS-Atm. Temperature (Degree)	AQMS-Solar_Radiation (w/m2)
Avg	5.0	118	87	0.0	1003.1	31.7	212.4
Min	1.4	71	81.8	-	996.1	30.1	118.9
Max	9.8	163	97.1	-	1008.4	33.1	255.9
01-01-2023	2.5	161.0	*	0.0	1007.1	*	241.4
02-01-2023	2.6	129.7	*	0.0	1006.9	*	244.8
03-01-2023	3.5	114.6	*	0.0	1007.0	*	220.2
04-01-2023	6.2	84.3	*	0.0	1006.1	*	200.1
05-01-2023	8.0	85.4	*	0.0	1006.4	*	233.7
06-01-2023	7.3	80.6	*	0.0	1007.8	*	192.4
07-01-2023	7.4	73.4	*	0.0	1007.0	*	194.7
08-01-2023	5.1	106.8	*	0.0	1006.3	*	159.2
09-01-2023	5.9	78.9	*	0.0	1007.4	*	239.6
10-01-2023	6.6	124.9	*	0.0	1007.1	*	248.7
11-01-2023	4.2	163.0	*	0.0	1005.2	*	238.6
12-01-2023	3.0	160.4	*	0.0	1004.3	*	255.9
13-01-2023	1.4	163.0	*	0.0	1005.8	*	167.6
14-01-2023	2.9	147.1	82.0	0.0	1007.0	30.8	232.2
15-01-2023	2.1	162.6	85.8	0.0	1006.4	30.1	233.9
16-01-2023	3.4	152.7	85.4	0.0	1007.1	30.5	241.4
17-01-2023	3.5	155.8	83.3	0.0	1007.8	31.1	233.8
18-01-2023	3.7	155.8	82.5	0.0	1009.1	31.4	221.8
19-01-2023	3.3	131.6	82.6	0.0	1008.9	31.4	229.0
20-01-2023	4.2	140.7	93.8	0.0	1008.3	31.4	118.9
21-01-2023	6.7	85.6	88.2	0.0	1007.5	32.6	214.4
22-01-2023	5.7	88.7	83.4	0.0	1006.9	32.3	183.8
23-01-2023	6.3	84.3	89.4	0.0	1006.0	32.4	151.5
24-01-2023	5.7	85.2	83.3	0.0	1006.4	32.5	238.6
25-01-2023	5.0	112.7	81.8	0.0	1006.4	32.1	227.4
26-01-2023	5.7	133.0	89.3	0.0	1006.4	31.4	189.4
27-01-2023	4.1	94.6	82.7	0.0	1006.4	32.0	239.3
28-01-2023	5.9	147.5	95.3	0.0	1005.7	31.1	215.1
29-01-2023	6.3	108.1	92.3	0.0	1004.4	32.6	205.5
30-01-2023	6.9	83.8	95.2	0.0	1005.5	33.1	205.2
31-01-2023	9.8	70.5	97.1	0.0	1005.0	32.7	166.3
Remarks: *RH & Temperature Sensor problem. New sensor replaced.							

Feb - 2023

Marine Infrastructure Developer Private Ltd

Report Type: Average Report

From: 01-02-2023 0:00:00 Hrs To: 28-02-2023 23:59:59 Hrs

Created by Adani. Created at 01-02-2023 10:25:01 AM

Date	AQMS-Wind Speed (km/h)	AQMS-Wind Direction (Degree)	AQMS-RH (%)	AQMS Total Rain Fall (mm)	AQMS-Atm. Pressure (mBar)	AQMS-Atm. Temperature (Degree)	AQMS-Solar Radiation (w/m2)
Avg	4.3	148	78	0.0	1006.3	28.5	232.4
Min	2.4	79	69.7	-	1004.6	27.2	120.3
Max	10.3	191	96.8	-	1009.6	32.9	263.5
01-02-2023	10.3	81.0	96.8	0.0	1004.6	32.6	180.0
02-02-2023	8.7	81.8	91.0	0.0	1005.2	32.9	120.3
03-02-2023	6.3	86.2	85.0	0.0	1005.7	31.4	120.3
04-02-2023	5.1	79.1	69.7	0.0	1004.7	29.1	225.4
05-02-2023	3.3	124.8	72.3	0.0	1004.6	28.2	231.8
06-02-2023	3.2	150.6	78.5	0.0	1004.9	27.8	241.5
07-02-2023	4.3	152.4	76.2	0.0	1004.6	28.2	242.9
08-02-2023	3.0	144.8	71.9	0.0	1004.7	27.9	242.8
09-02-2023	2.7	167.0	73.5	0.0	1005.5	27.5	229.5
10-02-2023	3.7	166.0	71.9	0.0	1006.4	27.9	241.8
11-02-2023	2.8	171.6	74.8	0.0	1006.6	27.4	171.9
12-02-2023	3.4	190.5	76.0	0.0	1006.7	27.3	253.4
13-02-2023	3.5	162.9	76.2	0.0	1006.7	27.2	255.7
14-02-2023	4.2	156.0	76.8	0.0	1006.7	27.4	253.0
15-02-2023	3.8	155.3	77.9	0.0	1005.3	27.7	247.8
16-02-2023	2.7	171.8	77.3	0.0	1005.7	27.6	240.1
17-02-2023	2.4	187.7	75.2	0.0	1006.2	27.6	246.6
18-02-2023	4.1	167.5	77.4	0.0	1006.4	28.1	256.3
19-02-2023	4.6	128.6	75.3	0.0	1006.5	29.0	262.0
20-02-2023	4.0	162.4	75.1	0.0	1006.5	28.4	252.3
21-02-2023	4.9	173.5	76.1	0.0	1006.5	28.2	241.8
22-02-2023	3.5	168.3	77.2	0.0	1006.2	28.4	240.7
23-02-2023	4.8	165.2	76.1	0.0	1006.2	28.2	258.0
24-02-2023	4.1	178.1	75.3	0.0	1006.8	28.4	263.5
25-02-2023	3.3	166.7	78.9	0.0	1008.3	27.6	248.6
26-02-2023	3.4	155.4	79.1	0.0	1009.5	27.9	247.0
27-02-2023	4.6	152.3	80.0	0.0	1009.6	28.0	259.5
28-02-2023	4.8	108.1	79.5	0.0	1009.5	29.3	231.6

Mar - 2023

Marine Infrastructure Developer Private Ltd							
Report Type: Average Report							
From: 01-03-2023		0:00:00 Hrs		To: 31-03-2023		23:59:59 Hrs	
Created by Adani.		Created at		01-03-2023		9:28:17 AM	
Date	AQMS-Wind_Speed (km/h)	AQMS-Wind_Direction (Degree)	AQMS-RH (%)	AQMS Total Rain Fall (mm)	AQMS-Atm. Pressure (mBar)	AQMS-Atm. Temperature (Degree)	AQMS-Solar_Radiation (w/m2)
Avg	3.7	175	87	0.0	1003.1	30.2	225.1
Min	2.0	80	70.2	-	996.1	28.8	141.1
Max	5.6	253	99.2	-	1008.4	31.6	294.1
01-03-2023	5.5	84.1	74.5	0.0	1009.5	30.1	239.9
02-03-2023	4.5	100.9	70.2	0.0	1009.7	29.6	253.7
03-03-2023	3.6	130.1	73.9	0.0	1010.1	28.9	244.3
04-03-2023	4.0	96.6	75.4	0.0	1009.9	29.5	239.4
05-03-2023	4.7	101.1	83.9	0.0	1009.4	29.2	243.9
06-03-2023	2.9	145.6	83.6	0.0	1008.1	28.8	250.6
07-03-2023	4.1	130.0	78.0	0.0	1007.6	29.2	240.9
08-03-2023	5.6	112.8	77.8	0.0	1007.5	29.7	237.8
09-03-2023	5.0	79.9	78.9	0.0	1006.8	29.9	203.3
10-03-2023	4.0	128.7	80.8	0.0	1006.3	29.4	211.9
11-03-2023	5.5	87.7	76.7	0.0	1006.4	30.2	228.8
12-03-2023	4.7	123.5	85.5	0.0	1006.2	29.6	227.5
13-03-2023	4.0	132.1	88.5	0.0	1005.1	29.4	224.3
14-03-2023	3.0	150.6	83.6	0.0	1004.1	28.8	163.6
15-03-2023	3.8	200.3	71.8	0.0	1003.2	30.1	203.7
16-03-2023	4.8	186.6	71.1	0.0	1004.0	31.0	231.1
17-03-2023	4.7	128.3	88.4	0.0	1005.7	29.7	141.1
18-03-2023	3.8	191.7	96.0	0.0	1005.2	30.9	228.6
19-03-2023	2.2	233.1	97.1	0.0	1004.4	29.7	152.3
20-03-2023	2.8	234.9	96.6	0.0	1003.9	29.7	221.2
21-03-2023	2.0	252.7	97.1	0.0	1003.6	30.7	241.5
22-03-2023	2.7	241.9	96.8	0.0	1004.1	31.4	205.3
23-03-2023	2.3	239.7	99.2	0.0	1004.4	30.9	157.4
24-03-2023	3.4	243.2	95.9	0.0	1004.6	30.9	235.9
25-03-2023	2.9	242.3	96.7	0.0	1005.9	31.5	238.5
26-03-2023	2.6	236.7	96.2	0.0	1005.1	31.4	239.8
27-03-2023	3.8	233.9	95.8	0.0	1004.2	31.6	239.1
28-03-2023	3.2	236.7	96.7	0.0	1004.8	31.5	224.3
29-03-2023	3.2	243.2	93.1	0.0	1005.8	31.5	255.8
30-03-2023	3.3	239.1	92.5	0.0	1005.3	31.2	294.1
31-03-2023	3.4	235.4	93.7	0.0	1004.1	31.2	258.6

II. 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.

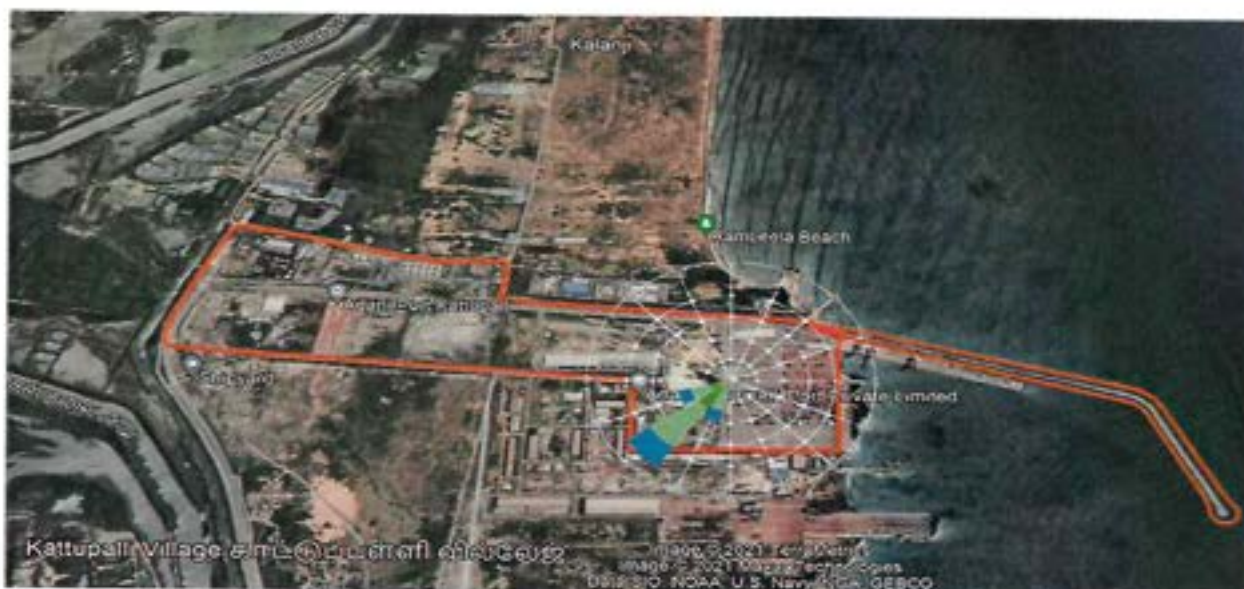
DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS

Station code	Location	Geographical location	Environmental setting
AAQ1	Near Marine Control Tower	13° 18' 55" N 80° 20' 45" E	Industrial
AAQ2	Near Port Main Gate	13° 18' 51" N 80° 19' 28" E	Industrial
AAQ3	Kattupalli village	13° 18' 18" N 80° 19' 48" E	Village
AAQ4	Kalanji village	13° 20' 8" N 80° 20' 0" E	Village
CAAQM 1	Port Operating Building	13° 18' 45.68" N 80° 20' 25.50" E	Industrial

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

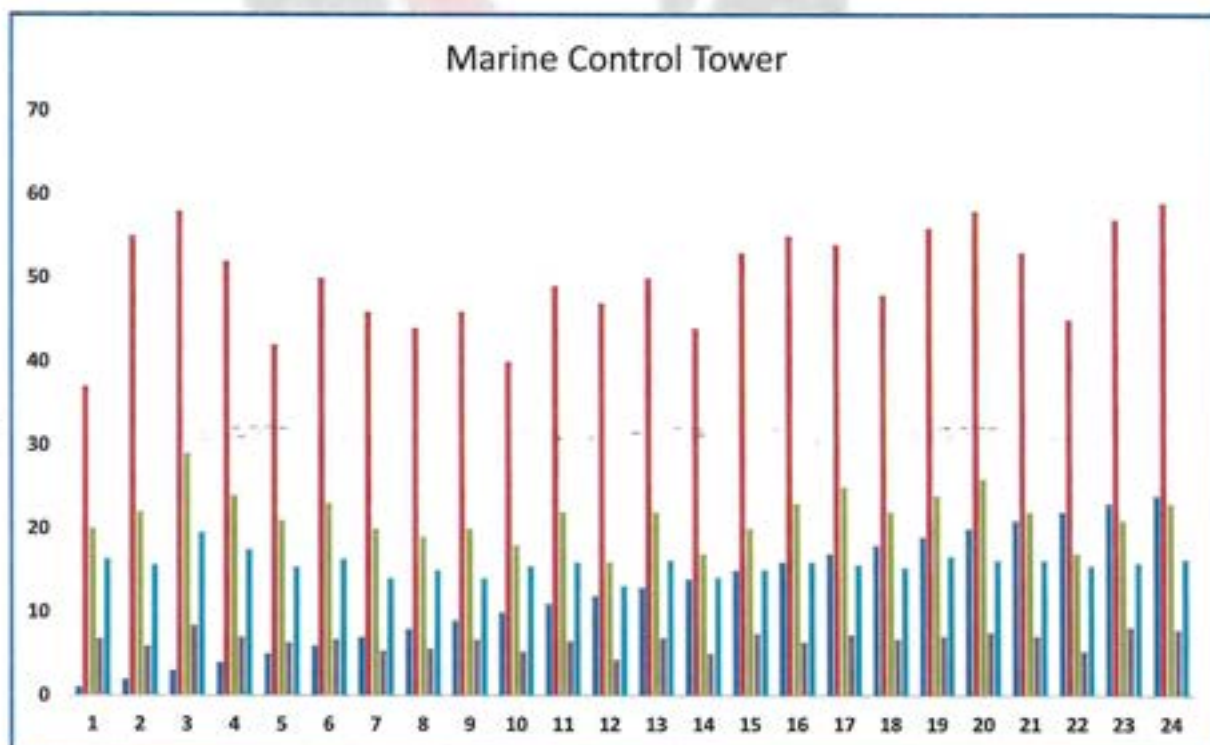
S.N o	Parameter	Technique	Unit	Minimum Detectable Limit
1	PM ₁₀	Respirable Dust Sampler (Gravimetric method)	µg/m ³	1.0
2	PM _{2.5}	Fine particle Sampler (Gravimetric method)	µg/m ³	5.0
3	Sulphur Dioxide	Modified West and Gaeke method	µg/m ³	4.0
4	Nitrogen Oxide	Jacob & Hochheiser method	µg/m ³	6.0
5	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

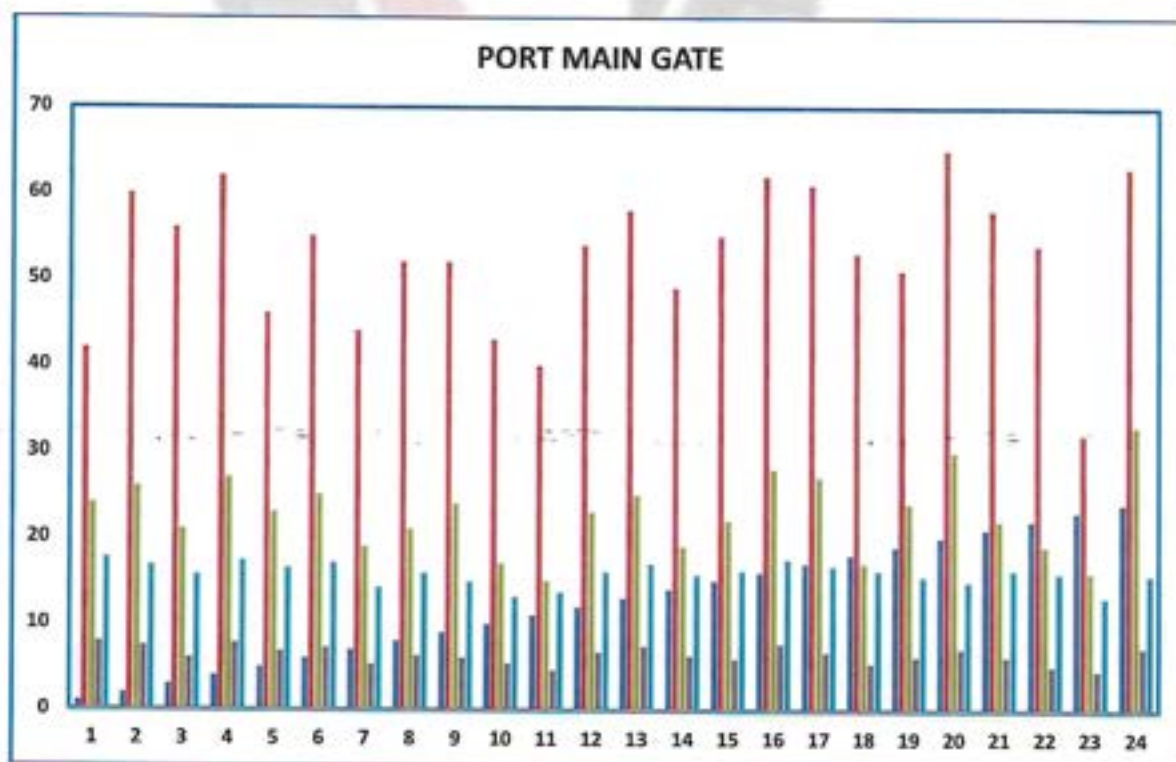
The results of the ambient air quality for the study period are submitted. The minimum, maximum 98th percentile and average values have been computed from the observed raw data for all the AAQ monitoring stations. The summary of these results for all the locations is presented in the Table and the detailed 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

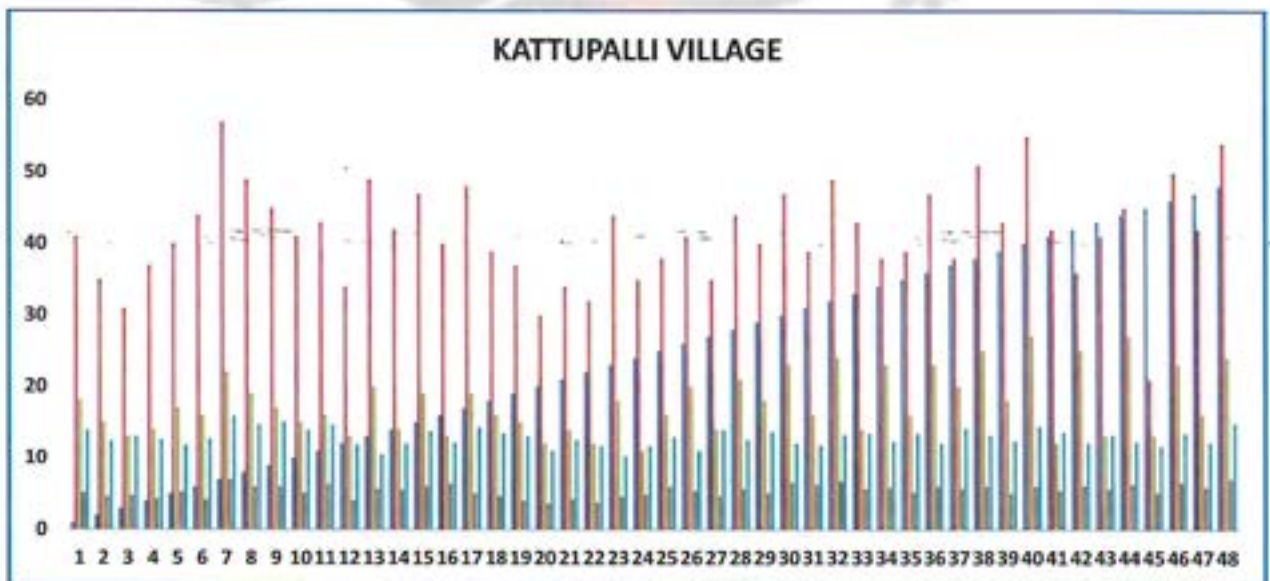
MARINE CONTROL TOWER (AAQ1)														
Parameters			Particular matter PM10	Particular matter PM2.5	Sulphur dioxide as SO2	Nitrogen dioxide as NO2	Lead as Pb	Carbon monoxide as CO	Ozone as O3	Ammonia as NH3	Arsenic as As	Nickel as Ni	Benzene as C6H6	Benzo (a) pyrene as B[a]P
Unit			µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	mg/m3	µg/m3	µg/m3	ng/m3	ng/m3	µg/m3	ng/m3
National AAQM Standard			100	60	80	80	1	4	180	400	6	20	5	1
S.No.	Sampling Date	Report Number												
1	10.10.2022	GCS/LAB/S/1886/22-23	17	20	6.8	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
2	14.10.2022	GCS/LAB/S/1886/22-23	55	22	5.9	15.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
3	25.10.2022	GCS/LAB/S/1886/22-23	18	29	8.4	19.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
4	28.10.2022	GCS/LAB/S/1886/22-23	52	24	7	17.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
5	07.11.2022	GCS/LAB/S/1987/22-23	42	21	6.3	15.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
6	21.11.2022	GCS/LAB/S/1987/22-23	50	23	6.7	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
7	25.11.2022	GCS/LAB/S/1987/22-23	46	20	5.4	14.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
8	28.11.2022	GCS/LAB/S/1987/22-23	44	19	5.6	15	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
9	05.12.2022	GCS/LAB/S/2126/22-23	46	20	6.7	14.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
10	19.12.2022	GCS/LAB/S/2126/22-23	40	18	5.3	15.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
11	23.12.2022	GCS/LAB/S/2126/22-23	49	22	6.5	16	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
12	30.12.2022	GCS/LAB/S/2126/22-23	47	16	4.3	13.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
13	09.01.2023	GCS/LAB/S/2175/22-23	50	22	6.9	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
14	13.01.2023	GCS/LAB/S/2175/22-23	44	17	5	14.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
15	23.01.2023	GCS/LAB/S/2175/22-23	53	20	7.4	15.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
16	27.01.2023	GCS/LAB/S/2175/22-23	55	23	6.4	16	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
17	06.02.2023	GCS/LAB/S/2297/22-23	54	25	7.3	15.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
18	10.02.2023	GCS/LAB/S/2297/22-23	48	22	6.8	15.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
19	20.02.2023	GCS/LAB/S/2297/22-23	56	24	7.1	16.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
20	24.02.2023	GCS/LAB/S/2297/22-23	58	26	7.6	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
21	06.03.2023	GCS/LAB/S/2355/22-23	53	22	7.1	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
22	10.03.2023	GCS/LAB/S/2355/22-23	45	17	5.3	15.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
23	20.03.2023	GCS/LAB/S/2355/22-23	57	21	8.2	15.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
24	27.03.2023	GCS/LAB/S/2355/22-23	59	23	7.9	16.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1



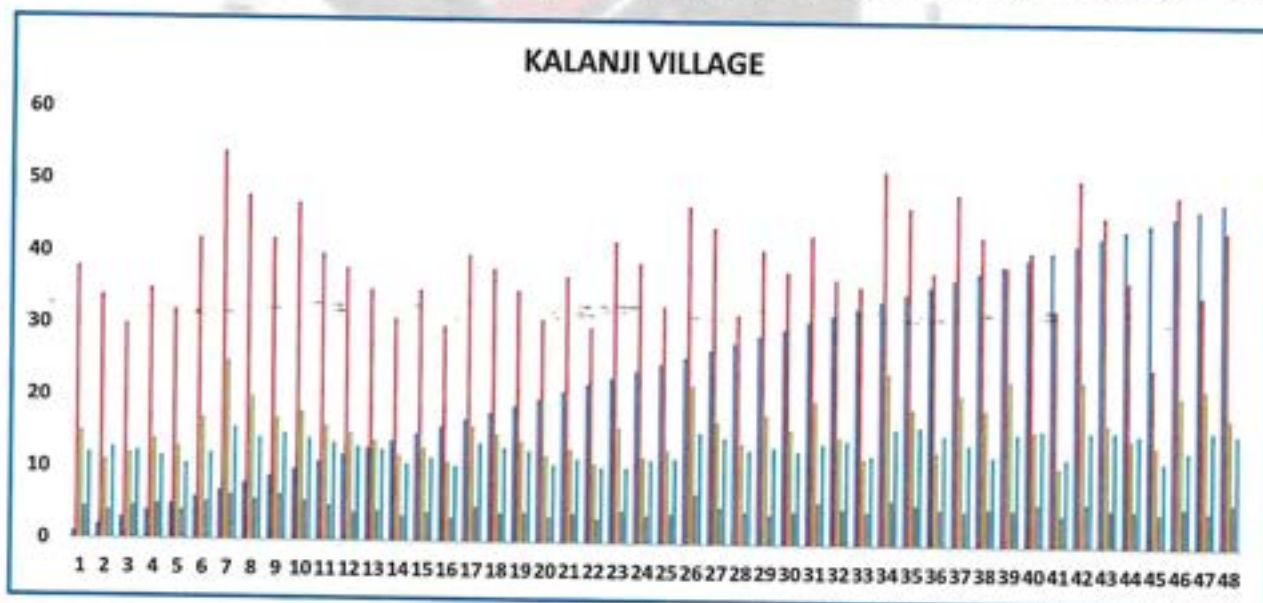
PORT MAIN GATE (AAQ2)													
Parameters	Particular matter PM10	Particular matter PM2.5	Sulphur dioxide as SO2	Nitrogen dioxide as NO2	Lead as Pb	Carbon monoxide as CO	Ozone as O3	Ammonia as NH3	Arsenic as As	Nickel as Ni	Benzene as C6H6	Benzo (a) pyrene as BaP	
Unit	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	mg/m3	µg/m3	µg/m3	ng/m3	ng/m3	µg/m3	ng/m3	
National AQM Standard	100	60	80	80	1	4	180	400	6	20	5	1	
S.No.	Sampling Date	Report Number											
1	01.10.2022	GCS/LAB/S/1886/22-23	42	24	7.9	17.7	<0.1	<1.0	<2	<2	<2	<1	<0.1
2	07.10.2022	GCS/LAB/S/1886/22-23	60	26	7.4	16.8	<0.1	<1.0	<2	<2	<2	<1	<0.1
3	17.10.2022	GCS/LAB/S/1886/22-23	56	21	6	15.7	<0.1	<1.0	<2	<2	<2	<1	<0.1
4	21.10.2022	GCS/LAB/S/1886/22-23	62	27	7.8	17.4	<0.1	<1.0	<2	<2	<2	<1	<0.1
5	01.11.2022	GCS/LAB/S/1987/22-23	46	23	6.8	16.5	<0.1	<1.0	<2	<2	<2	<1	<0.1
6	04.11.2022	GCS/LAB/S/1987/22-23	55	25	7.2	17.1	<0.1	<1.0	<2	<2	<2	<1	<0.1
7	14.11.2022	GCS/LAB/S/1987/22-23	44	19	5.3	14.2	<0.1	<1.0	<2	<2	<2	<1	<0.1
8	18.11.2022	GCS/LAB/S/1987/22-23	52	21	6.3	15.9	<0.1	<1.0	<2	<2	<2	<1	<0.1
9	01.12.2022	GCS/LAB/S/2126/22-23	52	24	6	14.9	<0.1	<1.0	<2	<2	<2	<1	<0.1
10	12.12.2022	GCS/LAB/S/2126/22-23	43	17	5.4	13.2	<0.1	<1.0	<2	<2	<2	<1	<0.1
11	16.12.2022	GCS/LAB/S/2126/22-23	40	15	4.6	13.7	<0.1	<1.0	<2	<2	<2	<1	<0.1
12	26.12.2022	GCS/LAB/S/2126/22-23	54	23	6.7	16.1	<0.1	<1.0	<2	<2	<2	<1	<0.1
13	02.01.2023	GCS/LAB/S/2175/22-23	58	25	7.4	17	<0.1	<1.0	<2	<2	<2	<1	<0.1
14	06.01.2023	GCS/LAB/S/2175/22-23	49	19	6.3	15.7	<0.1	<1.0	<2	<2	<2	<1	<0.1
15	17.01.2023	GCS/LAB/S/2175/22-23	55	22	5.9	16.2	<0.1	<1.0	<2	<2	<2	<1	<0.1
16	20.01.2023	GCS/LAB/S/2175/22-23	62	28	7.7	17.5	<0.1	<1.0	<2	<2	<2	<1	<0.1
17	01.02.2023	GCS/LAB/S/2297/22-23	61	27	6.7	16.7	<0.1	<1.0	<2	<2	<2	<1	<0.1
18	03.02.2023	GCS/LAB/S/2297/22-23	53	17	5.4	16.2	<0.1	<1.0	<2	<2	<2	<1	<0.1
19	13.02.2023	GCS/LAB/S/2297/22-23	51	24	6.2	15.5	<0.1	<1.0	<2	<2	<2	<1	<0.1
20	17.02.2023	GCS/LAB/S/2297/22-23	65	30	7.1	14.9	<0.1	<1.0	<2	<2	<2	<1	<0.1
21	03.03.2023	GCS/LAB/S/2355/22-23	58	22	6.2	16.3	<0.1	<1.0	<2	<2	<2	<1	<0.1
22	13.03.2023	GCS/LAB/S/2355/22-23	54	19	5.1	15.9	<0.1	<1.0	<2	<2	<2	<1	<0.1
23	17.03.2023	GCS/LAB/S/2355/22-23	32	16	4.6	13.2	<0.1	<1.0	<2	<2	<2	<1	<0.1
24	29.03.2023	GCS/LAB/S/2355/22-23	63	33	7.3	15.7	<0.1	<1.0	<2	<2	<2	<1	<0.1



KATTUPALLI VILLAGE (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	Report Number												
1	03.10.2022	GCS/LAB/S/1886/22	41	18	5.2	13.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
2	07.10.2022	GCS/LAB/S/1886/22	35	15	6.6	12.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
3	10.10.2022	GCS/LAB/S/1886/22	31	13	4.8	13	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
4	14.10.2022	GCS/LAB/S/1886/22	37	14	4.3	12.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
5	17.10.2022	GCS/LAB/S/1886/22	40	17	5.3	11.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
6	21.10.2022	GCS/LAB/S/1886/22	44	16	6.2	12.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
7	25.10.2022	GCS/LAB/S/1886/22	37	22	7	15.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
8	28.10.2022	GCS/LAB/S/1886/22	49	19	5	14.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
9	01.11.2022	GCS/LAB/S/1987/22	45	17	6	15.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
10	04.11.2022	GCS/LAB/S/1987/22	41	15	5.2	13.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
11	07.11.2022	GCS/LAB/S/1987/22	43	16	6.3	14.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
12	14.11.2022	GCS/LAB/S/1987/22	34	13	4	11.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
13	18.11.2022	GCS/LAB/S/1987/22	48	20	5.7	10.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
14	21.11.2022	GCS/LAB/S/1987/22	42	14	5.5	12	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
15	25.11.2022	GCS/LAB/S/1987/22	47	19	6.1	13.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
16	28.11.2022	GCS/LAB/S/1987/22	40	13	6.4	12.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
17	01.12.2022	GCS/LAB/S/2126/22	48	19	5.1	14.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
18	05.12.2022	GCS/LAB/S/2126/22	39	16	4.7	13.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
19	12.12.2022	GCS/LAB/S/2126/22	37	15	4	13.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
20	16.12.2022	GCS/LAB/S/2126/22	30	12	3.6	11	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
21	19.12.2022	GCS/LAB/S/2126/22	34	14	4.3	12.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
22	23.12.2022	GCS/LAB/S/2126/22	32	12	3.8	11.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
23	26.12.2022	GCS/LAB/S/2126/22	44	18	4.6	10.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
24	30.12.2022	GCS/LAB/S/2126/22	35	11	4.9	11.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
25	02.01.2023	GCS/LAB/S/2175/22	38	16	5	12.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
26	06.01.2023	GCS/LAB/S/2175/22	41	20	5.4	11	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
27	09.01.2023	GCS/LAB/S/2175/22	35	14	4.7	14	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
28	13.01.2023	GCS/LAB/S/2175/22	44	21	5.7	12.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
29	17.01.2023	GCS/LAB/S/2175/22	40	18	5.3	13.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
30	20.01.2023	GCS/LAB/S/2175/22	47	25	6.6	12.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
31	23.01.2023	GCS/LAB/S/2175/22	39	16	6.3	11.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
32	27.01.2023	GCS/LAB/S/2175/22	49	24	6.8	13.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
33	01.02.2023	GCS/LAB/S/2297/22	43	14	5.7	13.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
34	03.02.2023	GCS/LAB/S/2297/22	38	23	5.9	12.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
35	06.02.2023	GCS/LAB/S/2297/22	39	16	5.2	13.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
36	10.02.2023	GCS/LAB/S/2297/22	47	23	6.1	12.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
37	13.02.2023	GCS/LAB/S/2297/22	38	20	5.8	14.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
38	17.02.2023	GCS/LAB/S/2297/22	51	25	6.1	13.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
39	20.02.2023	GCS/LAB/S/2297/22	43	18	5.1	12.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
40	24.02.2023	GCS/LAB/S/2297/22	55	27	6	14.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
41	01.03.2023	GCS/LAB/S/2355/22	42	12	5.5	13.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
42	06.03.2023	GCS/LAB/S/2355/22	36	25	5.1	12.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
43	10.03.2023	GCS/LAB/S/2355/22	41	13	5.6	13.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
44	13.03.2023	GCS/LAB/S/2355/22	45	27	6.3	12.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
45	17.03.2023	GCS/LAB/S/2355/22	21	13	5.2	15.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
46	20.03.2023	GCS/LAB/S/2355/22	50	23	5.6	13.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
47	27.03.2023	GCS/LAB/S/2355/22	42	16	5.9	12.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
48	29.03.2023	GCS/LAB/S/2355/22	54	24	7.1	14.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1



KALANJI VILLAGE (AAQ4)														
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 AQM Standard			100	60	80	80	1	4	180	400	6	20	5	1
S.No.	Sampling Date	Report Number												
1	05.10.2022	GCS/LAB/S/1886/22-	38	15	4.5	12	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
2	07.10.2022	GCS/LAB/S/1886/22-	36	11	4	12.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
3	10.10.2022	GCS/LAB/S/1886/22-	30	12	4.7	12.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
4	14.10.2022	GCS/LAB/S/1886/22-	35	14	5	11.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
5	17.10.2022	GCS/LAB/S/1886/22-	32	13	4.1	10.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
6	21.10.2022	GCS/LAB/S/1886/22-	42	17	5.3	12.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
7	25.10.2022	GCS/LAB/S/1886/22-	54	25	6.3	15.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
8	28.10.2022	GCS/LAB/S/1886/22-	48	20	5.7	14.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
9	01.11.2022	GCS/LAB/S/1987/22-	42	17	6.4	14.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
10	04.11.2022	GCS/LAB/S/1987/22-	47	18	5.6	14.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
11	07.11.2022	GCS/LAB/S/1987/22-	40	16	4.9	13.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
12	14.11.2022	GCS/LAB/S/1987/22-	38	15	4	13.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
13	18.11.2022	GCS/LAB/S/1987/22-	35	14	4.2	12.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
14	21.11.2022	GCS/LAB/S/1987/22-	31	12	3.5	10.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
15	25.11.2022	GCS/LAB/S/1987/22-	35	13	4.1	11.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
16	28.11.2022	GCS/LAB/S/1987/22-	30	11	3.3	10.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
17	01.12.2022	GCS/LAB/S/2126/22-	40	16	4.9	13.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
18	05.12.2022	GCS/LAB/S/2126/22-	38	15	4	13.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
19	12.12.2022	GCS/LAB/S/2126/22-	35	14	4.2	12.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
20	16.12.2022	GCS/LAB/S/2126/22-	31	12	3.5	10.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
21	19.12.2022	GCS/LAB/S/2126/22-	37	13	4.1	11.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
22	23.12.2022	GCS/LAB/S/2126/22-	30	11	3.3	10.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
23	26.12.2022	GCS/LAB/S/2126/22-	42	16	4.5	10.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
24	30.12.2022	GCS/LAB/S/2126/22-	39	12	3.9	11.6	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
25	02.01.2023	GCS/LAB/S/2127/22-	32	13	4.7	11.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
26	06.01.2023	GCS/LAB/S/2127/22-	47	22	7	15.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
27	09.01.2023	GCS/LAB/S/2127/22-	44	17	5.1	14.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
28	13.01.2023	GCS/LAB/S/2127/22-	32	14	4.5	13.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
29	17.01.2023	GCS/LAB/S/2127/22-	41	18	4.2	13.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
30	20.01.2023	GCS/LAB/S/2127/22-	39	16	4.7	13	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
31	23.01.2023	GCS/LAB/S/2127/22-	43	20	5.9	14.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
32	27.01.2023	GCS/LAB/S/2127/22-	37	15	5.3	14.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
33	03.02.2023	GCS/LAB/S/2297/22-	36	12	4.7	12.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
34	08.02.2023	GCS/LAB/S/2297/22-	52	24	6.3	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
35	06.03.2023	GCS/LAB/S/2297/22-	47	19	5.7	16.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
36	10.03.2023	GCS/LAB/S/2297/22-	38	13	5.1	15.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
37	13.03.2023	GCS/LAB/S/2297/22-	49	21	4.9	14.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
38	17.03.2023	GCS/LAB/S/2297/22-	43	19	5.3	12.5	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
39	20.03.2023	GCS/LAB/S/2297/22-	39	23	5.2	15.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
40	24.03.2023	GCS/LAB/S/2297/22-	41	16	6	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
41	01.04.2023	GCS/LAB/S/2355/22-	33	11	4.4	12.3	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
42	06.04.2023	GCS/LAB/S/2355/22-	51	23	5.1	16	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
43	10.04.2023	GCS/LAB/S/2355/22-	46	17	5.3	16.1	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
44	13.04.2023	GCS/LAB/S/2355/22-	37	15	5.2	15.7	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
45	17.04.2023	GCS/LAB/S/2355/22-	25	14	4.8	11.9	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
46	20.04.2023	GCS/LAB/S/2355/22-	49	21	5.8	13.4	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
47	27.04.2023	GCS/LAB/S/2355/22-	35	22	5.1	16.2	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1
48	29.04.2023	GCS/LAB/S/2355/22-	44	18	6.2	15.8	<0.1	<1.0	<10	<2	<2	<2	<1	<0.1



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

NOTIFICATION

New Delhi, the 15th November, 2009

No.B-29016/20-90/PC-1.—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, 1995, 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	50	<ul style="list-style-type: none"> Improved West and Gaeke Ultraviolet fluorescence
		24 hours**	80	80	
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual*	40	40	<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*	50	50	<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	
6	Lead (Pb) µg/m ³	Annual*	0.3	0.3	<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.

iii. 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 main gate	N 13° 18.856' E 080° 19.478'
N2	Marine control tower	N 13° 18.909' E 080° 20.756'
N3	Kattupalli village	N 13° 18.342' E 080° 19.806'
N4	Kalanji village	N 13° 20.156' E 080° 20.023'

Fig - 4. Noise Level Sampling Locations

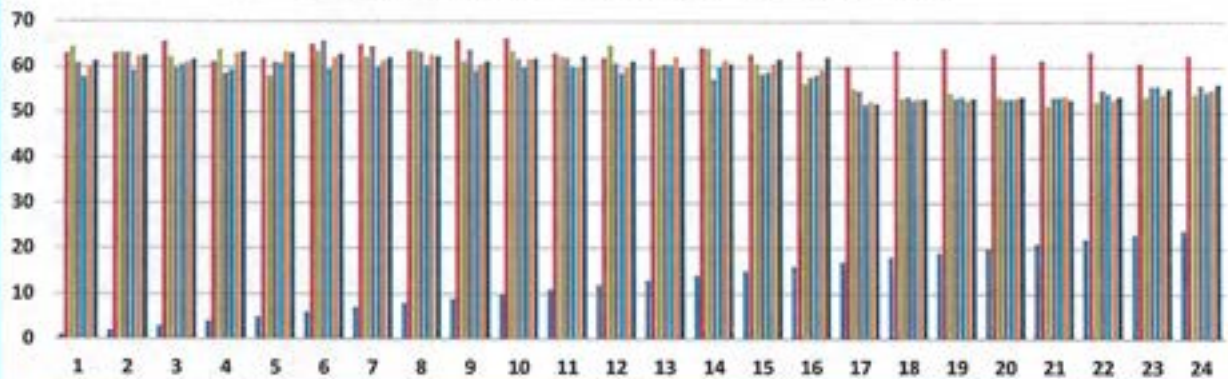


The noise levels monitored during the study period are given hereunder in form of Leq day, Leq night compared with CPCB Standards.

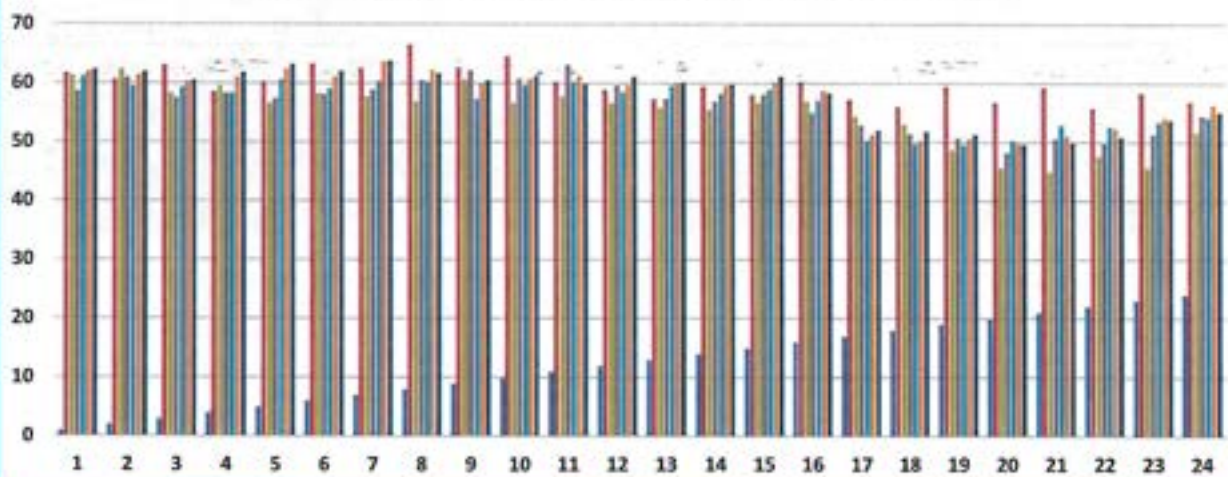
ANNEXURE - 3 RESULTS OF AMBIENT NOISE LEVEL MONITORING DATA

Location		PORT MAIN GATE						MARINE CONTROL TOWER					
Month & Year		7-Oct	4-Nov	5-Dec	6-Jan	3-Feb	19-Mar	10-Oct	7-Nov	12-Dec	9-Jan	6-Feb	17-Mar
Parameter & Unit		Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)
S.No.	Time of Sampling (Day)												
1	06.00 - 07.00	63.1	64.3	60.8	57.8	60.1	61.2	61.8	61.4	58.6	61.2	62.1	62.3
2	07.00 - 08.00	63	63.2	63.1	59.2	62.3	62.3	60.7	62.4	61	59.6	61.5	63
3	08.00 - 09.00	65.6	62.1	59.7	60.5	61.2	61.6	60.1	58.3	57.5	59.3	60.4	60.3
4	09.00 - 10.00	61.2	63.8	59.6	59.4	63	63.3	58.6	59.5	58.3	58.4	61.1	61.9
5	10.00 - 11.00	61.9	58	61	60.8	63.4	63.1	60.3	56.6	57.4	60.6	62.5	63.2
6	11.00 - 12.00	65	63.5	65.7	59.6	62.1	62.9	63.3	58.3	58.1	59.1	63.2	62.1
7	12.00 - 13.00	64.9	62.2	64.5	60.1	61.5	62	62.6	57.7	56.9	60.4	63.7	63.9
8	13.00 - 14.00	65.6	63.8	63.2	60.3	62.7	62.3	66.5	56.8	60.5	60.3	62.3	61.7
9	14.00 - 15.00	66.1	61.2	63.8	59.2	60.6	61.2	62.7	60.8	62.3	57.4	60.1	60.5
10	15.00 - 16.00	66.3	63.4	61.7	60	61.7	61.8	64.5	56.7	60.8	58.7	60.8	61.3
11	16.00 - 17.00	63.1	62.3	62	60.1	60	62.4	60.3	57.7	63.1	60.3	62.3	59.9
12	17.00 - 18.00	62	64.7	60.8	58.6	59.7	61.2	58.9	56.6	59.7	58.5	59.7	61.1
13	18.00 - 19.00	64	60.2	60.5	60.3	62.3	59.8	57.4	55.8	57.4	59.6	60.2	60.3
14	19.00 - 20.00	64.3	64	57.3	60.1	61.6	60.6	59.5	55.9	56.9	58.2	59.7	59.8
15	20.00 - 21.00	62.8	60.6	58.4	58.9	60.8	61.7	58.1	56.7	58.1	58.9	60.3	61.2
16	21.00 - 22.00	63.5	56.3	57.7	58.2	59.4	62.1	60.4	56.9	58	57.1	58.8	58.3
17	22.00 - 23.00 (Night)	60.3	55.1	54.7	51.7	52.4	51.8	57.3	54.4	52.9	50.3	51.3	52
18	23.00 - 00.00	63.7	53	52.4	52.6	53	52.9	56.1	53	51.4	49.7	50.3	51.8
19	00.00 - 01.00	64.1	54.1	53	53.4	52.7	53	59.5	48.7	50.7	49.6	50.6	51.3
20	01.00 - 02.00	62.8	53.3	52.8	52.9	53.1	53.4	56.8	45.8	48.2	50.3	49.8	49.6
21	02.00 - 03.00	61.5	51.4	53.2	53.3	53.6	52.7	59.3	44.9	50.6	52.9	51.1	49.9
22	03.00 - 04.00	63.4	52.2	64.9	54.1	62.3	53.5	55.8	47.5	49.8	52.6	52.3	50.8
23	04.00 - 05.00	60.9	53.5	55.7	55.8	54	55.3	58.4	45.6	51.3	53.4	54.1	53.7
24	05.00 - 06.00	62.6	54	58	54.5	56	56.2	56.9	51.6	54.5	54.2	56.3	53.1

AMBIENT NOISE : LOCATION: PORT MAIN GATE

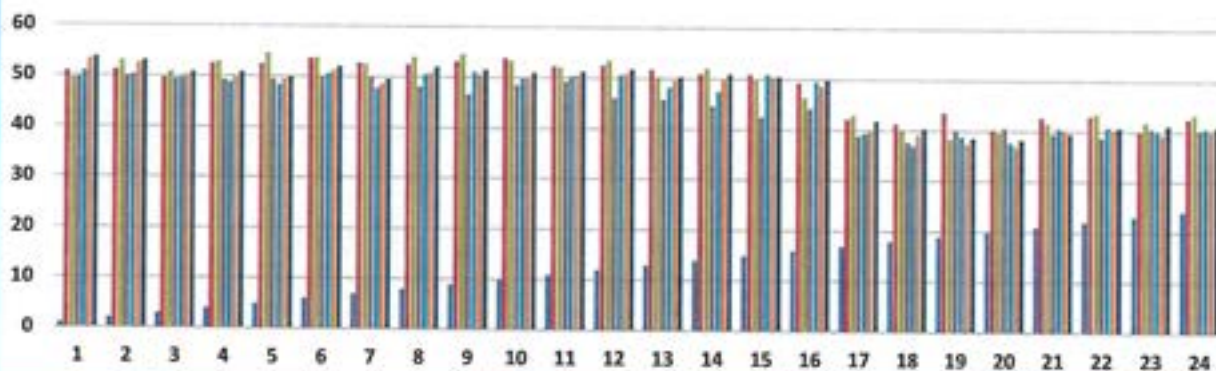


AMBIENT NOISE : LOCATION: MARINE CONTROL TOWER

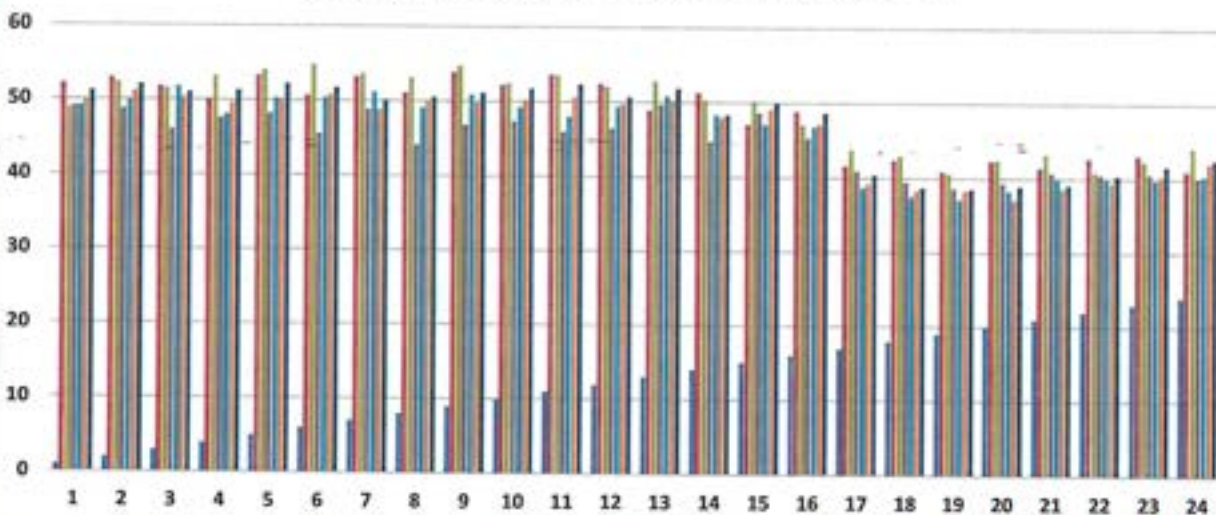


Location		KATTUPALLI VILLAGE						KALAJI VILLAGE					
Month & Year		14-Oct	22-May	16-Dec	13-Jan	20-Feb	27-Mar	17-Oct	22-May	19-Dec	17-Jan	13-Feb	29-Mar
Parameter & Unit		Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)
S.No.	Time of Sampling												
1	06.00 - 07.00 (Day)	50.9	49.6	49.7	50.9	53.4	53.7	52.2	48.9	49.1	49.2	50.1	51.3
2	07.00 - 08.00	51.2	53	49.8	50.2	52.6	53	53	52.3	48.7	50	51.2	52
3	08.00 - 09.00	49.7	50.8	49.5	49.7	50.3	50.6	51.8	51.5	49	51.8	50.4	51
4	09.00 - 10.00	52.6	52.9	48.2	48.9	50.1	50.9	50.1	53.2	47.6	48.1	49.6	51.3
5	10.00 - 11.00	52.4	54.5	49.4	48.4	49.5	49.9	53.3	54	48.2	50.3	50.2	52.2
6	11.00 - 12.00	53.6	53.7	50	50.6	51.3	52	50.7	54.8	45.5	50.4	50.8	51.7
7	12.00 - 13.00	52.8	52.4	48.9	47.8	48.8	49.6	53.2	53.6	48.8	51.2	48.9	50.1
8	13.00 - 14.00	52.5	54	48.1	50.5	51	52	51.1	53.1	44.1	49.1	50.1	50.9
9	14.00 - 15.00	53.1	54.6	49.7	51.1	50.5	51.5	52.9	54.7	48.8	50.9	49.9	51.1
10	15.00 - 16.00	53.8	53.3	48.6	49.8	50.2	51	52.2	52.4	47.3	49.2	50.2	51.7
11	16.00 - 17.00	52.3	52.1	49.3	50.3	50.5	51.2	53.6	53.5	48.9	48	50.6	52.1
12	17.00 - 18.00	52.4	53.5	48.1	50.8	51	51.7	52.4	52	46.4	49.4	49.8	50.8
13	18.00 - 19.00	51.7	50.3	48.8	48.3	49.7	50.3	48.9	52.8	49.6	50.6	50.3	51.8
14	19.00 - 20.00	51	52	44.6	47.5	50.1	50.9	51.3	50.3	44.7	48.3	48	48.3
15	20.00 - 21.00	50.9	49.8	43.5	50.9	50.4	50.4	47	50.2	45.6	47	49.1	49.9
16	21.00 - 22.00	49.4	46.4	44.2	49.6	48.8	49.3	48.8	47	45.2	46.8	47.1	48.6
17	22.00 - 23.00 (Night)	42.2	42.9	38.9	39.3	40.1	41.8	41.6	43.7	40.9	38.7	39.2	40.4
18	23.00 - 00.00	41.4	40.1	37.6	37	39.1	40.3	42.4	42.9	39.4	37.5	38.3	39.7
19	00.00 - 01.00	43.6	38.3	40.1	38.9	37.5	38.5	40.9	40.6	38.6	37.1	38.3	38.5
20	01.00 - 02.00	40.2	39.7	40.5	37.7	37	38.2	42.3	42.4	38.3	38.8	37.2	38.9
21	02.00 - 03.00	42.7	41.5	39.4	40.5	40.2	39.1	41.4	43.2	40.7	40	38.7	39.1
22	03.00 - 04.00	43	43.4	38.7	40.8	40.4	40.7	42.7	40.8	40.5	40.1	38.4	40.4
23	04.00 - 05.00	40.1	41.6	40.3	40.1	39.4	41.1	43.1	42.3	40.6	39.8	40.3	41.8
24	05.00 - 06.00	42.5	43.3	40.2	40.6	40.3	40.3	41	44.1	40.1	40.4	42.1	42.5

AMBIENT NOISE : LOCATION: KATTUPALLI VILLAGE



AMBIENT NOISE ; LOCATION : KALAJI VILLAGE



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.

iv. DGSET EMISSIONS

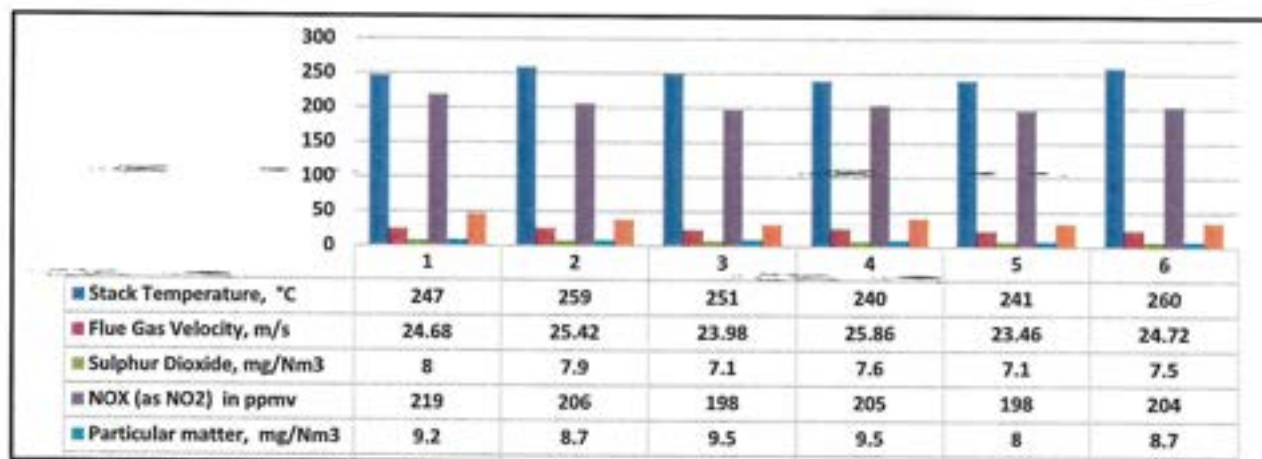
Sampling of Flue gas emission of 2000 KVA DG Set was done and its emissions were determined along with its noise intensity. The Detailed report has been is enclosed as Annexure - 4

DETAILS OF EMISSION MONITORING LOCATIONS

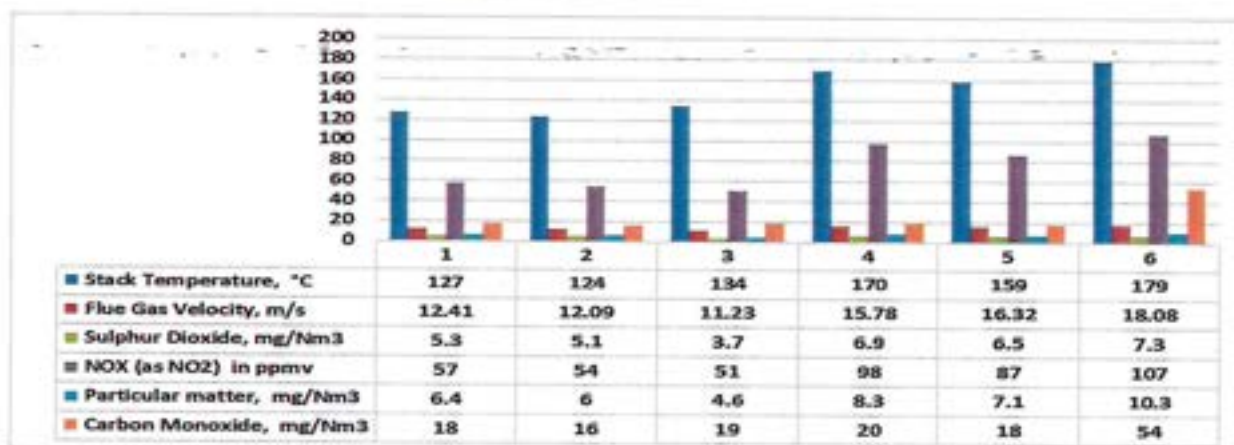
STATION CODE	LOCATIONS	Geographical Location
SM - 1	DG - 1 2000 KVA	13° 19' 6" N
SM - 2	DG - 2 2000 KVA	80° 19' 34" E
SM - 3	DG 125 KVA	13° 18' 36" N 80° 20' 25" E
SM - 3	Liquid Terminal Hot Oil Generator Stack	13° 19' 2.38" N 80° 20' 6.81" E

ANNEXURE - 4 RESULTS OF SOURCE EMISSION MONITORING DATA

Location		DG 2000KVA - 1			DG 2000KVA - 2		
Month & Year		17-Nov	26-Dec	20-Feb	17-Nov	26-Dec	20-Feb
S.No.	Parameters						
1	Stack Temperature, °C	247	259	251	240	241	260
2	Flue Gas Velocity, m/s	24.68	25.42	23.98	25.86	23.46	24.72
3	Sulphur Dioxide, mg/Nm3	8	7.9	7.1	7.6	7.1	7.5
4	NOX (as NO2) in ppmv	219	206	198	205	198	204
5	Particular matter, mg/Nm3	9.2	8.7	9.5	9.5	8	8.7
6	Carbon Monoxide, mg/Nm3	46	39	32	41	34	36
7	Gas Discharge, Nm3/hr	6385	6429	6157	6782	6142	6157



Location		DG 125 KVA			DG 500 KVA		
Month & Year		21-Oct	31-Jan	16-Mar	21-Oct	31-Jan	16-Mar
S.No.	Parameters						
1	Stack Temperature, °C	127	124	134	170	159	179
2	Flue Gas Velocity, m/s	12.41	12.09	11.23	15.78	16.32	18.08
3	Sulphur Dioxide, mg/Nm3	5.3	5.1	3.7	6.9	6.5	7.3
4	NOX (as NO2) in ppmv	57	54	51	98	87	107
5	Particular matter, mg/Nm3	6.4	6	4.6	8.3	7.1	10.3
6	Carbon Monoxide, mg/Nm3	18	16	19	20	18	54
7	Gas Discharge, Nm3/hr	587	576	522	1584	1682	1779



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. 200(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.409(E), dated 9.7.2002.

v. STP WATER SAMPLE ANALYSIS

Water samples were collected at the following points.

- 30 KLD Treated Water Outlet
- 5 KLD Treated Water Outlet

DETAILS OF STP WATER LOCATIONS

STATION CODE	LOCATIONS	Geographical Location
STP - 1	30 KLD	13° 18' 36" N 80° 20' 25" E
STP - 2	5 KLD	13° 19' 6" N 80° 19' 35" 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 2023													
Location		STP 30KLD INLET						STP 30KLD OUTLET					
Month & Year		21-Oct	17-Nov	26-Dec	31-Jan	20-Feb	16-Mar	21-Oct	17-Nov	26-Dec	31-Jan	20-Feb	16-Mar
S.No.	Parameters												
1	pH @ 25°C	7.58	7.08	7.58	7.72	6.45	6.46	8.02	7.36	7.82	7.67	7.31	6.45
2	Total Suspended Solids	76	54	68	48	55	47	21	7.1	10	6	8.2	6
3	BOD at 27°C for 3 days	84	98	110	161	142	126	12	3.4	6.4	12.1	10	16
4	Fecal Coliform	450	930	940	1100	1400	1200	260	110	170	130	150	130
5	COD	352	412	286	482	525	489	48	16	28	60	68	63
6	Oil & Grease	4.9	4.5	4.8	7.6	8.1	7.2	BDL	BDL	BDL	BDL	BDL	BDL
7	Total Dissolved Solids	1560	1136	1258	1374	1949	1657	1192	1102	1142	1086	1468	1216
8	Chlorides (as Cl)	582	395	402	453	738	621	410	372	394	482	696	576
9	Sulphates (as SO4)	110	38	35	28	22	25	74	13	15	24	21	17

STP WATER 2023													
Location		STP SKLD INLET						STP SKLD OUTLET					
Month & Year		21-Oct	17-Nov	26-Dec	31-Jan	20-Feb	16-Mar	21-Oct	17-Nov	26-Dec	31-Jan	20-Feb	16-Mar
S.No.	Parameters												
1	pH @ 25°C	7.38	7.34	7.86	7.78	7.6	7.74	7.86	7.49	7.91	7.65	7.79	6.73
2	Total Suspended	50	48	52	64	69	43	15	17	14	18	15	12
3	BOD at 27°C for 3	48	64	82	88	92	96	5.2	3	5.2	7.1	8.3	9
4	Fecal Coliform	370	780	840	910	940	840	140	42	120	150	110	110
5	COD	214	296	218	256	274	293	22	16	14	48	42	39
6	Oil & Grease	3	3.2	3.7	3.5	3.9	6.8	BDL	BDL	BDL	BDL	BDL	BDL
7	Total Dissolved	1230	1368	1492	1682	1861	1039	1014	1272	1314	1008	1772	1303
8	Chlorides (as Cl)	346	390	414	532	710	663	220	280	318	302	640	589
9	Sulphates (as SO4)	24	23	27	21	29	32	21	12	16	10	20	19

STP WATER 2023													
Location		STP 10KLD INLET						STP 10KLD OUTLET					
Month & Year		21-Oct	17-	26-Dec	31-Jan	20-Feb	16-	21-Oct	17-	26-Dec	31-Jan	20-Feb	16-
S.No.	Parameters												
1	pH @ 25°C	7.42	7	7.43	7.57	6.25	6.51	7.8	7.71	7.87	7.5	6.81	6.75
2	Total Suspended	78	78	70	62	68	52	13	11	13	9.8	11	16
3	BOD at 27°C for 3	90	104	86	96	110	98	11	3.8	4.2	8.9	13	10
4	Fecal Coliform	600	810	790	940	840	920	140	80	150	110	170	210
5	COD	204	368	240	278	296	276	38	18	16	44	58	43
6	Oil & Grease	7	3.8	4.1	4.5	4	5.3	BDL	BDL	BDL	BDL	BDL	BDL
7	Total Dissolved	1436	1282	1390	690	1978	1413	1124	724	896	784	1657	1205
8	Chlorides (as Cl)	456	370	398	174	621	436	372	225	260	182	565	392
9	Sulphates (as SO4)	36	10	14	6.2	28	21	21	2.6	5.8	7.4	23	19

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 12th October, 2017

G.S.R. 1205(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
		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
			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
			Areas/regions other than mentioned above
			<50
			<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.

vi. 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.

vii. 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 TEST REPORT								
S.No	Parameter	Unit	21-Oct-22	17-Nov-22	26-Dec-22	31-Jan-23	20-Feb-23	16-Mar-23
1	Color	Hazen	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2	Odour	-	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	N.T.U	BDL (DL: 0.5)	BDL (DL: 0.5)	BDL (DL: 0.5)	BDL (DL: 0.5)	BDL (DL: 0.5)	BDL (DL: 0.5)
5	pH @ 25°C	-	8.28	6.95	7.14	6.82	8.19	7.92
6	Total Hardness as CaCO ₃	mg/L	18	4	6	4	10	6
7	Iron as Fe	mg/L	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)
8	Chloride as Cl	mg/L	16	11	14	12	15	16
9	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)	BDL (DL: 0.1)
10	Total Dissolved Solids	mg/L	52	25	32	28	60	30
11	Calcium as Ca	mg/L	4	0.8	1.2	0.8	2.4	1.6
12	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)	BDL (DL: 0.05)
13	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)	BDL (DL: 0.05)
14	Sulphate as SO ₄	mg/L	1.57	BDL (DL: 1.0)	BDL (DL: 1.0)	BDL (DL: 1.0)	BDL (DL: 1.0)	BDL (DL: 1.0)
15	Nitrate as NO ₃	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)
16	Fluoride as F	mg/L	BDL (DL: 0.1)	BDL (DL: 0.1)	BDL (DL: 0.1)	BDL (DL: 0.1)	BDL (DL: 0.1)	BDL (DL: 0.1)
17	Phenolic Compounds as C ₆ H ₅ OH	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)
18	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)
19	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)	BDL (DL: 0.003)
20	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)	BDL (DL: 0.01)
21	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)	BDL (DL: 0.01)
22	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)
23	Zinc as Zn	mg/L	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)
24	Anionic Detergents	mg/L	Nil	Nil	Nil	Nil	Nil	Nil
25	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)	BDL (DL: 0.05)
26	Phenolphthalein Alkalinity as CaCO ₃	mg/L	Nil	Nil	Nil	Nil	Nil	Nil
27	Total Alkalinity as CaCO ₃	mg/L	24	10	15	13	21	12
28	Aluminium as Al	mg/L	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)
29	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)	BDL (DL: 0.1)
30	Magnesium as Mg	mg/L	1.94	0.486	0.729	0.49	0.97	0.5
31	Mineral Oil	mg/L	Nil	Nil	Nil	Nil	Nil	Nil
32	Polynuclear Aromatic Hydrocarbons as (PAH)	mg/L	Nil	Nil	Nil	Nil	Nil	Nil
33	Pesticides	mg/L	Nil	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)	BDL (DL: 0.01)
35	E. coli	MPN/100ml	Absence	Absent	Absent	Absent	Absent	Absent
36	Total Coliform	MPN/100ml	Absence	Absent	Absent	Absent	Absent	Absent

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

RAW WATER SAMPLE							
Month & Year		Unit	21-Oct-22	17-Nov-22	26-Dec-22	31-Jan-23	20-Feb-23
S.No.	Parameters						
1	Color	-	<1.0	<1.0	<1.0	<1.0	<1.0
2	Odour	mg/L	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
3	Taste	mg/L	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	mg/L	BDL (DL: 0.5)	BDL (DL: 0.5)	BDL (DL: 0.5)	BDL (DL: 0.5)	BDL (DL: 0.5)
5	pH @ 25°C	mg/L	7.55	7.26	7.67	7.56	7.44
6	Total Hardness as CaCO ₃	mg/L	156	150	72	128	112
7	Iron as Fe	mg/L	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)
8	Chloride as Cl	mg/L	448	357	385	514	480
9	Total Residual Chlorine	Hazen	BDL (DL: 0.1)	BDL (DL: 0.1)	BDL (DL: 0.1)	BDL (DL: 0.1)	BDL (DL: 0.1)
10	Total Dissolved Solids	-	1154	844	805	1212	940
11	Calcium as Ca	-	32	16	13	31	27
12	Copper as Cu	NTU	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)	BDL(DL 0.05)
13	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)
14	Sulphate as SO ₄	mg/L	78	34	31	40	36
15	Nitrate as NO ₃	mg/L	4.82	2.57	1.98	2.26	2.14
16	Fluoride as F	mg/L	0.47	0.39	0.33	0.31	0.33
17	Phenolic Compounds as	mg/L	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)
18	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)
19	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)
20	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)
21	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)
22	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)
23	Zinc as Zn	mg/L	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)
24	Anionic Detergents	mg/L	Nil	Nil	Nil	Nil	Nil
25	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)
26	Phenolphthalein Alkalinity as CaCO ₃	mg/L	Nil	Nil	Nil	Nil	Nil
27	Total Alkalinity as CaCO ₃	mg/L	196	51	40	125	113
28	Aluminium as Al	mg/L	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)
29	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)
30	Magnesium as Mg	mg/L	18	27	10	12	11
31	Mineral Oil	mg/L	Nil	Nil	Nil	Nil	Nil
32	Polynuclear Aromatic	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	mg/L	Absent	Absent	Absent	Absent	Absent
36	Total Coliform	MPN/100ml	Absent	Absent	Absent	Absent	Absent

viii. 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.N O	PARAMETER	UNIT S	CB - 1											
			21-Oct-22		17-Nov-22		26-Dec-22		31-Jan-23		20-Feb-23		16-Mar-23	
Physicochemical Parameters			Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto
1	Colour	Haza n	25	40	20	35	15	30	10	30	10	25	10	25
2	Odour	-	Unobjectionable											
3	pH @ 25°C	-	8.05	8.36	8.21	8.29	8.06	8.21	7.98	8.23	7.81	8.32	8.17	8.16
4	Temperature	°C	29	29	27	27	26	26	29	29	28	28	28	28
5	Turbidity	NTU	5.8	17.3	17	37	13	29	11	27	13	24	11	22
6	Total Suspended	mg/L	9.7	23	20	30	16	24	15	18	17	20	15	19
7	BOD at 27 oC for 3 days	mg/L	4.2	4.8	4.9	4.6	4.5	4.1	4.4	4.8	4.5	4.7	4.6	4.5
8	COD	mg/L	121	132	116	142	122	136	117	141	106	130	107	127
9	Dissolved oxygen	mg/L	2.8	2.6	2.7	2.4	2.8	2.5	3	2.8	3.1	2.7	2.9	2.8
10	Salinity at 25 °C	ppt	38.5	40.8	33.5	36.2	32.4	33.9	35.7	38.2	34.9	36	36.1	35.7
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	6.82	7.96	7.4	8.76	5.98	7.38	7.28	10.14	6.27	8.21	6.23	7.75
13	Nitrite as No2	mg/L	2.14	2.78	2.76	2.17	2.17	2.05	2.96	3.86	2.08	4.17	2.01	4.13
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 P	mg/L	3.98	7.14	4.05	6.92	3.34	5.23	3.86	7.14	3.14	5.98	3.27	5.76
17	Silica as SiO2	mg/L	7.01	11.7	6.23	8.05	7.82	8.93	4.25	8.1	5.09	9.42	5.08	8.29
18	Particulate Organic Carbon	µgC/ L	14	18	12	16	14	18	15	23	16	25	18	23
19	Petroleum Hydrocarbons	µg/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)
Heavy Metals														
20	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)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)
21	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)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)
22	Total Iron as Fe	mg/L	0.8	0.87	0.62	0.7	0.67	0.74	0.62	0.79	0.67	0.72	0.66	0.63
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 : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.002)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)	BDL (DL : 0.001)
26	Nickel as Ni	mg/L	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)
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)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)
Bacteriological Parameters														
28	Escherichia Coli (ECLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
29	Faecal Coliform (FCLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
30	Pseudomonas aeruginosa	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
31	Streptococcus faecalis (SFLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
32	Shigella (SHLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
33	Salmonella (SLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
34	Total Coliform (TC)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
35	Total Viable Count (TVC)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
36	Vibrio cholera (VC)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
37	Vibrio parahaemolytic	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

CB - 1														
Month & Year			21-Oct-22		17-Nov-22		26-Dec-22		31-Jan-23		20-Feb-23		16-Mar-23	
S.No	Parameters	Unit	Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto
38	Primary Productivity	mg C/m ³	6.12	8.56	9.72	10.9	8.98	10.05	8.48	10.52	9.11	10.01	9.23	9.87
39	Chlorophyll a	mg /m ³	5.98	7.03	6.01	7.47	6.44	7.17	6.15	6.86	6.65	7.01	5.12	6.63
40	Phaeopigment	mg /m ³	2.32	2.47	2.68	3.12	3.26	3.14	2.47	3.28	3.11	3.44	3.09	3.21
41	Total Biomass	ml /100	1.73	2.01	2.14	1.85	1.81	1.86	1.63	1.8	1.81	1.9	1.77	2.03
PHYTOPLANKTON														
42	Bacteriastrium	nos/m	15	18	7	11	8	12	13	17	16	21	12	16
43	Bacteriastrium	nos/m	12	10	5	9	11	14	9	15	11	18	10	15
44	Chaetoceros	nos/m	10	14	13	17	12	15	18	19	22	22	17	18
45	Chaetoceros	nos/m	14	17	15	16	7	13	11	8	14	10	12	9
46	Biddulphia	nos/m	17	15	12	14	9	12	7	13	9	16	9	10
47	Dityum	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
48	Gyrodinium sp	nos/m	8	9	10	12	16	18	12	15	15	18	13	16
49	Chlorophyll a	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
50	Coccolodiscus	nos/m	6	10	19	23	13	16	17	20	19	21	14	19
51	Coccolodiscus	nos/m	16	18	20	25	11	10	8	11	8	9	9	12
52	Cylindrocapsa	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
53	Hemidiscus	nos/m	17	19	14	11	6	9	16	23	14	20	14	21
54	Leptodermis	nos/m	11	15	16	13	14	19	5	11	6	13	7	12
55	Pyropacus	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
56	Pleurosigma	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
57	Leptocylindrus	nos/m	15	13	17	21	21	25	14	16	16	19	15	17
58	Goniardia	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
59	Rhizosolenia	nos/m	19	20	9	10	10	14	19	21	20	22	16	19
60	Rhizosolenia	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
61	Rhizosolenia	nos/m	13	11	23	26	20	18	14	18	17	14	14	18
62	Thalassiosira	nos/m	9	13	18	20	16	14	9	6	11	8	9	6
63	Triceratium	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
64	Ceratium	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
65	Ceratium furca	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
66	Ceratium	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
67	Ceratium	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
ZOOPLANKTONS														
68	Acrocalanus	nos/m	8	12	15	17	13	15	7	9	5	11	5	7
69	Acrocalanus sp	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
70	Paracalanus	nos/m	14	18	12	15	14	18	13	16	16	18	10	14
71	Eutima	nos/m	5	9	10	11	8	13	10	6	12	9	7	8
72	Centropages	nos/m	15	19	9	10	6	8	12	17	15	20	12	17
73	Corycaeus dana	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
74	Oithona	nos/m	10	8	11	13	12	14	15	12	11	11	13	11
75	Eurytemora	nos/m	17	14	14	12	19	16	18	15	20	13	16	14
76	Metacalanus	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
77	Copepod nauplii	nos/m	9	13	13	18	10	13	9	17	7	14	11	13
78	Copepod nauplii	nos/m	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
79	Boysie veliger	nos/m	11	15	10	16	17	21	14	18	12	20	12	17
80	Gastropod veliger	nos/m	13	17	19	20	16	19	11	14	13	19	9	15

MARINE WATER														
S.N O	PARAMETER	UNIT S	CB - 2											
			21-Oct		17-Nov		26-Dec		31-Jan		20-Feb		16-Mar	
Physicochemical Parameters			Surfac e	Botto m	Surfac e	Botto m	Surfac e	Botto m	Surfac e	Botto m	Surfac e	Botto m	Surfac e	Botto m
1	Colour	Haza n	25	40	15	40	15	30	10	35	10	30	10	30
2	Odour	-	Unobjectionable											
3	pH @ 25°C	-	8.13	8.28	8.27	8.36	8.12	8.3	8.09	8.18	8.02	8.27	8.31	8.22
4	Temperature	°C	29	29	27	28	26	26	29	29	28	28	28	28
5	Turbidity	NTU	6.4	18.1	14	31	11	27	8.5	30	11	27	12	25
6	Total Suspended Solids	mg/L	10	25	18	28	14	26	10	20	14	23	17	21
7	BOD at 27 oC for 3 days	mg/L	4.1	4.6	4.1	4	4.3	3.8	4.4	4.6	4.7	4.5	4.5	4.3
8	COD	mg/L	105	140	120	130	128	132	120	130	112	120	116	131
9	Dissolved oxygen	mg/L	3.1	2.4	2.6	2.5	2.7	2.5	2.8	2.7	2.9	2.6	3	2.5
10	Salinity at 25 °C	ppt	39	40.2	31.8	34.8	32.1	33.2	37.1	38.9	35.3	36.4	34.2	36.1
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	mg/L	6.96	8.12	7.07	8.49	6.23	7.71	6.75	8.62	6.98	9.18	6.76	8.94
13	Nitrite as No2	mg/L	2.52	2.96	2.43	3.01	2.56	1.96	2.41	4.23	2.01	4.76	2.08	4.92
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	3.39	6.98	3.96	5.72	3.17	4.89	4.27	6.56	3.86	6.03	3.35	6.21
17	Silica as SiO2	mg/L	6.47	10.5	5.78	9.2	7.14	8.42	5.05	9.55	5.72	8.92	5.24	8.76
18	Particulate Organic Carbon	µgC/ L	16	21	15	19	18	17	14	21	13	23	16	21
19	Pertroleum Hydrocarbon s	µg/L	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)
Heavy Metals														
20	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)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)
21	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)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)
22	Total Iron as Fe	mg/L	0.73	0.8	0.59	0.67	0.63	0.78	0.6	0.71	0.64	0.74	0.59	0.75
23	Zinc as Zn	mg/L	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)
24	Lead as Pb	mg/L	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)
25	Mercury as Hg	mg/L	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)	BDL (DL : 0.002)
26	Nickel as Ni	mg/L	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)
27	Total Chromium as Cr	mg/L	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)	BDL (DL : 0.02)

Bacteriological Parameters														
28	<i>Escherichia Coli</i>	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
29	Faecal Coliform (FC)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
30	<i>Pseudomonas aeruginosa</i> (PAO)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
31	<i>Streptococcus faecalis</i> (SFO)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
32	<i>Shigella</i> (SHO)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
33	<i>Salmonella</i> (SO)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
34	Total Coliform (TC)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
35	Total Viable Count (TV)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
36	<i>Vibrio cholera</i> (VC)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence
37	<i>Vibrio parahaemolyticus</i> (VP)	cfu/ml	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence	Absence

CB - 2														
Month & Year			23-Oct		17-Nov		26-Dec		31-Jan		20-Feb		16-Mar	
S.No.	Parameters	Unit	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
	Primary Productivity	mg C/m ³ /hr	7.47	10.56	9.48	11.07	9.43	9.12	8.91	10.37	9.42	10.67	9.98	10.25
39	Chlorophyll a	mg /m ³	4.82	6.05	6.05	6.83	6.86	7.9	6	7.34	6.41	7.11	6.97	7.46
40	Phaeopigment	mg /m ³	2.09	2.5	2.14	3.52	3.5	3.05	2.73	3.51	2.12	3.23	3.21	3.29
41	Total Biomass	mg /100-m ³	1.85	2.17	1.83	1.56	1.75	1.93	1.95	2.08	1.74	2	2.03	1.98
PHYTOPLANKTON														
42	<i>Bacteriastrium badium</i>	nos/ml	13	17	11	15	6	14	11	15	16	19	10	16
43	<i>Bacteriastrium varians</i>	nos/ml	14	19	13	16	13	11	7	10	8	12	8	11
44	<i>Chaetoceros didymus</i>	nos/ml	12	14	15	10	10	16	15	17	17	14	14	18
45	<i>Chaetoceros decipiens</i>	nos/ml	16	18	10	13	15	18	8	6	10	8	7	8
46	<i>Biddulphia mobilensis</i>	nos/ml	10	12	17	11	8	15	9	12	11	16	11	13
47	<i>Ditylum brightwellii</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
48	<i>Gyrodinium sp</i>	nos/ml	6	8	5	7	14	12	10	13	13	15	12	11
49	<i>Cladophysis sp</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
50	<i>Coscinodiscus centralis</i>	nos/ml	9	11	13	17	12	15	14	18	16	20	17	19
51	<i>Coscinodiscus granii</i>	nos/ml	15	10	15	19	16	18	12	15	14	18	10	14
52	<i>Cyclotella sp</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
53	<i>Hemidiscus hardmanianus</i>	nos/ml	11	17	23	25	9	7	22	19	21	21	20	18
54	<i>Laodaria annulata</i>	nos/ml	6	9	14	19	13	15	13	7	11	9	11	8
55	<i>Pyropacus horologium</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
56	<i>Pleurosigma angulatum</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
57	<i>Leptocylindrus danicus</i>	nos/ml	16	18	19	22	22	19	9	12	7	14	10	11
58	<i>Guinardia flaccida</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
59	<i>Rhizosolenia alata</i>	nos/ml	18	25	16	18	7	14	20	24	18	21	21	22
60	<i>Rhizosolenia imbricata</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
61	<i>Rhizosolenia semispina</i>	nos/ml	10	14	20	24	23	27	12	16	14	14	12	16
62	<i>Thalassionema nitrochloides</i>	nos/ml	7	10	6	8	18	20	8	5	10	7	8	5
63	<i>Triceratium reticulatum</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
64	<i>Ceratium trichoceros</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
65	<i>Ceratium furca</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
66	<i>Ceratium macroceros</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
67	<i>Ceratium longipes</i>	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

ZOOPLANKTONS														
68	Acrocalanus gracilis	nos/ml	10	7	11	14	8	12	11	14	13	19	12	15
69	Acrocalanus sp	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
70	Paracalanus parvus	nos/ml	13	15	8	10	11	15	10	8	16	10	10	9
71	Eutimetus sps	nos/ml	11	13	12	15	10	17	5	9	7	13	7	6
72	Centropages furcatus	nos/ml	9	14	13	11	9	13	16	20	19	18	16	20
73	Corycaeus dana	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
74	Oithona brevicornis	nos/ml	12	6	7	5	13	16	14	17	17	14	15	18
75	Euterpina acutifrons	nos/ml	15	18	18	13	11	9	13	21	15	19	12	19
76	Metacalanus aurivillii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
77	Copepod nauplii	nos/ml	15	19	14	17	8	12	10	7	11	9	9	7
78	Cirripede nauplii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
79	Biivalve veliger	nos/ml	17	15	18	14	15	10	18	21	19	19	16	17
80	Gastropod veliger	nos/ml	10	8	16	20	18	22	9	15	11	17	9	14

S.N O	PARAMETE R	UNIT S	BERTH - 3											
			21-Oct		17-Nov		26-Dec		31-Jan		20-Feb		16-Mar	
Physicochemical Parameters			Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto	Surfac	Botto
1	Colour	Haza	15	40	15	25	20	35	15	35	10	30	10	30
2	Odour	-	Unobjectionable											
3	pH @ 25°C	-	8.24	8.39	8.17	8.31	7.98	8.19	8.08	8.21	7.91	8.09	8.2	8.08
4	Temperatur	°C	29	29	27	27	26	26	29	29	28	28	28	28
5	Turbidity	NTU	4.3	13	11	27	14	32	7.8	21	6.4	17	7	15
6	Total Suspended Solids	mg/L	7.6	15.4	13	22	16	28	10	33	11	20	13	18
7	BOD at 27 oC for 3	mg/L	4.1	4.8	4.9	4.5	4.7	4	4.6	4.4	4.8	4.5	4.7	4.4
8	COD	mg/L	110	132	112	146	108	132	118	135	123	132	120	129
9	Dissolved oxygen	mg/L	2.7	3	2.8	29	2.9	2.6	2.9	3	2.8	2.7	2.7	3.1
10	Salinity at 25 °C	ppt	40.3	41.7	37	41.2	33.6	34.9	36.6	38.2	34.2	35	35.3	34.8
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	5.96	7.14	6.24	7.05	6.98	7.72	4.98	4.12	5.17	5.86	6.34	6.17
13	Nitrite as No2	mg/L	2.05	3.08	1.82	2.87	1.65	2.14	2.05	2.54	2.63	2.91	2.48	2.87
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	4.28	6.44	3.27	5.19	3.41	5.89	5.98	4.12	5.07	4.63	4.63	5.34
17	Silica as SiO2	mg/L	7.13	9.26	6.8	7.03	7.24	8.96	9.15	8.07	8.29	9.58	7.52	9.42
18	Particulate Organic Carbon	µgC/L	14	19	16	20	14	18	10	17	12	19	15	17
19	Petroleum Hydrocarbons	µg/L	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)

Heavy Metals														
20	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)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)	BDL (DL : 0.003)
21	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)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)
22	Total Iron as Fe	mg/L	0.78	0.84	0.5	0.68	0.54	0.6	0.68	0.74	0.59	0.7	0.74	0.71
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 : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)
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)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)	BDL (DL : 0.05)

Bacteriological Parameters														
28	Escherichia Coli (ECLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
29	Faecal Coliform (FCLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
30	Pseudomonas aeruginosa (PALO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
31	Streptococcus faecalis (SFLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
32	Shigella (SHLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
33	Salmonella (SLO)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
34	Total Coliform (TC)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
35	Total Viable Count (TVC)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
36	Vibrio cholera (VC)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
37	Vibrio parahaemolyticus (VP)	cfu/ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

BERTH - 3														
Month & Year			21-Oct		17-Nov		26-Dec		31-Jan		20-Feb		16-Mar	
S.No	Parameters	Unit	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
38	Primary Productivity	mg C/m ³ /hr	7.98	9.47	7.14	8.6	8.24	9.08	8.21	10.78	9.01	10.14	10.14	9.76
39	Chlorophyll a	mg /m ³	4.68	6.12	5.92	7.27	5.1	6.85	4.73	6.06	5.12	6.18	5.11	6.07
40	Phaeopigment	mg /m ³	2.56	2.96	3.17	4.94	3.62	4.57	2.15	3.4	2.74	3.27	2.83	2.88
41	Total Biomass	ml /100 m ³	2.01	2.83	2.65	2.55	2.18	2.24	1.96	2.73	2.01	3.01	2.04	3.12

PHYTOPLANKTON														
42	Bacteriastrium hyalinum	nos/ml	8	11	11	14	6	10	10	16	14	11	11	12
43	Bacteriastrium varians	nos/ml	14	17	8	10	11	15	16	18	19	14	15	19
44	Chaetoceros didymus	nos/ml	11	15	13	17	16	19	8	5	11	7	7	6
45	Chaetoceros decipiens	nos/ml	16	19	18	21	12	16	9	11	12	9	10	10
46	Biddulphia mobiliensis	nos/ml	10	8	13	20	10	14	17	15	20	17	16	18
47	Ditylum brightwellii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
48	Gyrodinium sp	nos/ml	13	16	17	19	9	11	4	7	6	5	3	8
49	Cladophysis sps	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
50	Coscinodiscus centralis	nos/ml	7	12	12	14	14	18	13	19	15	12	12	18
51	Coscinodiscus granii	nos/ml	15	18	11	13	8	12	21	24	19	18	20	23
52	Cylcotella sps	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
53	Hemidiscus hardmanianus	nos/ml	6	8	18	15	15	10	12	17	15	12	11	18
54	Lauderia annulata	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
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	5	4	10	8	12	10	11	14	14	11	12	17
58	Guinardia flaccida	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
59	Rhizosolenia alata	nos/ml	17	20	13	17	14	19	18	20	19	16	17	21
60	Rhizosolenia imbricata	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
61	Rhizosolenia semispina	nos/ml	12	15	21	23	22	25	17	21	15	12	19	20
62	Thalassionema nitzschoides	nos/ml	17	19	15	20	13	17	13	10	17	15	15	11
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	Ceratium longipes	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
ZOOPLANKTONS														
68	Acrocalanus gracilis	nos/ml	13	17	10	14	7	11	10	14	12	15	11	17
69	Acrocalanus sp	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
70	Paracalanus parvus	nos/ml	10	12	7	13	9	15	16	12	14	10	15	14
71	Eutiminius sps	nos/ml	16	18	12	16	14	19	18	21	21	23	20	21
72	Centropages furcatus	nos/ml	8	11	13	15	10	17	15	23	18	21	13	22
73	Corycaeus dana	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
74	Oithona brevicornis	nos/ml	12	16	15	12	14	10	8	11	10	13	10	12
75	Euterpina acutifrons	nos/ml	7	13	11	18	8	12	13	17	15	19	11	19
76	Metacalanus aurivillii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
77	Copepod nauplii	nos/ml	9	13	14	17	10	14	11	15	13	20	12	16
78	Cirripede nauplii	nos/ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
79	Bivalve veliger	nos/ml	17	20	18	22	13	18	14	20	17	22	17	19
80	Gastropod veliger	nos/ml	15	18	20	24	22	26	18	22	20	23	19	21

ANNEXURE - 9 RESULTS OF MARINE SEDIMENT QUALITY DATA

SEA SEDIMENT								
Location		CB - 1						
Month & Year		Unit	21-Oct	17-Nov	26-Dec	31-Jan	20-Feb	16-Mar
S.No.	Parameters							
1	Total organic matter	%	0.75	0.69	0.62	0.85	0.73	0.69
2	% Sand	%	19	14	16	12	16	15
3	%silt	%	28	33	36	35	33	32
4	%Clay	%	53	53	48	53	51	53
5	Iron (as Fe)	mg/kg	29.1	22.5	24.1	22.6	21.8	21.2
6	Aluminium (as Al)	mg/kg	9864	10058	8975	9474	9491	9219
7	Chromium (as cr)	mg/kg	20	42	40	39	42	37
8	Copper (as cu)	mg/kg	63	81	77	46	49	42
9	Manganese (as Mn)	mg/kg	55	37	35	30	35	33
10	Nickel (as Ni)	mg/kg	17	21	29	19	24	26
11	Lead (as Pb)	mg/kg	24	23	20	25	29	28
12	Zinc (as Zn)	mg/kg	229	291	252	236	241	236
13	Mercury(as Hg)	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
14	Total phosphorus as P	mg/kg	133	164	138	117	121	125
15	Octane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
16	Nonane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
17	Decane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
18	Undecane	mg/kg	0.76	0.64	0.71	0.75	0.75	0.73
19	Dodecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
20	Tridecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
21	Tetradecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
22	Pentadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
23	Hexadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
24	Heptadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
25	Octadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
26	Nonadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
27	Eicosane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
I. Nematoda								
28	Oncholaimussp	nos/m2	14	10	13	11	14	13
29	Tricomasp	nos/m2	11	16	18	15	18	13
II. Foraminifera								
30	Ammonia beccarii	nos/m2	17	14	16	14	17	15
31	Quinquinasp.	nos/m2	15	20	12	10	13	11
32	Discorbinellasp.	nos/m2	16	12	10	17	20	16
33	Bolivinaspathulata	nos/m2	14	13	19	13	16	14
34	Elphidiumsp	nos/m2	25	21	17	16	19	17
35	Nonion depressula	nos/m2	21	17	20	25	22	23
III. Molluscs-Bivalvia								
36	Meretrix veligers	nos/m2	20	23	21	26	24	27
37	Anadoraveligers	nos/m2	24	12	26	21	24	20
38	Total No. of individuals	nos/m2	177	158	175	175	187	168
39	Shanon Weaver Diversity Index		2.27	2.27	2.26	2.26	2.28	2.28


SEA SEDIMENT								
Location		CB - 2						
Month & Year		Unit	21-Oct	17-Nov	26-Dec	31-Jan	20-Feb	16-Mar
S.No.	Parameters							
1	Total organic matter	%	0.72	0.67	0.65	0.8	0.85	0.75
2	% Sand	%	20	16	17	11	10	12
3	%silt	%	32	34	38	34	36	33
4	%Clay	%	48	50	45	55	54	55
5	Iron (as Fe)	mg/kg	28.5	19.8	22.4	24.8	26.4	25.8
6	Aluminium (as Al)	mg/kg	9462	9895	9146	9042	9067	9167
7	Chromium (as Cr)	mg/kg	23	37	32	37	39	41
8	Copper (as Cu)	mg/kg	58	75	70	55	58	49
9	Manganese (as Mn)	mg/kg	67	49	42	26	29	28
10	Nickel (as Ni)	mg/kg	14	15	24	16	19	17
11	Lead (as Pb)	mg/kg	28	18	16	19	21	23
12	Zinc (as Zn)	mg/kg	216	250	237	201	199	201
13	Mercury(as Hg)	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
14	Total phosphorus as P	mg/kg	125	178	151	124	127	127
15	Octane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
16	Nonane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
17	Decane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
18	Undecane	mg/kg	0.71	0.7	0.74	0.7	0.7	0.68
19	Dodecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
20	Tridecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
21	Tetradecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
22	Pentadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
23	Hexadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
24	Heptadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
25	Octadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
26	Nonadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
27	Elcosane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
I. Nematoda								
28	Oncholaimussp	nos/m2	17	11	10	14	12	15
29	Tricomasp	nos/m2	14	12	15	10	13	9
II. Foraminifera								
30	Ammoniaebecarii	nos/m2	11	17	11	13	16	16
31	Quinulinasp	nos/m2	13	24	16	14	17	12
32	Discorbinellasp.	nos/m2	10	18	14	19	21	18
33	Bolivinaspathulata	nos/m2	8	6	17	15	19	16
34	Elphidiumtp	nos/m2	23	15	12	18	20	19
35	Noniondepressula	nos/m2	16	20	24	23	20	22
III. Molluscs-Bivalvia								
36	Meretrixveligers	nos/m2	19	26	22	24	21	23
37	Anadoraveligers	nos/m2	25	19	19	22	21	21
38	Total No. of individuals	nos/m2	156	168	160	160	180	172
39	Shanon Weaver Diversity Index		2.25	2.24	2.27	2.27	2.29	2.32

SEA SEDIMENT								
Location		BERTH - 3						
Month & Year		Unit	21-Oct	17-Nov	26-Dec	31-Jan	20-Feb	16-Mar
S.No.	Parameters							
1	Total organic matter	%	0.8	0.75	0.6	0.83	0.92	0.88
2	% Sand	%	22	16	15	12	13	10
3	%silt	%	29	32	34	36	34	35
4	%Clay	%	49	52	51	52	53	55
5	Iron (as Fe)	mg/kg	26.9	20.4	21.7	20.4	23.7	22.6
6	Aluminium (as Al)	mg/kg	9647	11264	9462	9217	9263	9345
7	Chromium (as cr)	mg/kg	21	39	35	33	36	38
8	Copper (as cu)	mg/kg	55	70	64	49	43	56
9	Manganese (as Mn)	mg/kg	62	32	36	21	23	21
10	Nickel (as Ni)	mg/kg	15	14	17	17	16	19
11	Lead (as Pb)	mg/kg	21	26	21	20	23	21
12	Zinc (as Zn)	mg/kg	205	252	229	219	212	198
13	Mercury(as Hg)	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
14	Total phosphorus as P	mg/kg	127	143	130	120	122	119
15	Octane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
16	Nonane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
17	Decane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
18	Undecane	mg/kg	0.74	0.75	0.68	0.63	0.63	0.71
19	Dodecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
20	Tridecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
21	Tetradecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
22	Phntadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
23	Hexadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
24	Heptadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
25	Octadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
26	Nonadecane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
27	Elcosane	mg/kg	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)	BDL (DL : 0.1)
I. Nematoda								
28	Oncholaimussp	nos/m2	15	17	12	10	9	12
29	Tricomasp	nos/m2	13	9	14	17	20	15
II. Foraminifera								
30	Ammonia beccarii	nos/m2	14	13	10	11	14	14
31	Quinquinasp	nos/m2	18	11	18	12	15	11
32	Discorbinellasp.	nos/m2	11	15	11	14	18	15
33	Bolivinaspathulata	nos/m2	15	10	14	17	15	16
34	Elphidiumsp	nos/m2	19	18	20	13	16	15
35	Noniondepressula	nos/m2	24	24	17	21	19	20
III. Molluscs-Bivalvia								
36	Meretrix veligers	nos/m2	22	21	19	22	25	26
37	Anadoraveligers	nos/m2	19	23	21	18	22	19
38	Total No. of individuals	nos/m2	170	161	156	156	173	155
39	Shanon Weaver Diversity Index		2.28	2.25	2.27	2.27	2.27	2.17




ANNEXURE – 4

(TNCZMA COMPLIANCE)

	Marine Infrastructure Developer Pvt Ltd	From : October 2022 To : March 2023
<u>Compliance to Tamil Nadu Coastal Zone Management Authority (TNCZMA) Conditions vide letter no. 6064/EC.3/2014-1 dated 26.06.2014</u>		

Annexure – 4

Sl. No	Conditions	Compliance
i	The unit shall compliance with all the conditions stipulated in Environment Clearance issued in No. 10-130/2007-IA-III, Ministry of Environment & Forest, Government of India, dated 3rd July 2009	Being complied
ii	The proposed activities should not cause coastal erosion and alter the beach configuration. The shoreline changes shall be monitored continuously	Complied. MIDPL has engaged Institute of Ocean Management, Anna University, Chennai for shoreline Change study and the report is under preparation for the year 2022. However, Report for the year 2020 is submitted along with Half Yearly Compliance Report for the period Oct'19-Mar'20 vide our Letter No. MIDPL / EC – HYC / 2020 / 11 dated 31.05.2020
iii	Chemical waste generated and the sewage generated, if any should not be discharged into the sea and shall be properly handled	Complied. No chemical waste is generated. MIDPL is operating ETP of 50 KLD capacity to treat the effluent generated from Liquid Tank Washings and 3 STPs of capacity 30KLD, 10KLD & 5KLD at various locations inside the port premises to treat the maximum wastewater flow of 45KLD. Domestic wastewater generated from various sources such as washing water from canteen and toilet flushing water from office buildings are being collected, treated in STP's and 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. All the parameters are well within the prescribed norms.

	Marine Infrastructure Developer Pvt Ltd	From : October 2022 To : March 2023
Compliance to Tamil Nadu Coastal Zone Management Authority (TNCZMA) Conditions vide letter no. 6064/EC.3/2014-1 dated 26.06.2014		

iv

The wastewater generated shall be collected, treated and reused properly

Complied.

MIDPL is operating ETP of 50 KLD capacity to treat the effluent generated from Liquid Tank Washings and 3 STPs of capacity 30KLD, 10KLD & 5KLD at various locations inside the port premises to treat the maximum wastewater flow of 45KLD.

Domestic wastewater generated from various sources such as washing water from canteen and toilet flushing water from office buildings are being collected, treated in STP's and 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.

Average quantity of Sewage water and ETP water treated during the compliance period is as furnished below.


Location	STP/ETP Capacity	Avg. Quantity of Sewage Water Treated (Oct'22 to Mar'23)
Near IWMS	STP 30 KLD	14.1 KLD
Near CFS	STP 5 KLD	0.9 KLD
Near Liquid Terminal	STP 10 KLD	2.2 KLD
Near Liquid Terminal	ETP 50 KLD	0.2 KLD

The monitoring results for the period October 2022 to March 2023 is enclosed as **Annexure - III**.

Summary of STP & ETP treated water analysis results during compliance period as mentioned below.

STP Treated Water Analysis report.

Parameter	Unit	Min	Max	TNPCB Limit
pH	-	6.45	8.02	6.5 to 9
TSS	mg/l	6	21	30
BOD	mg/l	3.4	16	20
COD	mg/l	16	68	100
Faecal Coliform	MPN/100ml	80	280	<1000

	Marine Infrastructure Developer Pvt Ltd	From : October 2022 To : March 2023
Compliance to Tamil Nadu Coastal Zone Management Authority (TNCZMA) Conditions vide letter no. 6064/EC.3/2014-1 dated 26.06.2014		

		<table><tr><th colspan="5">ETP TREATED WATER ANALYSIS REPORT(AVG)</th></tr><tr><th>Parameter</th><th>Unit</th><th>RO-1</th><th>RO-2</th><th>TNPCB Limit</th></tr><tr><td>pH</td><td>-</td><td>8.61</td><td>8.58</td><td>6.5 to 9</td></tr><tr><td>TSS</td><td>mg/l</td><td>20</td><td>6.4</td><td>200</td></tr><tr><td>TDS</td><td>mg/l</td><td>1500</td><td>606</td><td>2100</td></tr><tr><td>BOD</td><td>mg/l</td><td>10</td><td>3.3</td><td>100</td></tr><tr><td>Oil & Grease</td><td>mg/l</td><td>BDL</td><td>BDL</td><td>10</td></tr></table> <p>All the parameters are well within the prescribed norms.</p>	ETP TREATED WATER ANALYSIS REPORT(AVG)					Parameter	Unit	RO-1	RO-2	TNPCB Limit	pH	-	8.61	8.58	6.5 to 9	TSS	mg/l	20	6.4	200	TDS	mg/l	1500	606	2100	BOD	mg/l	10	3.3	100	Oil & Grease	mg/l	BDL	BDL	10
ETP TREATED WATER ANALYSIS REPORT(AVG)																																					
Parameter	Unit	RO-1	RO-2	TNPCB Limit																																	
pH	-	8.61	8.58	6.5 to 9																																	
TSS	mg/l	20	6.4	200																																	
TDS	mg/l	1500	606	2100																																	
BOD	mg/l	10	3.3	100																																	
Oil & Grease	mg/l	BDL	BDL	10																																	
v	The proponent shall implement oil spill mitigation measures without fail	<p>Complied.</p> <p>Oil Spill contingency Plan (OSCP) is in place and MIDPL is maintaining oil spill equipment as per Coast Guard guidelines and conducting oil spill mock drills at regular intervals.</p> <p>OSCP along with list of Oil spill control equipment already submitted vide our Letter No. MIDPL/TNPCB/GMP/EC-HYC dated 14.05.2018.</p>																																			
vi	Disaster management plan shall be implemented and mock drills shall be carried out properly and periodically.	<p>Complied.</p> <p>MIDPL is having Emergency Response & Disaster Management Plan to handle any Natural calamities or and incidents at Port.</p> <p>Regular Mock Drills are conducted as per the Disaster Management Plan. The details of drills conducted for the period October 2022 to March 2023 is enclosed as Annexure- 5.</p>																																			



ANNEXURE – 5

(MIDPL MOCK DRILLS)

MOCK DRILL REPORT

Location: MIDPL - CFS	Date: 16/10/2022	Duration of Drill: 10 mins	
		Start Time: 12:25hrs	End Time: 12:35hrs
RESPONSE TIME: 04 min			
DSO: Mr. Revanth	Fire crew: Bharath (DCPO), Ramarathinam (Fireman), Jaisuriya (Fireman) OHC: Mr. Manoj Ambulance Driver: Mr. Raj	Security: Mr. Venkatesan Shift in charge: Mr. Jaikumar	
Observer's Name: Mr. Revanth Mr. Jaikumar	Type of Scenario: Fall from height	No. of persons involved: Total: 26	
Describe the Event Occurred:	<p>1. Around 12:24 hrs. one of the CFS Labour working at height without using full body safety harness. Meantime labor slipped from the truck and fell down.</p> <p>2. At 12:25 hrs. Shift-in-charge informed to the Safety department through Mobile.</p> <p>3. At 12:26 hrs. Ambulance depart from the safety department. To reach the spot quickly, Safety (DSO) informed to the Security (DSO) through VHF to clear the Traffic.</p> <p>4. Ambulance arrived the spot at 12:30 hrs.</p> <p>5. At 12:31 hrs. Paramedic shifted the IP into Ambulance using Spine board.</p> <p>6. At 12:35 hrs. Ambulance returned back to the OHC. First Aid given at the OHC. Mock drill completed</p> <p>7. After the completion of mock drill, briefing was done at CFS yard. Basic first aid training given to the CFS labors</p>		
Equipment's Usage Details:	<ul style="list-style-type: none"> • VHF • Duty Mobile • Ambulance 		

Corrective & Preventive Action Recommended

S. NO	OBSERVATION	Corrective action	Status
1	Among 3 fall arresters in CFS, only No.3 fall arrester is working properly.	Need to change / repair the remaining fall arrester	Closed

	During heavy truck movement, labors using No.2 also.		
2	OnScene CFS Shift-in-charge informed safety via Mobile phone instead of VHF	At least shift in-charge should have VHF to communicate other departments in case of emergencies	open

Signature of Observers:

S. No.	Name	Signatures
1.	Mr. Revanth	
2.	Mr. Jaikumar	

Images



Issue No. 0 Issue Date: 01.06.17	MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED(MIDPL) INTEGRATED MANAGEMENT SYSTEM FORMATS MANUAL		Rev. No. 0
MOCK DRILL REPORT			
Location: MIDPL –CB2 QC5	Date: 25/11/2022	Duration of Drill: 10 mins Start Time: 15:34hrs End Time: 15:54hrs	
RESPONSE TIME: 01 min			
DSO: Mr. Marimuthu	Fire crew: Babin (DCPO) Ramarathinam (Fireman) Sarath Sivan (Fireman) Mahesh (Fire man) OHC: Mr. Murugan Ambulance Driver: Mr. Vinoth	Shift in charge: Mr. Naveen Electrical	
Observer's Name: Mr. Marimuthu Mr. Naveen	Type of Scenario: ES technician co employee slipped in oily surface and fell in the floor in the e-room	No. of persons involved: Total:18	
Describe the Event Occurred:		<p>1.At about 15.34hrs Mr. Nithish slipped in oily surface in QC05 E-room along with buddy technician Mr. Fredrick.</p> <p>2. At 15:34hrs Mr. Fredrick convey the scenario to shift OHS mobile.</p> <p>3. At 15:34hrs Mr. Fredrick informed the issue with Mr. Naveen Electrical In-charge.</p> <p>4. At 15.35hrs Ambulance reached the QC05.</p> <p>5.At 15.44hrs rescue team reached e-room by elevator.</p> <p>7 At 15:44hrs paramedic check the condition of IP on spot.</p> <p>8. At 15:45hrs IP shifting process started from the E-room.</p> <p>9.At 15.51hrs the person rescued from the E-room to ground level.</p> <p>10. At 15.52 hrs. IP shifted to the ambulance.</p> <p>11. At 15.54hrs ambulance reached OHC with the IP.</p>	
Equipment's Usage Details:		<ul style="list-style-type: none"> VHF Duty Mobile Ambulance Fire tender 	
Corrective & Preventive Action Recommended			
S. NO	OBSERVATION	Corrective action	Status

1.	Protocol not followed by buddy technician, failed to inform the scenario to supportive team	Need to follow the communication matrix in emergency scenario	Open
2	Spine board was unable to be used due to space congested in QC05 platform and staircase	Need to modify the platform for rescue person in emergency situation.	Open

Signature of Observers:

S. No.	Name	Signatures
1.	Mr. Marimuthu	
2.	Mr. Naveen	

Images





MOCK DRILL REPORT

Location: MIDPL –Dry Cargo Ware House	Date: 14/12/2022	Duration of Drill: 07 mins	
		Start Time: 10:39hrs	End Time: 10:45hrs
RESPONSE TIME: 01 min			
DSO: Mr. Marimuthu	Fire crew: Prabakaran (DCPO) Sarath Silvan (Fireman) Mahesh (Fire man) OHC: Mr. Murugan Ambulance Driver: Mr. Vinoth	Shift in charge: Mr.Vamsi	
Observer's Name: Mr. Marimuthu Mr.Suresh	1. Type of Scenario: While loading the cargo in trailer an Elite Shipping contract employee fell on the floor from trailer edge and got right arm fracture	No. of persons involved: Total:18	
Describe the Event Occurred:		<p>1. At about 1037hrs an employee of elite shipping fell on the floor from the edge of the trailer while loading dry cargo</p> <p>2. At 1039 hrs Mr. Vamsi dry cargo shift InCharge called the safety dept.</p> <p>3. At 1040hrs ambulance and fire tender started from fire dept and reached the dry cargo ware house at1041hrs.</p> <p>4. The injured was given first aid at 1042hrs and taken to OHS dept for further treatment at 1044hrs.</p> <p>5. Mock drill briefing was done to dry cargo team and closed at 1045hrs</p>	
Equipment's Usage Details:		<ul style="list-style-type: none"> • VHF • Duty Mobile • Ambulance • Fire tender 	

Corrective & Preventive Action Recommended

S. NO	OBSERVATION	Corrective action	Status
1.	Nil		

2	Nil		
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Signature of Observers:

S. No.	Name	Signatures
1.	Mr. Marimuthu	
2.	Mr. Vamsi	

Images







MOCK DRILL REPORT

Location: MIDPL –Refer container Yard	Date:19/01/2023	Duration of Drill: 09mins	
		Start Time: 10:29hrs	End Time: 10:38hrs
RESPONSE TIME: 01 30sec min			
DSO: Mr. Marimuthu	Fire crew: Prabakaran (DCPO) Sanal Sanny (Fireman) Vasanth (Fire man) OHC: Mr. Murugan Ambulance Driver: Mr. Vinoth	Shift in charge: Mr. Venkatesan	
Observer's Name: Mr. Vadivel Mr. Suresh	1. Type of Scenario: Mr. Manikandan reefer technician electrocuted	No. of persons involved: Total:20	
Describe the Event Occurred:		<p>1. At 1029hrs Yard supervisor Mr. Senthil Kumar noticed Mr. Manikandan reefer technician got electrocution. Convey the issue to shift in-charge on time.</p> <p>2. At 1029hrs Operations shift InCharge Mr. Venkadesan convey the Scenario to OHS team & ES team through VHF.</p> <p>3. At 1029hrs 30 sec Ambulance, fire tender started from OHS&F dept</p> <p>4. At 1030hrs OHS team convey the scenario to security team.</p> <p>5. At 1031hrs Ambulance, fire tender reached the spot</p> <p>6. At 1032hrs Security reached the spot.</p> <p>7.Engineering Service electrical team reached the location at 1032hrs and isolated the electrical power supply</p> <p>8. At 1032hrs OHS team rescued and paramedic check the vitals of victim Mr. Manikandan.</p> <p>9.At 1034hrs after first aid, victim shifted to OHC for further treatment.</p> <p>10. At about1038hrs briefing was given to ES team, Operation team, OHS team & Security team by Duty safety officer.</p>	
Equipment's Usage Details:		<ul style="list-style-type: none"> • VHF • Duty Mobile • Ambulance • Fire tender 	

Corrective & Preventive Action Recommended

S. NO	OBSERVATION	Corrective action	Status
1.	On scene failed to communicate the OHS team on spot via VHF	Need to communicate immediately to OHC case of medical emergency by on scene person.	Closed
2	Nil		

Signature of Observers:

S. No.	Name	Signatures
1.	Mr. Vadivel	
2.	Mr. Suresh	

Images







MOCK DRILL REPORT

Location: MIDPL –Engineering Work Shop	Date:18/02/2023	Duration of Drill: 08mins	
		Start Time: 09:54hrs	End Time: 10:02hrs
RESPONSE TIME: 01 30sec min			
DSO: Mr. Marimuthu	Fire crew: Bharrat (DCPO) Sanal Sanny (Fireman) Vasanth (Fire man) OHC: Mr. Yuvaraj Ambulance Driver: Mr.Bhuvinaswar	Shift in charge: Mr.Dass	
Observer's Name: Mr. Vadivel Mr. Kalaiarasan	1. Type of Scenario: Mr. S.Mano Mechanical technician electrically shocked while using drilling machine	No. of persons involved: Total:20	
Describe the Event Occurred:		<p>1. At 0955hrs Engineering shift in charge Mr.Doss noticed that Mr.S.Mano Mechanical technician got electric shock</p> <p>2. At 0954hrs OHS&F team received the call from engineering shift in charge that Mr.S.Mano electrically shocked</p> <p>3. At 0954hrs Ambulance, fire tender started from OHS&F dept.</p> <p>4. At 0954hrs OHS team convey the scenario to security team.</p> <p>5. At 0956hrs Ambulance, fire tender reached the spot</p> <p>6. At 0957hrs Security reached the spot.</p> <p>7. At 0959hrs OHS team rescued and paramedic check the vitals of victim Mr. Manikandan.</p> <p>8.At 1000 hrs after first aid, victim shifted to OHC for further treatment.</p> <p>09. At about1002hrs briefing was given to ES team, OHS team & Security team by Duty safety officer.</p>	
Equipment's Usage Details:		<ul style="list-style-type: none"> VHF Duty Mobile Ambulance Fire tender 	

Corrective & Preventive Action Recommended

S. NO	OBSERVATION	Corrective action	Status
1.	While Ambulance and fire tender reached work shop it was stopped by in between movement of EITVs. The path was not clear.	Conveyed the message to mechanical team and they agreed to correct the same.	Closed
2	VHF was not used by engineering team	Engineering team gave assurance they will use VHF during emergency situation	Closed

Signature of Observers:

S. No.	Name	Signatures
1.	Mr. Vadivel	
2.	Mr. Kalaiarasan	

Images







Issue No. 0 Issue Date: 01.06.17	MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED(MIDPL) INTEGRATED MANAGEMENT SYSTEM FORMATS MANUAL		Rev. No. 0
MOCK DRILL REPORT – LIQUID TERMINAL			
Location: Berth-3 Manifold	Date 13/03/2023	Duration of Drill Start Time: 15:24hrs End Time: 15:40hrs	
RESPONSE TIME: 06 min			
LT - H.O. D: Mr.Siddhant Chatterjee Port Safety Head: Mr. Rajan Port Safety Dept: Mr.Ravi Kumar LT Safety Dept.: Mr.Vimalnath	DSO: Mr.Marimuthu Fire: Mr.Vadivel OHC: Mr.Yuvaraj Ambulance Driver: Mr.Vinoth	Marine Control Tower: Mr.Michal Sasper	
Observer's Name: Mr. Prathiban seenivasan Mr. Kulandal Samy Mr. Premnath	Type of Scenario: Oil (CBFS) Spillages & Fire	No. of persons involved: Total: 20	
Describe the Event Occurred:		<ol style="list-style-type: none"> At 15:24 hrs. Loading Master observed fire at berth –3 manifold area. At 15:24 hrs. Loading Master activated the Master ESD siren. At 15:24 hrs. Loading Master inform to LT-control room At 15:24 hrs. Control room officer informed to LT – H.O.D At 15:25 hrs. Control room officer inform to LT – Operation Manager & Marine Control Tower At 15:25 hrs. LT – Operators, operate the DCP fire extinguisher try to extinguish the fire At 15:26 hrs. Control room officer inform to Port Safety, Fire team At 15:27 hrs. Control room officer inform to Port Security At 15:28 hrs. Initially Berth –3, No:13 Ground level Fire water monitor was activated by LT – Operators to extinguish the fire. At 15:30 hrs. Fire tender & Ambulance arrived at the fire incident location. At 15:31 hrs. Berth – 3, No:3 Tower Water Monitor system was activated to extinguish the fire. At 15:32 hrs. Berth – 3, No:4 Tower Water Monitor system was activated to extinguish the fire At 15:33 hrs. Berth – 3, No:11 Hydrant hose way laying. At 15:34 hrs. 20liter of foam was used to extinguishing fire which is connected to be 10xfoam branch of one length hose 	
Page 1 of 5			

	<p>15. At 15:36 hrs. Berth – 3, No:3 Jumbo Water Curtain system was activated for not spreading the fire from manifold to vessel.</p> <p>16. At 15:37 hrs. Berth – 3, No:4 Jumbo Water Curtain system was activated for not spreading the fire from manifold to vessel.</p> <p>17. At 15:39 hrs. Tower Water monitor & Jumbo Water Curtain system was Shutt off</p> <p>18. At 16:02 hrs. All Clear siren was activated.</p> <p>19. At 15:40 hrs. Briefing was started by LT – Operation Manager, CDU In charge, Marine Associate Manager & Port Safety team.</p>
<p>Equipment's Usage Details:</p>	<ul style="list-style-type: none"> • Walkie talkie • Duty Mobile • Fire tender and Fire hydrant • Tower Water Monitor • Jumbo Water Curtain • Fire Monitor • Ambulance
<p>Good Observations:</p>	<ol style="list-style-type: none"> 1. The communication was passed aptly to the HOD, safety department, marine control & security departments. 2. The Fire team responded rapidly to arrive at the incident location & where it is commendable that they are extinguishing the fire. 3. The Marine team passed the communication to the Tug & Near Vessel for mock drill attention.

Corrective & Preventive Action Recommended

S R N O	OBSERVATION	Action	ACTION BY	TARGET DATE	Status
1.	At Jetty area nearby there is no Emergency Assembly point is not available thus the everyone was standing in the incident location.	To provide near by the Emergency Assemble point	Port Safety		Pending
2.	At Jetty area windsock is not available	To provide the windsock	Port Safety & Marine		Pending
3.	The high-pressure water was directly hit on the berth-3 manifold from the Tower Water Monitor. It will lead to damage to the manifold.	The high-pressure water will be poured on around the manifold	Port Safety	Immediate	Complied
4.	The fire water line valve was operated manually instead of automotive valve open system is not activated.	The automatic valve open system should be activated	Port Safety		Pending
5.	Walkey was not properly working distance from Jetty area to control room radius.	To be provide Walkey for clear communication system from jetty to control room	LT-Operation		Pending
6.	While using foam Barral foam was not coming effectively	Effectively foam should be provided to extinguishing fire	Port Safety	Immediate	Complied
7.	Observed more water leak on Berth -3 Tower Water Monitor - 3	To be arrest the water leak	Port Safety		Pending
8.	Tower Water Monitor & Fire monitor identification number is mentioned	To be mentioned the identification number	Port Safety		Pending

Signature of Observers:

SR NO	Name	Signatures
1.	Mr. Prathiban seenivasan	
2.	Mr. Kulandai Samy	
3.	Mr. Vimalnath	

Images:





**Marine Infrastructure Developer Pvt. Ltd, Kattupalli Port.
Security Mock Drill Report – Oct-22 to Mar-23**

Sr. No	Date	Time	Scenario	Participants
1	09.10.2022	1625Hrs.	Unauthorized access or use including stowaways and smuggling of weapon of mass destruction.	15
2	29.10.2022	2215Hrs.	Failure of total power supply at night.	18
3	26.11.2022	1515Hrs.	An empty car lying parked dg room for last 03 days.	20
4	29.11.2022	1530Hrs.	Attempt to intrusion through boundary wall.	15
5	23.12.2022	1530Hrs.	Forcible entry carrying weapons etc.	15
6	25.12.2022	1530Hrs.	Use of ship itself as weapon for destruction or as means as cause damage of destruction.	20
7	21.01.2023	1210Hrs.	An Empty Truck made force entry and disappeared inside port premises.	20
8	23.02.2023	1530Hrs.	Perimeter Fencing Forced Breached.	16
9	18.03.2023	1530Hrs.	Suspected Explosive Device Found at Main Gate.	12
10	19.03.2023	1030Hrs.	Unauthorized access or use including stowaways and smuggling of weapon of mass destruction.	20

Mock Drills – Oct 22 to Mar 23 (Photos)












ANNEXURE – 6

(EMP COMPLIANCE)

Environment Management Plan (EMP) – Operational Phase : COMPLIANCE STATUS




S.No.	Activity	Relevant Environmental components likely to be impacted	Proposed Mitigation Measures	Compliance Status
1.	Cargo handling and Inland Cargo movement and storage areas.	Air Quality	<ul style="list-style-type: none"> • Use of dust suppression system etc., • Use of low Sulphur diesel fuel is proposed • Dust suppression measures at loading/unloading points, storage area and at internal roads • Regularization of truck movement • Periodic cleaning of cargo spills, • Speed regulations for vehicles engaged in transportation • Greenbelt Development 	<p>Complied.</p> <p>The Major air pollution generated by port activities include vehicle movements, dry cargos operations and other port activities. The following is practiced controlling of air pollutions at port premises:</p> <ul style="list-style-type: none"> • Water sprinkling on truck path • Mobile Hopper during cargo handling • Road cleaning with sweeping machines • Ensuring Tarpaulin cover over the dry cargo materials at open yard • Using the closed warehouse for storage of fine dry cargos materials. • Trucks covered with Tarpaulin for dry cargo vehicle movements • Using low Sulphur diesel fuel for DG sets. • Installed Retrofitting of DG Sets for reduction of emission level to the norms prescribed. • Adequate Greenbelt has been developed & is being maintained in the port area. 35,124 Nos. of trees has been planted as on date. • Internal transfer vehicles (ITVs) are being used extensively in port operations. All the diesel operated ITVs 51nos are replaced with e-ITVs to avoid the carbon emissions and to achieve our carbon neutral mission.


				
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	Noise	<ul style="list-style-type: none">• Personal Equipment (PPE)• Greenbelt Development• Counselling and traffic regulation	Protecting	<p>Complied.</p> <p>Traffic and noise level control measures is monitored regularly for all vehicle movements like containers, trucks movements and dumpers & other road equipment operating for Import /export of cargos at various locations of port premises. Following control measures are implemented at Kattupalli Port for Noise Control.</p> <ul style="list-style-type: none">• Adequate Greenbelt development with avenue plantation• DG sets are having acoustic enclosures as per the standard practice.• Musical Horns are completely banned inside the port premises• Vehicle speed limit is restricted to 30 Km/ Hr.


				<ul style="list-style-type: none"> Adopting latest technology operation to restrict the vehicular movements inside terminal
				

		Traffic Addition	<ul style="list-style-type: none"> The existing Kattupalli Port site is well connected by existing road and rail. In addition, port approach road is developed as a part of initial development. All the roads are in good condition to accommodate traffic. 	<p>Complied.</p> <p>Kattupalli Port is having a dedicated road connectivity connecting State Highways and National Highways. NH-5 (Chennai – Kolkata) is about 30 km from Port. The cargo handled are directly goes to the roads mentioned above which are outside the City Limits of Chennai. Handling of cargo in Kattupalli Port does not affect the regular traffic.</p> <p>The Outer Ring Road from NH-45 connecting NH 4 – NH 205 – NH 5 is getting take-off from Minjur. Further, the Outer ring road is proposed to be connected to Section I (NPAR Project) of Chennai Peripheral Ring Road on an extent of 134 km starting from Kattupalli to Mahabalipuram. The project is getting commenced shortly, which will further enhance the cargo carrying capacity of Kattupalli Port.</p> <p>Kattupalli Port is located Close proximity to majority of CFSs serving immediate hinterland and enabling faster evacuation of cargo.</p>	
2	Aqueous discharges in harbour basin	Marine water quality and ecology	<ul style="list-style-type: none"> Ships are prohibited from discharging wastewater, bilge, oil wastes, etc. into the near-shore as well as harbour waters. Ships would also comply with the MARPOL convention. As a part of mitigation measure for accidental spillage of Oil, Construction Contractor/ Kattupalli Port n Oil spill contingency plan is prepared and in place. Provision of waste reception facility Ballast Water 	<p>Complied.</p> <ul style="list-style-type: none"> Ships/vessels calling at port are not permitted to dump any wastes/bilge water/ballast water during the berthing period. The waste reception facilities developed at Kattupalli Port as per the Guidelines issued by Government of India (GoI) and MARPOL regulation is strictly implemented. Hazardous wastes are handled as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended). Hazardous wastes are disposed through approved TNPCB /CPCB vendor. Oil Spill contingency Plan is in place and MIDPL is maintaining oil spill equipment as per Coast Guard 	

			<ul style="list-style-type: none"> Management Guideline as issued by Ministry of Shipping – India Shall be adhered. 	<ul style="list-style-type: none"> guidelines and conducting oil spill mock drills at regular intervals. Management Guideline as issued by Ministry of Shipping – India are being adhered to. Regular monitoring of Marine Water and Sediment quality are being carried out by NABL accredited laboratory.
3	Cargo and Oil spills	Marine water quality and ecology	<ul style="list-style-type: none"> In case of any cargo spillage during transfer from/to ships, it will be attempted to recover the spills. Oil spill control equipment such as booms / barriers will be provided for containment and skimmers will be provided for recovery. Response time for shutting down the fuelling, containment and recovery will be quicker. 	<p>Oil Spill contingency Plan is in place and MIDPL is maintaining oil spill equipment as per Coast Guard guidelines and conducting oil spill mock drills at regular intervals.</p>   

				
4	Maintenance dredging	Maintenance dredging	<ul style="list-style-type: none"> Maintenance dredging material is being disposed of at identified disposal location at sea. It will be ensured that dumping of the excess/unused dredge material would be uniform. Additional Environmental Monitoring Program comprising of monitoring of marine water quality, marine sediment quality and marine ecology will be initiated one week prior to commencement of dredging and will be carried out during the dredging period. 	<p>Complied.</p> <ul style="list-style-type: none"> No maintenance dredging activity carried out during the compliance period October 2022 to March 2023. However Marine Water, sediment & ecology is being monitored on regular basis and reports of the same are being submitted to all the concerned authorities. Monitoring report for the period Oct'22 to Mar'23 is attached as Annexure- III.
5	Water Supply	Water resources	<ul style="list-style-type: none"> The water requirement proposed activities shall be met by existing water supply as it was considered during initial development 	<p>Complied.</p> <p>The main source of raw water is from existing Chennai Metropolitan Water Supply and Sewage Board (CMWSSB), Desalination plant, Kattupalli, which is located adjacent to Kattupalli Port.</p>

6	Wastewater Discharge	Water Quality	<ul style="list-style-type: none"> Collection of runoff from stock piles and directing into settling tanks Available Sewage treatment plant within port area will be utilized. Treated wastewater from STP will be used for irrigating the greenbelt 	<p>Complied.</p> <p>MIDPL is operating ETP of 50 KLD capacity to treat the effluent generated from Liquid Tank Washings and 3 STPs of capacity 30KLD, 10KLD & 5KLD at various locations inside the port premises to treat the maximum wastewater flow of 45KLD.</p> <p>Domestic wastewater generated from various sources such as washing water from canteen and toilet flushing water from office buildings are being collected, treated in STP's and 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 Oct'22 to Mar'23 is enclosed as Annexure - III.</p>
7	Solid Waste Management	Groundwater and Soil quality	<ul style="list-style-type: none"> Composted biodegradable waste will be used as manure in greenbelt. Other recyclable wastes will be sold. 	<p>Complied.</p> <ul style="list-style-type: none"> 100% utilization of STP sludge for greenbelt maintenance as manure. All the non-hazardous wastes like paper, wood, metal scraps generated from the terminal are also collected, stored in the Integrated Waste Management Shed (IWMS) and are handled as per 5R principle. The recyclable and the bio-degradable waste are recycled by the composting method. The compost is used in the nursery and for the gardening purposes.
8	Handling of hazardous wastes	Fire accidents due to products handling	<ul style="list-style-type: none"> No Hazardous cargo Handling /storage is envisaged Hazardous wastes (used oil & used battery if any) will be 	<p>Complied.</p> <ul style="list-style-type: none"> No Hazardous cargo is handled at MIDPL.

			<p>sent to TSDF located at Gummidipoondi, along with other shipyard wastes. The consent for the same was already obtained and the same can be extended.</p> <ul style="list-style-type: none">• Medical facilities including first aid will be available for attending to injured workers• Emergency alarms, provision of fire hydrant system and fire station.• Effective Disaster Management Plan (DMP) which covers onsite and offsite emergency plans.• Recovery of spills to the extent possible.	<ul style="list-style-type: none">• Hazardous wastes are handled as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended). Hazardous wastes are disposed through approved TNPCB /CPCB vendor. MIDPL has obtained Hazardous Waste Authorization from TNPCB for handling and disposal of the wastes. Details of the same are submitted to TNPCB as a part of Hazardous waste annual return (Form 4) on regular basis. Annual Hazardous Waste Return for FY 2021-22 is attached as Annexure – II.• Occupational Health Centre is available at Kattupalli Port on 24 X 7 basis.• Emergency alarms, fire hydrant system and Fire station equipped with Fire Tender and Fire crew are available at Kattupalli Port.• Disaster Management Plan (DMP) is in place which covers both onsite and offsite emergency plans.• MIDPL is equipped with adequate facility for recovery of spills.	
9	Fishing activity	Fishermen livelihood	<ul style="list-style-type: none">• The cargo handling activities involved in operation phase are confined to the project area and hence no hindrance to fishing is anticipated. Continuing to Educate the fishermen about Port activities	<p>Complied.</p> <ul style="list-style-type: none">• Kattupalli port follows Safe navigation routes which are earmarked for safe movement of fishing vessels and the port cargo ships. Our activities are confined to approved Port Limits and there is no hindrance to fishing activity.	

			<ul style="list-style-type: none"> Regular Interactions will be carried out with the fishing community Conflicts if any with fishing community will be amicably resolved in all cases 	<ul style="list-style-type: none"> Regular interactions are being carried out with the fishing community in order to make fishermen aware of the on-going activities and importance of channel marker buoys and other navigational aids.
10	Operation of port – Handling of Proposed Traffic	Socio-economic conditions of the region	<p>The present employment potential of Port is around 250 Nos. and Total Shipyard cum Port is around 2000 nos. The employment potential will increase about 20 nos as direct employment due to proposed activity and will also enhance indirect employment potential in the region. Together with this employment potential, project will help to enhance the socio economic conditions of the area with better schooling, communication and transport facilities that will be developed/triggered as a part of overall economic development of the region.</p>	<p>Being Complied.</p> <p>Major CSR activities carried out during the compliance period are as follows;</p> <p>1. Education: 596 Students benefited during compliance period.</p> <ul style="list-style-type: none"> Through 20 evening education centers 596 students benefited from this program. 110 students from AEEC Program wrote 10th Standard Board Exams. We also provided exams kit for the students. 8th Dec 2022 had review meeting and experiential sharing meeting with all the AEEC tutors. In JS Pulicat government Higher Secondary School there are 638 students are studying in which 478 students are preparing for board exams. Understanding the need for and importance of computer education for government school students, Adani Kattupalli Port through its Corporate Social Responsibility programs came forward to establish a computer smart lab with 20 computer systems. Through computer smart lab students from +1 and +2 will practice and learn their lessons and other students will have access to learn basic computer education. The Computer SMART Lab will be used for summer computer coaching for the government school students. The Computer SMART Lab will reach the students from Pulicat, Kottakuppam, Thangalperumbulam and Light House Panchayats.

				<div data-bbox="236 421 501 815" data-label="Image"> </div> <div data-bbox="539 421 804 815" data-label="Image"> </div> <div data-bbox="842 689 869 967" data-label="Section-Header"> <p>2. Community Health:</p> </div> <div data-bbox="874 286 1444 922" data-label="List-Group"> <ul style="list-style-type: none"> • MHCU: During this period, we have reached 9944 people through this program. We are supporting the needs of elderly population and women. Part of this program we also go for home visits. • SuPoshan: We are happy to record that through SuPoshan program we successfully covered about 2877 direct beneficiaries under the various activities of SuPoshan. The beneficiaries fall under the Pregnant women, Lactating Mothers, Adolescent Girls & Children. • Pulicat Government hospital is a 32 bedded hospital providing health care support for five panchayats- Light House, Pulicat, Thangalperumbalam, Kottaikuppam and Thamenchi, covering 45000 populations. Now it is upgraded as General Hospital. The </div>
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				<p>fishermen communities and Irulas communities get health care support from this hospital. The Chief Medical Officer Dr. Sankar asked us to support cots and beds for the patients since it is difficult to accommodate many inpatients due to lack of cot facility. Understanding the needs of the hospital and its importance, we came forward and provided 20 patients cots and beds for the hospital.</p> <ul style="list-style-type: none"> Comprehensive Eye Camps: Community health care program, we have planned to screen the community members focusing on detecting eye care issues faced by them. The aim of the program is to identify preventable eye issues at the early stage and curb the situation and to provide better vision for the community members. Especially for the members who are having cataract and facing vision issues where their productivity gets reduced which gets affected their family if the person is a bread winner of the family. Hence to check their issues we conducted five camps in our project area. We network with Sankar Nethralaya to conduct the eye camps. We screened 625 persons in which 300 were having refractive errors who are recommended to use spectacles which will be supported by us. The identified cataract cases will be operated at the base hospital under the government schemes through District Blindness Control Society.
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				<div data-bbox="236 360 555 875" data-label="Image"> </div> <div data-bbox="603 387 994 831" data-label="Image"> </div> <div data-bbox="1066 454 1098 965" data-label="Section-Header"> <h3>3. Sustainable Livelihood Development:</h3> </div> <div data-bbox="1098 280 1444 913" data-label="List-Group"> <ul style="list-style-type: none"> • 300 Organic Famers have cultivated 300 acres of paddy following INM and IPDM. All the famers have harvested the paddy. Marutham FPO bought the paddy and brought out as rice and sold it in the market under Marutham Brand. • We have put a stall at the PORT for the port employees where the port employee's bought organic rice and other farmers products. Connecting the farmers directly with the consumers. </div>
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				<ul style="list-style-type: none"> • Convergence with government line departments: For the current year, the Awareness Meeting has been conducted at Kattur Village on 9th January 23 inaugurated by Joint Director of Agriculture, Tiruvallur under the presidentship of Kattur Panchayat on 9th January 2023 where 175 farmers participated in the program. Besides Agriculture, other Sister Departments viz. Horticulture and Agricultural Engineering have participated and explained about the various Government Schemes to the Farmers and the doubts raised by the Farmers were cleared. On the occasion, an Exhibition was also conducted wherein the Seeds of High Yielding Varieties, Bio-fertilizers, Agri-Implement and Machineries and Micro-irrigation Equipment were displayed for the benefit of the Farming Community. • One technical workshop on Soil Health card and upkeep of Soil Fertility for the benefit of 300 farmers who are adopting natural farming. 159 farmers participated. Technical experts from agriculture department and KVK were our resource persons. • 85 women are part of 9 livelihood enhancement groups who are running small business units where have supported worth INR 70000 as materials to run their business units. • Skill Development: Kattur panchayat has provided the building for skilling program. During this period there were two batches which are tailoring, and beautician 93 women are getting their skilling in Tailoring (43 person) and Beautician (50 persons)
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				<ul style="list-style-type: none"> In view of promoting healthy behaviors among the youth in the community and to increase the contribution of the youth towards betterment of the community and to participate in the overall development of the panchayat and to be a better citizen, community sports were conducted. The sports program was conducted in theme of SAY NO TO DRUGS and Follow the Traffic Rules. The youth were created the awareness about the community sports were conducted with the theme of SAY NO TO DRUGS and FOLLOW ROAD SAFETY RULES. Adani foundation conducted a Volleyball and Kabaddi Championship on 26 of February 2023 with "SAY NO TO DRUGS" & Follow the Traffic Rules as the theme to educate the youth & to create awareness. In this wonderful occasion 600 youth : from 8 Panchayats of Kattur, Kottaikuppam, Voyalur, Thangal Perungulam, Light House, Kattupalli, Nandiyampakkam, Kadapakkam, Thathamani, Somancherry and Neithavoyal who participated & signed to take a stand against drugs. They displayed their excellent sportsmanship throughout the game & helped us carry out the matches with decorum. The program was well received among the community members. On this event the signature campaign on "SAY NO TO DRUGS and Follow the Traffic Rules" played the major role as all the players & the Referees signed taking a stand against Drugs. We facilitated the partnership process between Sodexo India and Marutham-FPO. FPO got cleared the vendor selection process and become a vendor to supply materials to Sodexo. FPO and Sodexo signed a partnership agreement between both. Marutham FPO is giving 500 kg of Green Gram for every month.
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FPO also has come out with a plan to establish a grading unit to grade their products. The government of Tamilnadu through Rural Development Department the district collector gave INR 1000000 towards the project. We are happy to record that the FPO consist of 1006 members in which 600 women are from our project areas who part of our agriculture program. We are also extending support to build capacity of the FPO.





				<p>4. Community Infrastructure Development:</p> <ul style="list-style-type: none"> The Adani Foundation handed over 8 community toilets, housed in two buildings and constructed to the Kattur panchayat. Prior to this, 756 families in Kattur colony of Minjur Block were struggling with insufficient toilet facilities and resultant health issues. Understanding the problems faced by the women, the Adani Foundation came forward to construct community toilets at Kattur Colony, Kattur Panchayat which is part of their programs promoting Health care for rural communities especially for Women and Children. Now the panchayat has appointed a person to maintain the toilet. We have installed RO water of 100 LPH for Kattur government school, Welfare School, and Pulicat Government Hospital. Started to install 1000 LPH for Thiruvellaivoyal Panchayat. The work will be completed by 15th June 23 and will be handed over to Panchayat administration team. School Toilet for girls has commenced in Pulicat government school and will be completed by 15th June and handed over to Government School. Through this program 280 girls will access to good sanitation support.
--	--	--	--	--

				<div data-bbox="231 380 582 862" data-label="Image"> </div> <div data-bbox="614 380 933 862" data-label="Image"> </div> <div data-bbox="997 280 1436 974" data-label="Text"> <p>Special Project: Udaan</p> <p>Project Udaan is a learning-based initiative focused on the youth of the nation. Under this project, an exposure tour is organized wherein students are given a chance to visit the Adani Port, Adani Power & Adani Wilmar facilities at Adani Group site, to get an insight into the largescale business activities carried out there. The major objective of organizing such visits is to encourage the young minds to develop an interest in all sorts of enterprises and to encourage them to dream big in life. The Adani Foundation believes that when young students are given exposure, it helps them to understand their own potential and get motivated to work towards the same.</p> </div>
--	--	--	--	---

			<p>In Feb 2023, the project has started in Adani Kattupalli Port. We have successfully done 3 visits with INDIAN INSTITUTE OF LOGISTICS, CHENNAI, ASET COLLEGE OF SCIENCE AND TECHNOLOGY, CHENNAI, and Government High School.</p>
Natural Hazards	<p>The existing Disaster Management Plan (DMP) will be implemented at the time of disaster; COO will act as the overall in-charge of the control of educative, protective and rehabilitation activities to ensure least damage to life and property.</p>	<p>Noted for Compliance.</p> <p>Disaster Management Plan (DMP) is in place which covers both onsite and offsite emergency plans. Regular Mock Drills are conducted as per the Disaster Management Plan. The details of drills conducted for the period October'22 to March'23 is enclosed as Annexure- 5.</p>	
Induced Development	<p>Offers an efficient and cost effective supply chain/ value proposition to the local importers and exporters in states of Tamil Nadu, Andhra Pradesh, Kerala and Karnataka.</p>	<p>Being Complied.</p> <p>Kattupalli Port is having a dedicated road connectivity connecting State Highways and National Highways, which offers an efficient and cost-effective supply chain/ value proposition to the local importers and exporters in the states of Tamil Nadu, Andhra Pradesh, Kerala and Karnataka.</p> <p>We are presently moving Inland Container Depot (ICD) rail bound Containers ex Kattupalli through Concor's ICD at Tondiarpet to ICD Bangalore. The containers are road bridged by Concor to/from Kattupalli Port to Tondiarpet and vice versa. This service the customers and facilitate the EXIM trade.</p>	



ANNEXURE – 7
(MIDPL FORM-V FY 2021-22)

Subramanian A

From: Sathish Kumar R
Sent: Thursday, September 22, 2022 4:42 PM
To: eccompliance-tn@gov.in; DEE GMP TNPCB
Cc: Ramde Karangiya; Subramanian A
Subject: Submission of Environmental Statement (Form V) for the financial year ending 31st March, 2022 of Marine Infrastructure Developer Private Limited, Kattupalli Port, Chennai
Attachments: MIDPL_ Form- V (2021-22).pdf
Importance: High

Dear Sir / Madam,

With reference to the captioned subject, we submit herewith the Environmental Statement of *M/s Marine Infrastructure Developer Private Limited*, in Form-V prescribed under Rule 14 of the Environment (Protection) Rules 1986 for the financial year ending 31st March 2022.

Submitted for your kind information and records.

Thanks and Regards

R. Sathish Kumar
Deputy General Manager - Environment | Adani Ports and SEZ Limited |
Mob +91 91760 00959 | Direct: +91 44 2796 8177 | Extn. 69177 |
sathish.r@adani.com | www.adaniports.com |



Growth
with
Goodness

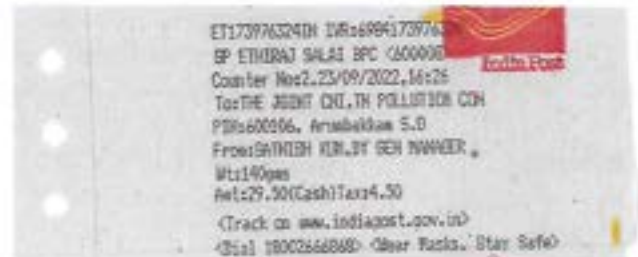
Our Values: Courage | Trust | Commitment



MIDPL/TNPCB/2021-22/179

Date: 22.09.2022

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, 2022 of Marine Infrastructure Developer Private Limited, Kattupalli Port, Chennai

Ref: 1. Consent Order No. 2105136876761 under Water Act dated 13.09.2021
2. Consent Order No. 2105236876761 under Air Act dated 13.09.2021

With reference to the captioned subject and cited references above, we submit herewith the Environmental Statement of **M/s Marine Infrastructure Developer Private Limited**, in Form-V prescribed under Rule 14 of the Environment (Protection) Rules 1986 for the financial year ending 31st March 2022.

Submitted for your kind information and records.

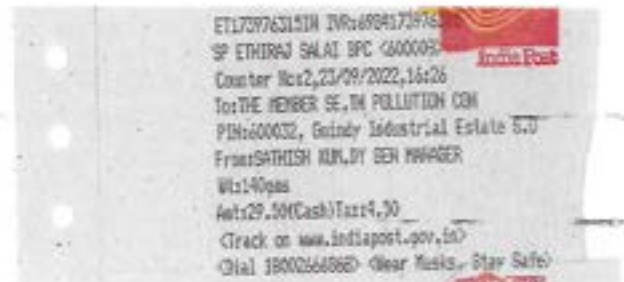
Thanking you,

For, **M/s. Marine Infrastructure Developer Private Limited**


R. Sathish Kumar
Head - Environment



Encl: 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.

Marine Infrastructure Developer Pvt Ltd
(Kattupalli Port)
Kattupalli Village, Ponneri Taluk,
Tiruvalluvar District 600 120,
Tamil Nadu, India

Tel +91 44 2824 3062

CIN: U74999TN2016PTC103769

Form-V

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

Environmental Statement for the financial year ending 31st March 2022

PART - A

i) Name and Address of the owner/occupier of the industry operation or process	: Mr. G.J. Rao Chief Executive Officer Marine Infrastructure Developer Private Limited Kattupalli Port, Kattupalli Village, Ponneri Taluk, Thiruvallur District - 600 120 Tamil Nadu, India																		
ii) Industry Category	: Primary : Red Secondary : 1065- Ports & Harbour, Jetties and Dredging Operations.																		
iii) Production Capacity	: Cargo Handling Capacity: 24.65 MMTPA <table border="1"><thead><tr><th>S.No.</th><th>Description</th><th>Quantity in MMTPA</th></tr></thead><tbody><tr><td>1.</td><td>Containers</td><td>21.60</td></tr><tr><td>2.</td><td>Ro-Ro (Automobiles)</td><td>0.07</td></tr><tr><td>3.</td><td>Project cargo</td><td>0.44</td></tr><tr><td>4.</td><td>Break Bulk / General Cargo (Barytes/ Gypsum/ Limestone/ Granite/ Steel Cargo/ Rock Phosphate/ Bauxite/ Dolomite Cargo)</td><td>1.82</td></tr><tr><td>5.</td><td>Edible oil, CBFS, Base Oil, Lube Oil and Non-Hazardous Liquid Cargo</td><td>0.72</td></tr></tbody></table>	S.No.	Description	Quantity in MMTPA	1.	Containers	21.60	2.	Ro-Ro (Automobiles)	0.07	3.	Project cargo	0.44	4.	Break Bulk / General Cargo (Barytes/ Gypsum/ Limestone/ Granite/ Steel Cargo/ Rock Phosphate/ Bauxite/ Dolomite Cargo)	1.82	5.	Edible oil, CBFS, Base Oil, Lube Oil and Non-Hazardous Liquid Cargo	0.72
S.No.	Description	Quantity in MMTPA																	
1.	Containers	21.60																	
2.	Ro-Ro (Automobiles)	0.07																	
3.	Project cargo	0.44																	
4.	Break Bulk / General Cargo (Barytes/ Gypsum/ Limestone/ Granite/ Steel Cargo/ Rock Phosphate/ Bauxite/ Dolomite Cargo)	1.82																	
5.	Edible oil, CBFS, Base Oil, Lube Oil and Non-Hazardous Liquid Cargo	0.72																	
iv) Year of establishment	: 2009, with the issue of Environmental Clearance to L&T Ship Building. Bifurcation of Environmental Clearance of L&T Ship Building to Marine Infrastructure Developer Private Limited on 09 th February 2018.																		
v) Date of the last environmental statement submitted	: Vide our Letter No. MIDPL/TNPCB/2021-22/119 dated 23.09.2021.																		



PART - B

WATER AND RAW MATERIAL CONSUMPTION

(i) Water Consumption

S. No	Water Consumption (m ³ / Day)	During the previous Financial year (2020-2021)	During the Current Financial year (2021-2022)
1.	Process	NIL	NIL
2.	Cooling	NIL	NIL
3.	Domestic	124.66	111.46

The unit does not undergo any manufacturing process. The water consumed is mainly for Firefighting, dust suppression on roads, Greenbelt development and maintenance, etc.

(ii) Raw Material Consumption

S. No	Name of the Raw Material	Name of the Product	Consumption during the financial year 2020-21.	Consumption during the financial year 2021-22.
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 reasons			
a) Water	STP Treated Water Characteristics: -					
	Parameter	Consent Limit	Actual			% Variation with prescribed standard
			30 KLD	10 KLD	5 KLD	
	pH	5.5-9	7.3	7.7	7.4	-Nil-
	Total Suspended Solids (mg/l)	30	18.2	14.4	7.6	-Nil-
	BOD (3 days at 27°C) (mg/l)	20	11.9	13.0	8.1	-Nil-
	Fecal Coliform (MPN/100ml)	1000	195	174.7	135.8	-Nil-
b) Air	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 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 monitored parameters are well within the prescribed standards.					
	Particulate Matter (mg/Nm3)	DG stack emission report is enclosed as Annexure 1.				
	Sulphur Dioxide (ppm)					
Nitrogen Oxide (ppm)						



PART-D

HAZARDOUS WASTES

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

Hazardous Wastes	Total Quantity (Kg)	
	During the current financial Year (2020-21)	During the current financial Year (2021-22)
(a) From Process	<ul style="list-style-type: none">• Cargo residue, washing water and sludge containing Oil (3.1)- 44.42 MT• Discarded Containers/ Barrels (33.1)- 3.57 MT• Used/Waste/ Spent Oil (5.1)- 6.0 KL	<ul style="list-style-type: none">• Used/Waste/ Spent Oil (5.1)- 2.31 KL
(b) From Pollution control facilities	NA	NA

PART-E

SOLID WASTES

TOTAL QUANTITY GENERATED			
Solid Waste		During the previous Financial Year (2020-21)	During the current Financial Year (2021-22)
a)	From process	NIL	NIL
b)	From pollution control facilities- STP	168 kgs	278 kgs
c)	1. Quantity recycled or reutilized within the Unit	168 kgs	278 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. MIDPL 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.
- MIDPL has awarded with Zero Waste to Landfill Management System (ZWTL MS 2020) from TÜV Rheinland India Pvt. Ltd (Annexure - 2).
- Hazardous waste includes Cargo residue, washing water and sludge containing oil, Discarded Containers/ Barrels and Used/Waste/ Spent Oil. 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 the Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016 (As amended).
- The used batteries and E-waste are stored in Integrated Waste Management Shed and disposed through TNPCB approved recyclers as per the 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 & Transboundary Movement) Rules, 2016.
- 100% utilization of STP sludge for greenbelt maintenance as manure.
- MIDPL certified as "Single Use Plastic (SUP) Free" site from CII -ITC Centre of Excellence for Sustainable Development (Annexure - 3)



PART-G

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

- Roof Top Solar Plant with the solar power generation capacity of 1000 kW were installed at MIDPL. Around 12,60,000 Units per Annum being generated from Solar Plant. MIDPL has invested nearly Rs.4 Crs. for developing this solar plant there by achieved reduction of conventional energy and contributed for resource conservation.
- 15 RTGs retrofitted into Electrical power-driven system at the project cost of Rs.45 Crs. Key Cost benefits includes reduction in diesel consumption and emission level.
- Sewage Treatment Plants (30 KLD, 10 KLD and 5 KLD STPs) are in continuous operation and the treated effluent water quality is meeting the TNPCB norms. STP treated water is used for Gardening purpose, thereby reducing freshwater consumption. The total cost spent on STP operation and maintenance during the year 2021-22 is Rs. 17.34 Lakhs.
- Biogas facility was setup at MIDPL to convert the kitchen waste to useful heat energy. The biogas unit generates output of 3kg / day. The plant capacity is 6 cubic meter / day.
- Unit is undertaking Regular Environmental Monitoring in port through NABL accredited laboratory. We have also installed and operating Continuous Ambient Air Quality Monitoring Station (SO₂, NO_x, CO, PM₁₀ & 2.5, BTX analyser to monitor VOC) and Meteorological Station (Wind Speed, Wind Direction, Ambient Temperature, Atmospheric Pressure, Relative Humidity, Rainfall and Solar Radiation). Real time data of CAAQMS is connected to TNPCB server. All the monitored environmental parameters are well within the prescribed standards and the details of monitored data is regularly being submitting to TNPCB, CPCB, MoEF&CC and other concerned authorities.
- All the domestic effluent generated at port is treated at existing Sewage Treatment Plants (30 KLD, 10 KLD and 5 KLD) and the entire treated sewage water is being reused within port premises for gardening.
- Motion sensor and timers installed at buildings to reduce energy consumption.



- Installed and operating Vehicle Pollution Under Control (PUC) checking facility to control vehicular emission in port premises.
- RTG Container Stacking monitoring system implemented and achieved energy saving up to 18000 Units per year amounting to Rs. 1.35 L /Year.
- Air conditioners fitted with energy saving device "Eco Plug" and achieved energy saving of around 22.1MWH per year.
- Streetlight and High mast lighting controlled by light intensity sensor. Energy savings achieved around 29,000 units per year amounting to Rs. 2.15 Lakhs/Annum.
- 10,292 trees & 19,880 Shrubs planted as part of Greenbelt development program in the year 2021-22. Drip Line and Sprinkler System is provided at MIDPL for irrigation in Greenbelt and landscape areas.

PART-H

Additional investment proposal for Environment protection including abatement of pollution, prevention of pollution

<u>Regular Expenditure (cost in INR lakhs/year)</u>		
S. No	Description	Cost
1	Comprehensive Environmental Monitoring	28.96
2	AAQ/NL/SM Survey & STP Treated Water Quality Analysis	0.55
3	Environment Studies	36.86
4	Retrofitting of DG Sets	56.57
5	Integrated Waste Management & Pollution Under Check Facility	2.17
6	O&M of STP's	17.34
7	Housekeeping	73.69
8	Greenbelt Maintenance	107.57
Total		322.98



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 to 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
- MIDPL is bestowed with the top honors and the details of accolades received during the year 2021-22 are mentioned here under;
 - EKDKN's "Platinum Award" under 10th Exceed Environment Award 2021 for Energy Conservation Category.
 - "Golden Peacock Environment Management Award - 2021" for Transportation (Ports) Sector, under 'Environment Management' 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:

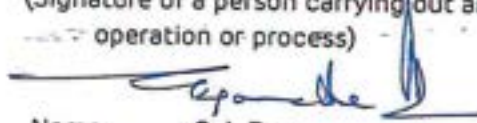
 - Education
 - Community Health
 - community Infrastructure facility
 - Sustainable Livelihood development



- Tree Plantation & Bio-Diversity development program
- Special Focus Groups
- COVID / Cyclone relief measures

Date: 22.09.2022

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



Name : G.J. Rao

Designation: **Chief Executive Officer**

Address : Marine Infrastructure Developer Pvt Ltd (MIDPL)
Kattupalli Village, Ponneri Taluk,
Thiruvallur District – 600 120
Tamil Nadu, India.



Annexure - 1

MIDPL- STACK MONITORING REPORT (April 2021 to March 2022)

Location		DO 2000KVA - 1											
Month & Year		Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
S.No.	Parameters	21.04.21	20.05.21	18.06.21	20.07.21	18.08.21	15.09.21	21.10.21	15.11.21	24.12.21	25.01.21	16.02.22	23.03.22
1	Stack Temperature, °C	281	287	-	291	-	265	245	257	-	262	-	290
2	Flue Gas Velocity, m/s	26.08	26.91	-	28.92	-	25.48	24.72	26.29	-	26.01	-	25.83
3	Gas Discharge, Nm ³ /hr	633.4	6465	-	6899	-	6372	6420	6674	-	6543	-	6645
4	Sulphur Dioxide, mg/Nm ³	10.7	11.2	-	10.9	-	9	7.1	7.9	-	8.1	-	7.9
5	NOX (as NO ₂) in ppmv	248	295	-	257	-	249	228	236	-	224	-	218
6	Particular matter, mg/Nm ³	37.3	35	-	35.1	-	37.4	12	14.3	-	12	-	11.3
7	Carbon Monoxide, mg/Nm ³	98	94	-	93	-	95	69	75	-	56	-	52

Location		DO 2000KVA - 2											
Month & Year		Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
S.No.	Parameters	21.04.21	20.05.21	18.06.21	20.07.21	18.08.21	18.09.21	21.10.21	15.11.21	24.12.21	25.01.21	16.02.22	23.03.22
1	Stack Temperature, °C	-	-	298	-	298	-	247	-	242	-	294	263
2	Flue Gas Velocity, m/s	-	-	27.56	-	26.75	-	28.46	-	24.68	-	24.98	26.12
3	Gas Discharge, Nm ³ /hr	-	-	6494	-	6778	-	6587	-	6447	-	6376	6597
4	Sulphur Dioxide, mg/Nm ³	-	-	12.7	-	9.7	-	6.9	-	7.3	-	7.7	8.9
5	NOX (as NO ₂) in ppmv	-	-	261	-	242	-	220	-	214	-	212	225
6	Particular matter, mg/Nm ³	-	-	37.3	-	33	-	15	-	13.1	-	10.8	12.1
7	Carbon Monoxide, mg/Nm ³	-	-	99	-	87	-	75	-	70	-	47	54

Location		DG 500 KVA											
Month & Year		Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
Parameters		21.04.21	20.05.21	18.06.21	20.07.21	18.08.21	15.09.21	21.10.21	15.11.21	24.12.21	25.01.21	16.02.22	23.03.22
S.No.													
1	Stack Temperature, °C	-	185	-	180	-	171	174	165	-	169	-	-
2	Flue Gas Velocity, m/s	-	16.88	-	18.12	-	16.87	17.41	18.57	-	15.78	-	-
3	Gas Discharge, Nm ³ /hr	-	1639	-	1780	-	1690	1732	1886	-	1568	-	-
4	Sulphur Dioxide, mg/Nm ³	-	7.9	-	7.1	-	6.3	5.8	5.2	-	6.5	-	-
5	NOX (as NO ₂) in ppm	-	91	-	103	-	94	80	69	-	92	-	-
6	Particular matter, mg/Nm ³	-	27.8	-	24.6	-	22.6	8.3	7	-	6.8	-	-
7	Carbon Monoxide, mg/Nm ³	-	69	-	64	-	68	54	51	-	16	-	-

Location		DG 125 KVA											
Month & Year		Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
Parameters		21.04.21	20.05.21	18.06.21	20.07.21	18.08.21	15.09.21	21.10.21	15.11.21	24.12.21	25.01.21	16.02.22	23.03.22
S.No.													
1	Stack Temperature, °C	127	-	134	-	116	-	119	-	124	-	-	128
2	Flue Gas Velocity, m/s	12.93	-	12.01	-	11.48	-	12.05	-	11.26	-	-	11.94
3	Gas Discharge, Nm ³ /hr	611	-	558	-	559	-	581	-	535	-	-	563
4	Sulphur Dioxide, mg/Nm ³	5.6	-	5.9	-	4.4	-	3.2	-	3.7	-	-	4
5	NOX (as NO ₂) in ppm	69	-	74	-	57	-	47	-	53	-	-	50
6	Particular matter, mg/Nm ³	16.4	-	14.8	-	17.1	-	4.8	-	4.6	-	-	5.2
7	Carbon Monoxide, mg/Nm ³	26	-	30	-	22	-	16	-	18	-	-	20

Location		LIQUID TERMINAL HOT OIL GENERATOR											
Month & Year		Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
Parameters		21.04.21	20.05.21	18.06.21	20.07.21	18.08.21	15.09.21	21.10.21	15.11.21	24.12.21	25.01.21	16.02.22	23.03.22
S.No.													
1	Stack Temperature, °C	151	-	-	452	-	159	-	-	-	-	152	-
2	Flue Gas Velocity, m/s	10.03	-	-	10.21	-	10.75	-	-	-	-	11.47	-
3	Gas Discharge, Nm ³ /hr	36254	-	-	36818	-	38137	-	-	-	-	41362	-
4	Sulphur Dioxide, mg/Nm ³	6.8	-	-	7.9	-	7	-	-	-	-	7.9	-
5	NOX (as NO ₂) in ppm	20.3	-	-	25.1	-	27.4	-	-	-	-	21	-
6	Particular matter, mg/Nm ³	11.2	-	-	12.3	-	14.2	-	-	-	-	11.4	-
7	Carbon Monoxide, mg/Nm ³	24	-	-	30	-	35	-	-	-	-	22	-

Certificate

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

Certificate Holder: Marine Infrastructure Developer Private Limited
Kattupalli Port, Tiruvallur - 600120
Tamil Nadu, India

Scope: Providing Port Facilities for Handling and Storage
of Bulk Cargo, Containerized Cargo and Liquid
Terminal Operations

Validity: Proof has been furnished by means of an audit that the
Requirements of ZWTL MS 2020 are met, with the
achievement of waste diversion rate of above 99%
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/0502



New Delhi, 01-06-2021

TÜV Rheinland India Pvt. Ltd.
Office 610, 6th Floor, iThum
Tower, A-40, Sector-62,
Noida- 201301, India

Accolades

Annexure - 3



EKDKN's Platinum Award – 2021



Shot on OnePlus



Golden Peacock Environment Management Award 2021



ANNEXURE – 8
**(CONSENT ORDERS UNDER AIR &
WATER ACTS)**



TAMILNADU POLLUTION CONTROL BOARD

Category of the Industry :

RED

CONSENT ORDER NO. 2105236876761

DATED: 13/09/2021.

PROCEEDINGS NO.T6/TNPCB/F.0491GMP/RL/GMP/A/2021 DATED: 13/09/2021



SUB: Tamil Nadu Pollution Control Board –CONSENT TO OPERATE –DIRECT –M/s. MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED , S.F.No. Survey Numbers : 14/18B, 15, 168/1, 168/2, 169, 170/1, 170/2, 171/1, 171/2, 172/1, 172/2, 173/1, 173/2, 174, 175, 176, 177, 178/1, 178/2, 178/3, 178/4, 179/1, 179/2, 179/3, 179/4, 180, 181, 182, 183, 184/1, 184/2, 184/3, 186, 187, 188/1, 188/2A, 188/2B, 188/2C, 189, 190, 191, 192/1, 192/2, 193/1, 193/2, 193/3, 193/4, 194, 195, 196, 197/1, 197/2, 197/3, 199, 200/1, 200/2, 202/1, 202/2, 203, 206/1, 206/2A, 206/2B, 206/3, 206/4A, 206/4B, 207/2B, 208/2, 209/1, 209/2, 209/3, 210/1, 210/2, 211/1, 211/2, 211/3, 211/4, 211/5, 211/6, 211/7, 212, 213, 214/1, 214/2, 214/3, 214/4, 215/1, 215/2, 216, 217, 218/1, 218/2, 218/3, 218/4, 218/5, 219/1, 219/2, 220, 223/1, 223/2, 224/1, 224/2, 224/3, 224/4, 224/5, 225, 226, 227, 228/1, 228/2, 228/3, 228/4, 228/5, 229, 230, 231/1, 231/2, 231/3, 231/4, 231/5, 232, 233/1, 233/2, 233/3, 233/4, 234/1, 234/2, 234/3, 234/4, 235/1B, 235/2, 235/3B, 236/3B, 236/4, 242/1, 242/2, 243/2B, 244/2, 247/1, 248/1, 248/2, 249/1A2, 249/2B, 198/1, 205/1A, 205/1B, 205/2, 205/5, 1/4A1, 1/4A2, 1/4B, 1/5, 16/1, 16/2, 17/1, 17/2, 17/3A, 17/3B, 143, 151/1, 151/2, 151/3, 151/4, 152, 153, 154/1, 154/2, 166, 167/1, 167/2, 204/1, 204/2, 204/3, 221, 221/1, 222/2, 330/1, 330/2, 330/3, 330/4, 12, 16/3, 198/2, 201, 205/3, 205/4., KATTUPALLI village Ponneri Taluk and Tiruvallur District - Consent for operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg.

Ref: 1. Units application for CTO direct dt. 15.02.2021
2. IR.No : F.0491GMP/RL/DEE/GMP/2021 dated 30/06/2021
3. Board's (Consent Clearance Committee) Resolution No.281-12 dt: 13.08.2021

CONSENT TO OPERATE is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Chief Executive Officer,

M/s. MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED

S.F.No.Survey Numbers : 14/18B, 15, 168/1, 168/2, 169, 170/1, 170/2, 171/1, 171/2, 172/1, 172/2, 173/1, 173/2, 174, 175, 176, 177, 178/1, 178/2, 178/3, 178/4, 179/1, 179/2, 179/3, 179/4, 180, 181, 182, 183, 184/1, 184/2, 184/3, 186, 187, 188/1, 188/2A, 188/2B, 188/2C, 189, 190, 191, 192/1, 192/2, 193/1, 193/2, 193/3, 193/4, 194, 195, 196, 197/1, 197/2, 197/3, 199, 200/1, 200/2, 202/1, 202/2, 203, 206/1, 206/2A, 206/2B, 206/3, 206/4A, 206/4B, 207/2B, 208/2, 209/1, 209/2, 209/3, 210/1, 210/2, 211/1, 211/2, 211/3, 211/4, 211/5, 211/6, 211/7, 212, 213, 214/1, 214/2, 214/3, 214/4, 215/1, 215/2, 216, 217, 218/1, 218/2, 218/3, 218/4, 218/5, 219/1, 219/2, 220, 223/1, 223/2, 224/1, 224/2, 224/3, 224/4, 224/5, 225, 226, 227, 228/1, 228/2, 228/3, 228/4, 228/5, 229, 230, 231/1, 231/2, 231/3, 231/4, 231/5, 232, 233/1, 233/2, 233/3, 233/4, 234/1, 234/2, 234/3, 234/4, 235/1B, 235/2, 235/3B, 236/3B, 236/4, 242/1, 242/2, 243/2B, 244/2, 247/1, 248/1, 248/2, 249/1A2, 249/2B, 198/1, 205/1A, 205/1B, 205/2, 205/5, 1/4A1, 1/4A2, 1/4B, 1/5, 16/1, 16/2, 17/1, 17/2, 17/3A, 17/3B, 143, 151/1, 151/2, 151/3, 151/4, 152, 153, 154/1, 154/2, 166, 167/1, 167/2, 204/1, 204/2, 204/3, 221, 221/1, 222/2, 330/1, 330/2, 330/3, 330/4, 12, 16/3, 198/2, 201, 205/3, 205/4.,

KATTUPALLI Village,

Ponneri Taluk,

Tiruvallur District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.



TAMILNADU POLLUTION CONTROL BOARD

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This CONSENT is valid for the period ending March 31, 2026

JOSEPHINESAHAYARANI

Digitally signed by JOSEPHINESAHAYARANI
Date: 2021.09.14 07:44:46 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

To

The Chief Executive Officer,

M/s.MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED,

Ramcons Fortuna Towers, 4th Floor, No:12 Kodambakkam High Road, Nungambakam,
Chennai - 600034,

Pin: 600034

Copy to:

1. The Commissioner, MEENJUR-Panchayat Union, Ponneri Taluk, Tiruvallur District.
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, GUMMIDIPOONDI.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Chennai.
4. File



TAMILNADU POLLUTION CONTROL BOARD

SPECIAL CONDITIONS

- This consent to operate is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Containers	21.60	MMTPA
2.	Ro-Ro – Automobiles	0.07	MMTPA
3.	Project Cargo	0.44	MMTPA
4.	Break Bulk/general cargo (Barytes / Gypsum / Limestone / Granite / Steel Cargo / Rock Phosphate / Bauxite / Dolomite cargoes)	1.82	MMTPA
5.	Edible oil, CBFS, Base Oil, Lube and Non-Hazardous Liquid Cargo	0.72	MMTPA

- This consent to operate is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm ³ /hr
1	DG Set - 2000 KVA - I	Acoustic enclosures with stack	30	8000
2	DG Set - 2000 KVA - II	Acoustic enclosures with stack	30	8000
3	DG Set - 500 KVA - I	Acoustic enclosures with stack	20	5000
4	DG Set - 500 KVA - II	Acoustic enclosures with stack	20	5000
5	DG Set - 125 KVA	Acoustic enclosures with stack	4	1000
6	Hot Water System (CBFS / Veg Oil Facility)	Wet scrubber with stack	31	50000
7	Hot Oil Generator (Bitumen Facility)	Wet scrubber with stack	31	50000
8	Fire DG Pump Stack - 1	Stack	2.5	
9	Fire DG Pump Stack - 2	Stack	2.5	
10	ETP Boiler Stack	Stack	12	
II Fugitive/Noise emission :				
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	DG Set	Noise	Acoustic Enclosures	



TAMILNADU POLLUTION CONTROL BOARD

- 3(a). The emission shall not contain constituents in excess of the tolerance limits as laid down hereunder :

Sl.	Parameter	Unit	Tolerance limits	Stacks
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Annexure enclosed if applicable. :-

- 3.(b) The Ambient Air in the industrial plant area shall not contain constituents in excess of the tolerance limits prescribed below.

Sl. No.	Pollutant	Time Weighted Average	Unit	Tolerance Limits	
				Industrial, Residential, Rural and other area	Ecologically Sensitive Area (notified by Central Govt.)
1.	Sulphur Dioxide (SO ₂)	Annual 24 hours	microgram/m ³ microgram/m ³	50 80	20 80
2.	Nitrogen Dioxide (NO ₂)	Annual 24 hours	microgram/m ³ microgram/m ³	40 80	30 80
3.	Particulate Matter (Size Less than 10 micro M) or PM ₁₀	Annual 24 hours	microgram/m ³ microgram/m ³	60 100	60 100
4.	Particulate Matter (Size Less than 2.5 micro M) or PM _{2.5}	Annual 24 hours	microgram/m ³ microgram/m ³	40 60	40 60
5.	Ozone (O ₃)	Annual 24 hours	8 Hours 1 Hour	100 180	100 180
Sl. No.	Pollutant	Time Weighted Average	Unit	Tolerance Limits	
				Industrial, Residential, Rural and other area	Ecologically Sensitive Area (notified by Central Govt.)
6.	Lead (Pb)	Annual 24 hours	microgram/m ³ microgram/m ³	0.5 1.0	0.5 1.0
7.	Carbon Monoxide (CO)	8 Hours 1 Hour	milligram/m ³ milligram/m ³	02 04	02 04
8.	Ammonia (NH ₃)	Annual 24 hours	microgram/m ³ microgram/m ³	100 400	100 400
9.	Benzene (C ₆ H ₆)	Annual	microgram/m ³	5	5
10.	Benzo(O) Pyrene (BaP) -particulate phase only	Annual	nanogram/m ³	01	01
11.	Arsenic (As)	Annual	nanogram/m ³	06	06
12.	Nickel (Ni)	Annual	nanogram/m ³	20	20

- 3(c) The Ambient Noise Level in the industrial plant area shall not exceed the limits prescribed below:

Limits in L _{eq} -dB(A)	Day Time	Night Time
Industrial Area	75	70

4. All units of the Air pollution control measures shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl. No.3 above.



TAMILNADU POLLUTION CONTROL BOARD

5. The occupier shall not change or alter quality or quantity or the rate of emission or replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in change in quality and/or quantity of emissions without the previous written permission of the Board.
6. The occupier shall maintain log book regarding the stack monitoring system or operation of the plant or any other particulars for each of the unit operations of air pollution control systems to reflect the working condition which shall be furnished for verification of the Board officials during inspection.
7. The occupier shall at his own cost get the samples of emission/air/noise levels collected and analyzed by the TNPC Board Laboratory once in every 6 months/once in a year/periodically for the parameters as prescribed.
8. Any upset condition in any of the plants of the factory which is likely to result in increased emissions and result in violation of the standards mentioned in Sl.No.3 shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.
9. The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non compliance of any order/directions issued.

Special Additional Conditions:

The unit shall install the approved retrofit emission control device/equipment with at least 70% Particulate matter reduction efficiency on all DG sets with capacity of 125 KVA and above or otherwise the unit shall be shift to gas based generators within the time frame prescribed in the notification No. TNPCB/Labs/DD(L)02151/2019 dated 10.06.2020 issued by TNPCB.

Additional Conditions:

1. The unit shall operate and maintain the APC measures efficiently and continuously so as to satisfy the Ambient Air Quality / emission standards prescribed by the Board.
2. The unit shall adhere to the Ambient Noise Level standards prescribed by the Board.
3. The unit shall conduct AAQ/ANL/SM emission survey periodically and furnish the ROA to the Board.
4. The unit shall maintain Continuous Ambient Air Quality Monitoring station provided for the parameters PM10, PM2.5 and VOC and shall transfer data to the care Air Centre, TNPCB, Guindy without any interruption.
5. The unit shall utilize the Power obtained from the DG Sets for captive use only and shall not supply Power to Grid.
6. The unit shall maintain adequate dust suppression system and take all measures to ensure that the cargo is handled by taking necessary precautions to avoid spread of fugitive dust while transporting cargo through lorries and containers.
7. The unit shall ensure that the vehicles shall not fit or use any multi toned horn giving a harsh, shrill, loud or alarming noise.
8. The unit shall provide water sprinklers to the internal roads so as to avoid dust emissions due to the vehicular movements inside the premises within a month as committed.
9. The unit shall comply with the conditions imposed in the environmental clearance accorded to the unit from the MoEF, GOI vide Lr.No. 10-130/2007-IAIII dated 09.02.2018.
10. In case of any deviation in the Gross Fixed Assets furnished in future, the unit shall remit the difference in amount to the Board without fail.
11. The unit shall continue to develop adequate green belt by planting tree saplings of native species in and around the unit premises so as to comply with the Board norms.
12. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification. Failing to remit consent fee, this consent order will be withdrawn without any notice and further action will be initiated against the unit as per law.
13. The unit shall comply with the conditions imposed in the "No increase in Pollution Load" letter issued to the unit by the Board vide Lr. No: T1/TNPCB/ F.022882/RL/GMP/NIPL/2021 Dated:12.01.2021.

JOSEPHINESAHAYARANI

Digitally signed by
JOSEPHINESAHAYARANI
Date: 2021.09.14 07:45:41 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai



TAMILNADU POLLUTION CONTROL BOARD

GENERAL CONDITIONS

1. The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in production quantity and emission.
2. This Consent is given by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished, in the application will also be ground for review/variation/revocation of the Consent Order under Section 21 of the Act.
3. The conditions imposed shall continue in force until revoked under Section 21 of the Act.
4. After the issue of this order, all the 'Consent to Operate' orders issued previously under Air (Prevention and Control of Pollution) Act, 1981 as amended stands defunct.
5. The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence.
6. The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Air Pollution Control measures sufficient to ensure continuous operation of all pollution control equipments to ensure compliance.
7. The occupier shall provide all facilities to the Board officials for collection of samples in and around the factory at any time.
8. The applicant shall display the flow diagram of the sources of emission and pollution control systems provided at the site.
9. The liquid effluent arising out of the operation of the air pollution control equipment shall also be treated in a manner and to the satisfaction of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 as amended.
10. The air pollution control equipments, location of inspection chambers and sampling port holes shall be made easily accessible at all time.
11. In case of any episodal discharge of emission, the industry shall take immediate action to bring down the emission within the limits prescribed by the Board.
12. If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances.
13. The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poramboke lands.
14. The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.
15. The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.
16. If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied.
17. In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Air (Prevention and Control of Pollution) Act, 1981, as amended in Form-I alongwith relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.
18. In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.



TAMILNADU POLLUTION CONTROL BOARD

19. The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.

JOSEPHINESAHAYARANI

Digitally signed by JOSEPHINESAHAY,
Date: 2021.09.14 07:46:18 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai



TAMILNADU POLLUTION CONTROL BOARD

Category of the Industry :

RED

CONSENT ORDER NO. 2105136876761

DATED: 13/09/2021.

PROCEEDINGS NO.T6/TNPCB/F.0491GMP/RL/GMP/W/2021 DATED: 13/09/2021



SUB: Tamil Nadu Pollution Control Board –CONSENT TO OPERATE – DIRECT -M/s. MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED . S.F.No. Survey Numbers : 14/18B, 15, 168/1, 168/2, 169, 170/1, 170/2, 171/1, 171/2, 172/1, 172/2, 173/1, 173/2, 174, 175, 176, 177, 178/1, 178/2, 178/3, 178/4, 179/1, 179/2, 179/3, 179/4, 180, 181, 182, 183, 184/1, 184/2, 184/3, 186, 187, 188/1, 188/2A, 188/2B, 188/2C, 189, 190, 191, 192/1, 192/2, 193/1, 193/2, 193/3, 193/4, 194, 195, 196, 197/1, 197/2, 197/3, 199, 200/1, 200/2, 202/1, 202/2, 203, 206/1, 206/2A, 206/2B, 206/3, 206/4A, 206/4B, 207/2B, 208/2, 209/1, 209/2, 209/3, 210/1, 210/2, 211/1, 211/2, 211/3, 211/4, 211/5, 211/6, 211/7, 212, 213, 214/1, 214/2, 214/3, 214/4, 215/1, 215/2, 216, 217, 218/1, 218/2, 218/3, 218/4, 218/5, 219/1, 219/2, 220, 223/1, 223/2, 224/1, 224/2, 224/3, 224/4, 224/5, 225, 226, 227, 228/1, 228/2, 228/3, 228/4, 228/5, 229, 230, 231/1, 231/2, 231/3, 231/4, 231/5, 232, 233/1, 233/2, 233/3, 233/4, 234/1, 234/2, 234/3, 234/4, 235/1B, 235/2, 235/3B, 236/3B, 236/4, 242/1, 242/2, 243/2B, 244/2, 247/1, 248/1, 248/2, 249/1A2, 249/2B, 198/1, 205/1A, 205/1B, 205/2, 205/5, 1/4A1, 1/4A2, 1/4B, 1/5, 16/1, 16/2, 17/1, 17/2, 17/3A, 17/3B, 143, 151/1, 151/2, 151/3, 151/4, 152, 153, 154/1, 154/2, 166, 167/1, 167/2, 204/1, 204/2, 204/3, 221, 221/1, 222/2, 330/1, 330/2, 330/3, 330/4, 12, 16/3, 198/2, 201, 205/3, 205/4., KATTUPALLI village Ponneri Taluk and Tiruvallur District - Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

- Ref:** 1. Units application for CTO direct dt. 15.02.2021
2. IR.No : F.0491GMP/RL/DEE/GMP/2021 dated 30/06/2021
3. Board's (Consent Clearance Committee) Resolution No.281-12 dt: 13.08.2021

CONSENT TO OPERATE is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Chief Executive Officer,

M/s. MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED

S.F.No.Survey Numbers : 14/18B, 15, 168/1, 168/2, 169, 170/1, 170/2, 171/1, 171/2, 172/1, 172/2, 173/1, 173/2, 174, 175, 176, 177, 178/1, 178/2, 178/3, 178/4, 179/1, 179/2, 179/3, 179/4, 180, 181, 182, 183, 184/1, 184/2, 184/3, 186, 187, 188/1, 188/2A, 188/2B, 188/2C, 189, 190, 191, 192/1, 192/2, 193/1, 193/2, 193/3, 193/4, 194, 195, 196, 197/1, 197/2, 197/3, 199, 200/1, 200/2, 202/1, 202/2, 203, 206/1, 206/2A, 206/2B, 206/3, 206/4A, 206/4B, 207/2B, 208/2, 209/1, 209/2, 209/3, 210/1, 210/2, 211/1, 211/2, 211/3, 211/4, 211/5, 211/6, 211/7, 212, 213, 214/1, 214/2, 214/3, 214/4, 215/1, 215/2, 216, 217, 218/1, 218/2, 218/3, 218/4, 218/5, 219/1, 219/2, 220, 223/1, 223/2, 224/1, 224/2, 224/3, 224/4, 224/5, 225, 226, 227, 228/1, 228/2, 228/3, 228/4, 228/5, 229, 230, 231/1, 231/2, 231/3, 231/4, 231/5, 232, 233/1, 233/2, 233/3, 233/4, 234/1, 234/2, 234/3, 234/4, 235/1B, 235/2, 235/3B, 236/3B, 236/4, 242/1, 242/2, 243/2B, 244/2, 247/1, 248/1, 248/2, 249/1A2, 249/2B, 198/1, 205/1A, 205/1B, 205/2, 205/5, 1/4A1, 1/4A2, 1/4B, 1/5, 16/1, 16/2, 17/1, 17/2, 17/3A, 17/3B, 143, 151/1, 151/2, 151/3, 151/4, 152, 153, 154/1, 154/2, 166, 167/1, 167/2, 204/1, 204/2, 204/3, 221, 221/1, 222/2, 330/1, 330/2, 330/3, 330/4, 12, 16/3, 198/2, 201, 205/3, 205/4.,

KATTUPALLI Village,

Ponneri Taluk,

Tiruvallur District.

Authorising the occupier to make discharge of sewage and /or trade effluent.



TAMILNADU POLLUTION CONTROL BOARD

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This CONSENT is valid for the period ending March 31, 2026

JOSEPHINESAHAYARANI

Digitally signed by JOSEPHINESAHAYARANI
Date: 2021.09.14 07:47:28 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

To

The Chief Executive Officer,

M/s.MARINE INFRASTRUCTURE DEVELOPER PRIVATE LIMITED,

Ramcons Fortuna Towers, 4th Floor, No:1/2 Kodambakkam High Road, Nungambakam,

Chennai - 600034,

Pin: 600034

Copy to:

- 1.The Commissioner, MEENJUR-Panchayat Union, Ponneri Taluk, Tiruvallur District.
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, GUMMIDIPOONDI.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Chennai.
4. File



TAMILNADU POLLUTION CONTROL BOARD

SPECIAL CONDITIONS

- This consent to operate is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Containers	21.60	MMTPA
2.	Ro-Ro – Automobiles	0.07	MMTPA
3.	Project Cargo	0.44	MMTPA
4.	Break Bulk/general cargo (Barytes / Gypsum / Limestone / Granite / Steel Cargo / Rock Phosphate / Bauxite / Dolomite cargoes)	1.82	MMTPA
5.	Edible oil, CBFS, Base Oil, Lube and Non-Hazardous Liquid Cargo	0.72	MMTPA

- This consent to operate is valid for operating the facility with the below mentioned permitted outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Treated Sewage Effluent - 1 (30 KLD)	30.0	On land for gardening
2.	Treated Sewage Effluent - 2 (10 KLD)	10.0	On land for gardening
3.	Treated Sewage Effluent - 3 (5 KLD)	5.0	On land for gardening
Effluent Type : Trade Effluent			
1.	Trade Effluent - 1 (RO Permeate)	41.0	On land for gardening
2.	Trade Effluent - 2 (RO Reject)	9.0	Evaporated in ATFD System

- The effluent discharge shall not contain constituents in excess of the tolerance Limits as laid down hereunder.



TAMILNADU POLLUTION CONTROL BOARD

Sl. No.	Parameters	Unit	TOLERANCE LIMITS - OUTLETS -Nos					
			Sewage		Trade Effluent			
			1	2,3	1	2		
1.	pH		5.5 to 9	5.5 to 9	5.5 to 9	5.5 to 9		
2.	Temperature	oC	-	-	-	shall not exceed 5°C above the receiving water temperature		
3.	Particle size of Suspended solids	-	-	-	-	shall pass 850 micron IS sieve		
4.	Total Suspended Solids	mg/l	30	30	200	100		
5.	Total Dissolved solids (inorganic)	mg/l	-	-	2100	2100		
6.	Oil & Grease	mg/l	-	-	10	10		
7.	Biochemical Oxygen Demand (3 days at 27oC)	mg/l	20	20	100	30		
8.	Chemical Oxygen Demand	mg/l	-	-	-	250		
9.	Chloride (as Cl)	mg/l	-	-	600	1000		
10.	Sulphates (as SO4)	mg/l	-	-	1000	1000		
11.	Total Residual Chlorine	mg/l	-	-	-	1		
12.	Ammonical Nitrogen (as N)	mg/l	-	-	50	50		
13.	Total Kjeldahl Nitrogen (as N)	mg/l	-	-	-	100		
14.	Free Ammonia (as NH3)	mg/l	-	-	-	5		
15.	Arsenic (as As)	mg/l	-	-	0.2	0.2		
16.	Mercury (as Hg)	mg/l	-	-	0.01	0.01		
17.	Lead (as Pb)	mg/l	-	-	1	0.1		
18.	Cadmium(as Cd)	mg/l	-	-	1	2		
19.	Hexavalent Chromium (as Cr+6)	mg/l	-	-	1	0.1		
20.	Total Chromium (as Cr)	mg/l	-	-	2	2		
21.	Copper (as Cu)	mg/l	-	-	3	3		
22.	Zinc (as Zn)	mg/l	-	-	1.5	1		
23.	Selenium (as Se)	mg/l	-	-	0.05	0.05		
24.	Nickel (as Ni)	mg/l	-	-	3	3		
25.	Boron (as B)	mg/l	-	-	2	2		
26.	Percent Sodium	%	-	-	60	-		
27.	Residual Sodium Carbonate	mg/l	-	-	5	-		
28.	Cyanide (as CN)	mg/l	-	-	0.2	0.2		
29.	Fluoride (as F)	mg/l	-	-	2	2		
30.	Dissolved Phosphates(as P)	mg/l	-	-	-	5		
31.	Sulphide (as S)	mg/l	-	-	2	2		
32.	Pesticides	mg/l	-	-				
33.	Phenolic Compounds (as C6H5OH)	mg/l	-	-	5	1		
34.	Radioactive materials a) Alpha emitters	micro curie/ml	-	-	10-8	10-7		



TAMILNADU POLLUTION CONTROL BOARD

35.	Radioactive materials b). Beta emitters	micro curie/ml	-	-	10-6	10-6	
36.	Fecal Coliform	MPN/100ml	-	-	-	-	

4. All units of the sewage and Trade effluent treatment plants shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl No.3 above or to achieve the zero liquid discharge of effluent as applicable.
5. The occupier shall maintain the Electro Magnetic Flow Meters/water Meters installed at the inlet of the water supply connection for each of the purposes mentioned below for assessing the quantity of water used and ensuring that such meters are easily accessible for inspection and maintenance and for other purposes of the Act.
 - a. Industrial Cooling, Spraying in mine pits or boiler feed.
 - b. Domestic purpose.
 - c. Process.
6. The occupier shall maintain the Electro Magnetic Flow Meters with computer recording arrangement for measuring the quantity of effluent generated and treated for the monitoring purposes of the Act.
7. Log book for each of the unit operations of ETP have to be maintained to reflect the working condition of ETP along with the readings of the Electro Magnetic Flow Meters installed to assess effluent quantity and the same shall be furnished for verification of the Board officials during inspection.
8. The occupier shall at his own cost get the samples of effluent/surface water/ground water collected in and around the unit by Board officials and analyzed by the TNPC Board Laboratory periodically.
9. Any upset condition in any of the plants of the factory which is likely to result in increased effluent discharge and result in violation of the standards mentioned in Sl. No.3 above shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.
10. The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non compliance of any order/directions issued.
11. The occupier shall develop adequate width of green belt at the rate of 400 numbers of trees per Hectare.
12. The occupier shall provide and maintain rain water harvesting facilities.
13. The occupier shall ensure that there shall not be any discharge of effluent either treated or untreated into storm water drain at any point of time.
14. In the case of zero liquid discharge of effluent units, the occupier shall adhere the following conditions as laid under.
 - i). The occupier shall ensure zero liquid discharge of effluent, thereby no discharge of untreated / treated effluent on land or into any water bodies either inside or outside the premises at any point of time.
 - ii) The occupier shall operate and maintain the Zero liquid discharge treatment components comprising of Primary, Secondary and tertiary treatment systems at all times and ensure that the RO permeate/Evaporator condensate shall be recycled in the process and the final RO reject shall be disposed off with the reject management system ensuring zero liquid discharge of effluents in the premises.
 - iii) The occupier shall operate and maintain the reject management system effectively and recover the salt from the system which shall be reused in the process if reusable or shall be disposed off as ETP sludge.
 - iv) In case of failure to achieve zero discharge of effluents for any reason, the occupier shall stop its production and operations forthwith and shall be reported to the Member Secretary/Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.
 - v) The occupier shall restart the production only after ascertaining that the Zero discharge treatment system can perform effectively for achieving zero discharge of effluents.

Additional Conditions:



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1. The unit shall operate and maintain the existing STPs efficiently and continuously so as to satisfy the standards prescribed by the Board.
2. The unit shall utilize the treated sewage on its own land for gardening purposes.
3. The unit shall operate and maintain the existing ETP, RO systems, MEE and ATFD for the treatment of trade effluent generated from the unit and the RO permeate shall be utilized for gardening purpose after satisfying the standards prescribed by the Board.
4. The unit shall ensure that operation of the Port activity does not create any impact on the livelihood of the fishermen.
5. The unit shall ensure that the operation of port activity shall not create any adverse effect on the marine eco system or marine water quality of the sea water intake point of M/s. Chennai Water Desalination Plant.
6. The unit shall ensure that the operation activity of the unit shall not create any hindrances to the Kattupalli village under any circumstances.
7. The unit shall comply with the conditions imposed in the environmental clearance accorded to the unit from the MoEF, GOI vide Lr.No. 10-130/2007-IAIII dated 09.02.2018.
8. The unit shall ensure that no oil spill shall occur in the marine coastal areas due to the operation activities.
9. The Port shall ensure that the dredged material arising from dredging operations shall not be dumped in the areas attracting CRZ Notification and the material shall be used for further beneficial use.
10. The Port shall have containment Boom facility with skimmer to contain and recover the spillages of Liquid Cargo in to the sea if any.
11. The unit shall maintain the water quality of Marine Sea so as to meet the Marine Water quality prescribed for Harbour Sea Water and ensure that the marine water quality is monitored at regular intervals by engaging competent agencies.
12. The unit shall furnish carry out impact assessment study once in a year with respect to marine and land environment and the report shall be furnished to Board.
13. The Port shall ensure that adequate oil spill response equipment shall be made available as per the Appendix B of the Tamil Nadu State Oil Spill Disaster Contingency Plan, September 2016.
14. The Port shall ensure participation in the oil spill combating training along with the State Agencies such as Tamil Nadu Maritime Board organised by the Indian Coast Guard time to time.
15. The port shall ensure the formation and regular functioning of dedicated Environment Cell and Oil Spill Contingency Response Cell in order to have timely response to incidents of oil spill and any other contingency in the Port area.
16. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification. Failing to remit consent fee, this consent order will be withdrawn without any notice and further action will be initiated against the unit as per law.
17. The unit shall not use 'use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, areca nut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, jute bag etc.
18. The unit shall not undertake any activity in its premises in violation of the CRZ Rules notified by the MoEF & CC, GoI.
19. The unit shall maintain the dedicated reception facilities provided for receiving hazardous waste as per the orders of the Hon'ble NGT (PB) in OA No.804/2017.
20. The unit shall adhere to the International Convention for the prevention of pollution from Ships (MARPOL guidelines) covering the following regulations,
 - (i) Regulations for the prevention of pollution by oil
 - (ii) Regulations for the control of pollution by Noxious liquid substances in bulk
 - (iii) Prevention of pollution by sewage from ships
 - (iv) Prevention of pollution by garbage from ships
 - (v) Prevention of Air pollution from ships
21. The unit shall comply with the conditions imposed in the "No increase in Pollution Load" letter issued to the unit by the Board vide Lr. No: T1/TNPCB/ F.022882/RL/GMP/NIPL/2021 Dated:12.01.2021.
22. In case of any deviation in the Gross Fixed Assets furnished in future, the unit shall remit the difference in amount to the Board without fail.
23. The unit shall not commence its expansion activity before obtaining CTE/CTO expansion from the Board.



JOSEPHINESAHAYARANI
TAMILNADU POLLUTION CONTROL BOARD

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For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai



TAMILNADU POLLUTION CONTROL BOARD

GENERAL CONDITIONS

1. The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in Production quantity and change in sewage/Trade effluent.
2. This Consent is issued by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished in the application will also be ground for review/variation/revocation of the Consent Order under Section 27 of the Act and to make such variation as deemed fit for the purpose of the Act.
3. The consent conditions imposed in this order shall continue in force until revoked under Section 27(2) of the Act.
4. After the issue of this order, all the 'Consent to Operate' orders issued previously under Water (Prevention and Control of Pollution) Act, 1974 as amended stands defunct.
5. The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence.
6. The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Effluent Treatment Plant-sufficient to ensure continuous operation of all pollution control equipments to maintain compliance.
7. The occupier shall provide all facilities to the Board officials for inspection and collection of samples in and around the factory at any time.
8. The occupier shall display the flow diagram of the sources of effluent generation and pollution control systems provided at the ETP site.
9. The solid waste such as sweepings, wastage, package, empty containers, residues, sludge including that from air pollution control equipments collected within the premises of the industrial plant shall be collected in an earmarked area and shall be disposed off properly.
10. The occupier shall collect, treat the solid wastes like food waste, green waste generated from the canteen and convert into organic compost.
11. The occupier shall segregate the Hazardous waste from other solid wastes and comply in accordance with Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.
12. The occupier shall maintain good house-keeping within the factory premises.
13. All pipes, valves, sewers and drains shall be leak proof. Floor washings shall be admitted into the trade effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
14. The occupier shall ensure that there shall not be any diversion or by-pass of trade effluent on land or into any water sources.
15. The occupier shall ensure that solar Evaporation pans shall be constructed in such a way that the bottom of the solar pan is at least 1 m above the Ground level (if applicable).
16. The occupier shall furnish the following returns in the prescribed formats to the concerned District office regularly.
 - a) Monthly water consumption returns of each of the purposes with water meter readings in Form-I on or before 5th of every month.
 - b) Yearly return on Hazardous wastes generated and accumulated for the period from 1st April to 31st March in Form-4 before the end of the subsequent 30th June of every year (if applicable).
 - c) Yearly Environmental Statement for the period from 1st April to 31st March in Form -V before the end of the subsequent 30th September of every year(if applicable).
17. If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures plants and properties while handling and storage of hazardous substances.
18. The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poramboke lands.
19. The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.



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20. The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.
21. If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied.
22. In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Water (Prevention and Control of Pollution) Act, 1974, as amended in Form-II alongwith relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.
23. In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.
24. The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.

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For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai