Chennai Metro Rail Limited

(A Joint Venture of Govt. of India and Govt. of Tamil Nadu)

(ISO 9001:2015 and ISO 14001:2015 Certified)

Letter No. CMRL/CON/ES/1079/2025 **Dated: 26.08.2025**

To,

The District Environmental Engineer,
Tamil Nadu Pollution Control Board,
Second Floor,950/1, Poonamalle High Road,
Arumbakkam, Chennai – 600 106.

Dear Sir/Madam,

Sub : Submission of Annual Environmental Statement (Form V) for the financial year ending 31st March 2025 for the CMRL Metro Head Quarters and other Metro Rail Amenities (MetroS) located at Nandanam consist of S.F.No. 3871/19pt),3871/3(pt), Block No.76 Mylapore village Mylapore Taluk and Chennai District, Tamil Nadu – Reg.

Ref :
1. **Environment Clearance Letter No. SEIAA/TN/F.6675/EC/8(a)664/201 dated 18.10.2019.**
2. **Consent Order (CTO under Water Act) No. 2304248023588 dated 05.09.2024.**

With reference to Part A of Specific Conditions , condition no. (7) stipulated in the Environmental clearance and the General Conditions, condition no. (16) stipulated in the consent order cited above we are submitting herewith the Annual Environmental statement (Form V) for the financial year ending 31st March 2025 along with necessary supporting documents for your kind information and perusal.

We wish to mention that all the necessary actions are being taken in compliance with the specific and general conditions of Environmental clearance granted to the project.

We trust that the information furnished is in line with your requirements.

Thanking you.

Yours Sincerely,

26/08/2025

Saravana Kumar R,
Manager – Environment.

CHENNAI METRO RAIL LIMITED * CHENNAI - 600035 *

Enclosed: As stated above

FORM V

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

Environmental statement for the financial year ending the 31st March 2025.

PART - A

(i) Name and Address of the owner/occupier of the industry operation or process – **M/s Chennai Metro Rail Limited, Mylapore Village, Mylapore Taluk, Chennai District.**

(ii) Industry category Primary – (STC Code) Secondary – (SIC Code) – **Red Category**

(iii) Production capacity – Units - **Nil**

(iv) Year of Establishment - **2022**

(v) Date of last environmental statement submitted – **25.09.2024**

PART - B

Water and Raw Material Consumption

(i) Water consumption m^3/day – Total Consumption **201.3** m^3/day.

Process - Nil

Cooling - Nil

Domestic - **201.3 m^3/day.**

Name of Products	Process water consumption per unit of product output	
	During the previous financial year (2023 – 2024)	During the current financial year (2024 – 2025)
	(1)	(2)
(1) This is an office building ; hence no product is manufactured	Not Applicable	Not Applicable

(i) Raw material consumption

*Name of raw materials	Name of Products	Consumption of raw material per unit of output	
		During the previous financial year (2023 – 2024)	During the current financial year (2024 – 2025)
	Not Applicable	Not Applicable	Not Applicable

* Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART - C

Pollution discharged to environment/unit of output.
(Parameter as specified in the consent issued)

(1) Pollutants	Quality of Pollutants discharged (mass/day)	Concentrations of pollutants discharges (Mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	No pollutants are discharged into the environment as entire sewage is treated and recycled.	STP treated effluent report Attached (Annexure 1)	Not Applicable
(b) Air	Emissions from the DG sets	DG Stack Monitoring Report attached (Annexure 2)	DG Stack Monitoring Report attached (Annexure 2)

PART - D

Hazardous Wastes
(As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year (2023 – 2024)	During the current financial year (2024 – 2025)
(a) From Process **(Used Oil from DG sets)**	**236 Liters**	**3000 Liters**
(b) From pollution control facilities	Not Applicable	Not Applicable

PART - E

Solid Wastes	Total Quantity (186.9 Kg/day)	
	During the previous financial year (2023 – 2024)	During the current financial year (2024 – 2025)
(a) From process	NA	NA
(b) From pollution control facilities (Dried STP Sludge)	Nil	Nil
(c) (1) Quantity recycled or re-utilized within the unit (2) Sold (3) Disposed	(1) 109.9 Kg/day food waste & Garden waste treated in Organic Waste Converter. (2) Nil	(1) 101.3 Kg/day food waste & Garden waste treated in Organic Waste Converter. (2) Nil

	81.2 Kg/day solid waste disposed of to GCC	85.6 Kg/day solid waste disposed of to GCC

PART – F

Please specify the characteristics (in terms of consumption of quantum) of hazardous as well as solid waste and indicate disposal practice adopted for both these categories of wastes.

Characteristics of hazardous waste & solid waste:
The used oil, oil filter etc., from the DG's have been identified as hazardous wastes.

Solid Waste:

1. Solid wastes are segregated into biodegradable wastes (waste vegetables, foods etc.) were treated in Organic Waste Converter (OWC) and used as manure for Green Belt Development.
2. Non –biodegradable wastes and collected in separate bins and handed over to Greater Chennai Corporation.
3. Dried Sludge of STP were used as a manure for the Green Belt Development.

Used Oil:
The used lubricant oil generated during maintenance of DG sets will be collected in drums and stored at a designated place within the premises. The same is sold to recyclers authorized by CPCB and TNPCB.

PART – G

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

As it is an Office building therefore no product is manufactured, however measures taken to conserve water like fixtures for showers, low flow type flushing system in the toilets and recycling of STP treated effluent in flushing and gardening. Rainwater harvesting is also being done to recharge the ground water.

PART – H

Additional measures/investment proposal for environmental protection including abetment of pollution prevention of pollution.

1. Energy efficient lighting systems were installed in the building to conserve electricity.
2. Solar panels were installed in the parking lots

PART – I

Any other particulars for improving the quality of the environment.

1. Adequate stack height for DG sets is provided as per norms to reduce air pollution,
2. Back up DG sets comply with the applicable emission norms.
3. Back up DG sets are used only during power failure

4. Monitoring of stack emissions from DG sets is carried out as per norms.
5. DG sets are installed in the basement to minimize the impact of ambient noise.
6. DG sets is provided with acoustic lining/ treatment for control of noise as per norms.
7. Adequate exhaust mufflers are provided as per norms to limit the noise.
8. Adequate tree plantation has been carried out for improvement of aesthetics and climate.
9. Rainwater harvesting pits & recharge bore wells are provided for recharge of groundwater.
10. Solid waste is segregated and disposed of to Greater Chennai Corporation (GCC).

Annexure 1

STP Water Analysis Report

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

POLLUCARE® solution for pollution

TEST REPORT

Accredited by **NABL** & **NABET**, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-WW-1716	**Report Date**	: 14.02.2025
Discipline	: Chemical	**Group**	: Pollution & Environment
Issued to	: **M/s.Chennai Metro Rail Limited,METROS** No.327 Anna Salai, Nandanam, Chennai - 600035.		
Sampling Method	: IS 3025 (Part 1) 1987		
Sampled by	: Laboratory		
Sample Collected Date	: 07.02.2025	**Sample Reference No**	: PCEI/WW-316-02-25
Sample Description	: **Waste Water**	**Sample Received On**	: 08.02.2025
Qty of Sample Received	: 2.5 Litre	**Test Commenced On**	: 08.02.2025
Sample Condition	: Fit for Analysis	**Test Completed On**	: 14.02.2025
Sampling Location	: **STP Inlet**		

S.No	Parameters	Units	Test Method	Results
1	Colour	Hazen	IS 3025 Part 4 : 2021	30
2	Odour	-	IS 3025 Part 6 : 2018 (RA 2022)	Objectionable
3	pH @25°C	-	IS 3025 Part 11 : 2022	7.28
4	Temperature	°C	IS 3025 Part 09 : 2023	27.9
5	Total Suspended Solids @ 105°C	mg/L	IS 3025 Part 17 : 2023	160
6	Particle size of Suspended solids	-	APHA 24th Edition 2560	Pass
7	Total Dissolved Solids @ 180°C	mg/L	IS 3025 Part 16 : 2023	480
8	Oil & Grease	mg/L	IS 3025 Part 39 : 2021	152
9	Total Residual Chlorine	mg/L	IS 3025 Part 26 : 2021	BDL(DL:0.1)
10	Ammonical Nitrogen (as N)	mg/L	IS 3025 Part 34/ Sec 1 :2023	43.7
11	Total Kjehdahl Nitrogen (as N)	mg/L	IS 3025 Part 34/ Sec 1 :2023	51.9
12	Free Ammonia (as NH_3)	mg/L	IS 3025 Part 34/ Sec 1 :2023	4.28
13	Biochemical Oxygen Demand (3 days at 27°C)	mg/L	IS 3025: Part 44 : 2023	95.7
14	Chemical Oxygen Demand (COD)	mg/L	IS 3025 Part 58 : 2023	485

Verified By

Authorised Signatory

Note: 1.The test results are only to the sample submitted for test. 2.Any Correction of the test report in full or part shall invalidate the report 3.Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4.Perishable samples will be discarded immediately after reporting. 5.Under no circumstances lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

POLLUCARE® solution for pollution

TEST REPORT

Accredited by NABL & NABET, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-WW-1716	Report Date	: 14.02.2025

S.No	Parameters	Units	Test Method	Results
15	Arsenic (as As)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)
16	Mercury (as Hg)	mg/L	PCEI/SOP/HM/001 : 2020	BDL(DL:0.001)
17	Lead (as Pb)	mg/L	IS 3025 Part 2 : 2019	0.98
18	Cadmium (as Cd)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)
19	Hexavalent Chromium (as Cr^{+6})	mg/L	IS 3025 Part 52 : 2003 (RA 2019)	BDL(DL:0.03)
20	Total Chromium (as Cr)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)
21	Copper (as Cu)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)
22	Zinc (as Zn)	mg/L	IS 3025 Part 2 : 2019	0.11
23	Selenium (as Se)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)
24	Nickel (as Ni)	mg/L	IS 3025 Part 2 : 2019	0.14
25	Boron (as B)	mg/L	IS 3025 Part 57 : 2021	0.19
26	Percent Sodium (%)	%	PCEI/SOP/W/001	52.1
27	Cyanide (as CN)	mg/L	APHA 24th Edition 4500 CN- B,E	BDL(DL:0.02)
28	Chloride (as Cl)	mg/L	IS 3025: Part 32 : 1988 (RA 2019)	246
29	Fluoride (as F)	mg/L	APHA 24th Edition 4500 F-D: 2023	0.21
30	Dissolved Phosphates (as P)	mg/L	IS 3025 Part 31/ Sec 1 :2022	0.53
31	Sulphate (as SO_4)	mg/L	IS 3025 Part 24 /Sec 1 : 2022	43.7
32	Sulphide (as S)	mg/L	IS 3025 Part 29 : 2022	BDL(DL:2.0)
33	Phenolic Compounds (as C_6H_5OH)	mg/L	IS 3025 Part 43 /Sec 1 : 2022	BDL(DL:0.01)
34	Residual Sodium Carbonate	meq/l	IS 11624 : 2019	0.24
35	Pesticides	mg/L	PCEI/SOP/WW/075	Absent

Note: BDL - Below Detection Limit ; DL - Detection Limit, mg/L-milligram per liter, meq/L-Milliequivalents per litre,%-Percentage,°C- Degree Celsiu
All the above test parameters are carried with the sample's "as received condition"

..... End of Report .....

Verified By

Authorised Signatory

POLLUCARE®
solution for pollution

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

TEST REPORT

Accredited by NABL & NABET, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-WW-1217	**Report Date**	: 14.02.2025
Discipline	: Chemical	**Group**	: Pollution & Environment
Issued to	: **M/s.Chennai Metro Rail Limited,METROS** No.327 Anna Salai, Nandanam, Chennai - 600035.		
Sampling Method	: IS 3025 (Part 1) 1987		
Sampled by	: Laboratory		
Sample Collected Date	: 07.02.2025	**Sample Reference No**	: PCEI/WW-317- 02-25
Sample Description	: **Waste Water**	**Sample Received On**	: 08.02.2025
Qty of Sample Received	: 2.5 Litre	**Test Commenced On**	: 08.02.2025
Sample Condition	: Fit for Analysis	**Test Completed On**	: 14.02.2025
Sampling Location	: **STP Outlet**		

S.No	Parameters	Units	Test Method	Results	TNPCB Standards for Sewage Treatment Plants (STPs) - Class I Cities
1	Colour	Hazen	IS 3025 Part 4 : 2021	BDL(DL:2.0)	-
2	Odour	-	IS 3025 Part 6 : 2018 (RA 2022)	Unobjectionable	-
3	pH @ 25°C	-	IS 3025 Part 11 : 2022	6.82	5.5 - 9.0
4	Temperature	°C	IS 3025 Part 09 : 2023	27.5	-
5	Total Suspended Solids @ 105°C	mg/L	IS 3025 Part 17 : 2023	65.7	30
6	Particle size of Suspended solids	-	APHA 24th Edition 2560	Pass	-
7	Total Dissolved Solids @ 180°C	mg/L	IS 3025 Part 16 : 2023	625	-
8	Oil & Grease	mg/L	IS 3025 Part 39 : 2021	BDL(DL:5.0)	-
9	Total Residual Chlorine	mg/L	IS 3025 Part 26 : 2021	BDL(DL:0.1)	-
10	Ammonical Nitrogen (as N)	mg/L	IS 3025 Part 34/ Sec 1 :2023	BDL(DL:1.0)	-
11	Total Kjehdahl Nitrogen (as N)	mg/L	IS 3025 Part 34/ Sec 1 :2023	BDL(DL:1.0)	-
12	Free Ammonia (as NH_3)	mg/L	IS 3025 Part 34/ Sec 1 :2023	BDL(DL:0.5)	-
13	Biochemical Oxygen Demand (3 days at 27°C)	mg/L	IS 3025: Part 44 : 2023	24.9	20
14	Chemical Oxygen Demand (COD)	mg/L	IS 3025 Part 58 : 2023	153	100

Verified By

Authorised Signatory

Note: 1.The test results are only to the sample submitted for test. 2.Any Correction of the test report in full or part shall invalidate the report 3.Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4.Perishable samples will be discarded immediately after reporting. 5.Under no circumstances lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

POLLUCARE®
solution for pollution

TEST REPORT

Accredited by NABL & NABET, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-WW-1217			**Report Date**	: 14.02.2025
S.No	**Parameters**	**Units**	**Test Method**	**Results**	**TNPCB Standards for Sewage Treatment Plants (STPs) - Class I Cities**
15	Arsenic (as As)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
16	Mercury (as Hg)	mg/L	PCEI/SOP/HM/001 : 2020	BDL(DL:0.001)	-
17	Lead (as Pb)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
18	Cadmium (as Cd)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
19	Hexavalent Chromium (as Cr^{+6})	mg/L	IS 3025 Part 52 : 2003 (RA 2019)	BDL(DL:0.03)	-
20	Total Chromium (as Cr)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
21	Copper (as Cu)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
22	Zinc (as Zn)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
23	Selenium (as Se)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
24	Nickel (as Ni)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
25	Boron (as B)	mg/L	IS 3025 Part 57 : 2021	BDL(DL:0.1)	-
26	Percent Sodium (%)	%	PCEI/SOP/W/001	10.7	-
27	Cyanide (as CN)	mg/L	APHA 24th Edition 4500 CN- B,E	BDL(DL:0.02)	-
28	Chloride (as Cl)	mg/L	IS 3025: Part 32 : 1988 (RA 2019)	75.4	-
29	Fluoride (as F)	mg/L	APHA 24th Edition 4500 F-D: 2023	BDL(DL:0.1)	-
30	Dissolved Phosphates (as P)	mg/L	IS 3025 Part 31/ Sec 1 :2022	BDL(DL:0.1)	-
31	Sulphate (as SO_4)	mg/L	IS 3025 Part 24 /Sec 1 : 2022	23.9	-
32	Sulphide (as S)	mg/L	IS 3025 Part 29 : 2022	BDL(DL:2.0)	-
33	Phenolic Compounds (as C_6H_5OH)	mg/L	IS 3025 Part 43 /Sec 1 : 2022	BDL(DL:0.01)	-
34	Residual Sodium Carbonate	meq/l	IS 11624 : 2019	0.14	-
35	Pesticides	mg/L	PCEI/SOP/WW/075	Absent	-

Note: BDL - Below Detection Limit ; DL - Detection Limit, mg/L-milligram per liter, meq/L-Milliequivalents per litre,%-Percentage,°C- Degree Celsius.
All the above test parameters are carried with the sample's "as received condition"

Remarks: The above tested parameters are within the limits of TNPCB Standards for Sewage Treatment Plants (STPs) - Class I Cities.

..... End of Report .....

Verified By

Authorised Signatory

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

POLLUCARE® solution for pollution

TEST REPORT

Accredited by NABL & NABET, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-WW-1218	**Report Date**	: 14.02.2025
Discipline	: Chemical	**Group**	: Pollution & Environment
Issued to	: **M/s.Chennai Metro Rail Limited,METROS** No.327 Anna Salai, Nandanam, Chennai - 600035.		
Sampling Method	: IS 3025 (Part 1) 1987		
Sampled by	: Laboratory		
Sample Collected Date	: 07.02.2025	**Sample Reference No**	: PCEI/WW-318-02-25
Sample Description	: **Waste Water**	**Sample Received On**	: 08.02.2025
Qty of Sample Received	: 2.5 Litre	**Test Commenced On**	: 08.02.2025
Sample Condition	: Fit for Analysis	**Test Completed On**	: 14.02.2025
Sampling Location	: **STP Filter Out**		

S.No	Parameters	Units	Test Method	Results	TNPCB Standards for Sewage Treatment Plants (STPs) - Class I Cities
1	Colour	Hazen	IS 3025 Part 4 : 2021	BDL(DL:2.0)	-
2	Odour	-	IS 3025 Part 6 : 2018 (RA 2022)	Unobjectionable	-
3	pH @ 25°C	-	IS 3025 Part 11 : 2022	7.35	5.5 - 9.0
4	Temperature	°C	IS 3025 Part 09 : 2023	27.9	-
5	Total Suspended Solids @ 105°C	mg/L	IS 3025 Part 17 : 2023	BDL(DL:2.0)	30
6	Particle size of Suspended solids	-	APHA 24th Edition 2560	Pass	-
7	Total Dissolved Solids @ 180°C	mg/L	IS 3025 Part 16 : 2023	476	-
8	Oil & Grease	mg/L	IS 3025 Part 39 : 2021	BDL(DL:5.0)	-
9	Total Residual Chlorine	mg/L	IS 3025 Part 26 : 2021	BDL(DL:0.1)	-
10	Ammonical Nitrogen (as N)	mg/L	IS 3025 Part 34/ Sec 1 :2023	BDL(DL:1.0)	-
11	Total Kjehdahl Nitrogen (as N)	mg/L	IS 3025 Part 34/ Sec 1 :2023	BDL(DL:1.0)	-
12	Free Ammonia (as NH_3)	mg/L	IS 3025 Part 34/ Sec 1 :2023	BDL(DL:0.5)	-
13	Biochemical Oxygen Demand (3 days at 27°C)	mg/L	IS 3025: Part 44 : 2023	3.51	20
14	Chemical Oxygen Demand (COD)	mg/L	IS 3025 Part 58 : 2023	25.0	100

Verified By

Authorised Signatory

Note: 1.The test results are only to the sample submitted for test. 2.Any Correction of the test report in full or part shall invalidate the report 3.Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4.Perishable samples will be discarded immediately after reporting. 5.Under no circumstances lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report

POLLUCARE®
solution for pollution

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

TEST REPORT

Accredited by NABL & NABET, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-WW-1218	Report Date	: 14.02.2025

S.No	Parameters	Units	Test Method	Results	TNPCB Standards for Sewage Treatment Plants (STPs) - Class I Cities
15	Arsenic (as As)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
16	Mercury (as Hg)	mg/L	PCEI/SOP/HM/001 : 2020	BDL(DL:0.001)	-
17	Lead (as Pb)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
18	Cadmium (as Cd)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
19	Hexavalent Chromium (as Cr^{+6})	mg/L	IS 3025 Part 52 : 2003 (RA 2019)	BDL(DL:0.03)	-
20	Total Chromium (as Cr)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
21	Copper (as Cu)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
22	Zinc (as Zn)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
23	Selenium (as Se)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
24	Nickel (as Ni)	mg/L	IS 3025 Part 2 : 2019	BDL(DL:0.01)	-
25	Boron (as B)	mg/L	IS 3025 Part 57 : 2021	BDL(DL:0.1)	-
26	Percent Sodium (%)	%	PCEI/SOP/W/001	9.65	-
27	Cyanide (as CN)	mg/L	APHA 24th Edition 4500 CN- B,E	BDL(DL:0.02)	-
28	Chloride (as Cl)	mg/L	IS 3025: Part 32 : 1988 (RA 2019)	59.7	-
29	Fluoride (as F)	mg/L	APHA 24th Edition 4500 F-D: 2023	BDL(DL:0.1)	-
30	Dissolved Phosphates (as P)	mg/L	IS 3025 Part 31/ Sec 1 :2022	BDL(DL:0.1)	-
31	Sulphate (as SO_4)	mg/L	IS 3025 Part 24 /Sec 1 : 2022	17.8	-
32	Sulphide (as S)	mg/L	IS 3025 Part 29 : 2022	BDL(DL:2.0)	-
33	Phenolic Compounds (as C_6H_5OH)	mg/L	IS 3025 Part 43 /Sec 1 : 2022	BDL(DL:0.01)	-
34	Residual Sodium Carbonate	meq/l	IS 11624 : 2019	0.11	-
35	Pesticides	mg/L	PCEI/SOP/WW/075	Absent	-

Note: BDL - Below Detection Limit ; DL - Detection Limit, mg/L-milligram per liter, meq/L-Milliequivalents per litre,%-Percentage,°C- Degree Celsius.
All the above test parameters are carried with the sample's "as received condition"

Remarks: The above tested parameters are within the limits of TNPCB Standards for Sewage Treatment Plants (STPs) - Class I Cities.

..... End of Report .....

Verified By

Authorised Signatory

Annexure 2

DG Stack Monitoring Report

POLLUCARE®
solution for pollution

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

TEST REPORT

Accredited by NABL & NABET, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-S-1713	**Report Date**	: 14.02.2025
Issued to	: **M/s.Chennai Metro Rail Limited,METROS** No.327 Anna Salai, Nandanam, Chennai - 600035		
Sampling Method	: IS 11255 (Part 3) 2008		
Sampled by	: Laboratory		
Sample Collected Date	: 07.02.2025	**Sample Reference No**	: PCEI/S-313-02-25
Sample Description	: **Stack Monitoring**	**Sample Received On**	: 08.02.2025
Qty of Sample Received	: Thimble & 30ml	**Test Commenced On**	: 08.02.2025
Sample Condition	: Fit for Analysis	**Test Completed On**	: 14.02.2025
Sampling Location	: **DG 1010KVA**		

STACK DETAILS				
1	Diameter of the stack at Porthole	m	Direct measurement	0.36
2	Stack Temperature	°C	IS 11255 (Part 3) 2008 (RA 2013)	289
3	Stack velocity	m/s	IS 11255 (Part 3) 2008 (RA 2013)	14.6
4	Stack Gas Flow Rate	Nm^3/Hr	IS 11255 (Part 3) 2008 (RA 2013)	2694

EMISSION DATA

S.No	Parameters	Units	Test Method	Results	CPCB General Emission Standards Part D
5	Oxides of Nitrogen (as NO_x)	mg/Nm^3	IS 11255 (Part 7) 2005 (RA 2012)	168	-
6	Sulphur dioxide (as SO_2)	mg/Nm^3	IS 11255 (Part 2) 1985 (RA 2014)	18.1	-
7	Particulate Matter (PM)	mg/Nm^3	IS 11255 (Part 1) 1985 (RA 2014)	26.8	150
8	Oxygen(as O_2)	%	IS 13270 : 1992 (RA 2019)	15.3	-
9	Carbon dioxide (as CO_2)	%	IS 13270 : 1992 (RA 2014)	4.6	-
10	Carbon Monoxide (as CO)	%	IS 13270 : 1992 (RA 2014)	BDL(DL:0.2)	-

Note: BDL - Below Detection Limit ; DL - Detection Limit, m-meter, C-Degree celsius, m/s-meter per second, Nm3/Hr- normal cubic meter per hour, %-percentage, mg/Nm^3-milligram per normal cubic meter.

Remarks: The above tested parameters are within the limits of CPCB General Emission Standards .

..... End of Report .....

Verified By

Authorised Signatory

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

POLLUCARE® solution for pollution

TEST REPORT

Accredited by NABL & NABET, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-S-1714	**Report Date**	: 14.02.2025
Issued to	: **M/s.Chennai Metro Rail Limited,METROS** No.327 Anna Salai, Nandanam, Chennai - 600035		
Sampling Method	: IS 11255 (Part 3) 2008		
Sampled by	: Laboratory		
Sample Collected Date	: 07.02.2025	**Sample Reference No**	: PCEI/S-314-02-25
Sample Description	: **Stack Monitoring**	**Sample Received On**	: 08.02.2025
Qty of Sample Received	: Thimble & 30ml	**Test Commenced On**	: 08.02.2025
Sample Condition	: Fit for Analysis	**Test Completed On**	: 14.02.2025
Sampling Location	: **DG 750KVA -I**		

STACK DETAILS

1	Diameter of the stack at Porthole	m	Direct measurement	0.36
2	Stack Temperature	°C	IS 11255 (Part 3) 2008 (RA 2013)	269
3	Stack velocity	m/s	IS 11255 (Part 3) 2008 (RA 2013)	12.4
4	Stack Gas Flow Rate	Nm^3/Hr	IS 11255 (Part 3) 2008 (RA 2013)	2463

EMISSION DATA

S.No	Parameters	Units	Test Method	Results	CPCB General Emission Standards
5	Oxides of Nitrogen (as NO_x)	g/Kw-hr	IS 11255 (Part 7) 2005 (RA 2012)	128	-
6	Sulphur dioxide (as SO_2)	mg/Nm^3	IS 11255 (Part 2) 1985 (RA 2014)	19.1	-
7	Particulate Matter (PM)	g/Kw-hr	IS 11255 (Part 1) 1985 (RA 2014)	26.4	150
8	Oxygen(as O_2)	%	IS 13270 : 1992 (RA 2019)	15.7	1.0
9	Carbon dioxide (as CO_2)	%	IS 13270 : 1992 (RA 2014)	3.9	-
10	Carbon Monoxide (as CO)	g/Kw-hr	IS 13270 : 1992 (RA 2014)	1.1	≤3.5

Note: As per Environmental Protection Act,The Principal rules published Regarding.(Power Category from 75KW to 800KW) in the Gazette of India vide number subsequent amendment rule vide GSR 771(E) dated 11th Dec 2013.
BDL - Below Detection Limit ; DL - Detection Limit, m-meter, C-Degree celsius, m/s-meter per second, Nm3/Hr- normal cubic meter per hour, %-percentage, mg/Nm³-milligram per normal cubic meter,g/Kw-hr-grams/kilowatt-hour.

Remarks: The above tested parameters are within the limits of CPCB General Emission Standards .

..... End of Report .....

Verified By

Authorised Signatory

POLLUCARE®
solution for pollution

POLLUCARE ENGINEERS INDIA PVT.LTD.,
(Laboratory Services Division)
HIG - 6152, TNHB Phase I & II,
Kamarajar Road, Ayapakkam,
Chennai - 600 077.
Ph : +91 44 2682 3190 / +91 73977 96831
Email: lab@pollucareindia.com
Web : www.pollucareinida.com

TEST REPORT

Accredited by NABL & NABET, Certified ISO 9001:2015, ISO 14001:2015 & ISO 45001 : 2018

Report No	: PCEI/TR-S-1715	**Report Date**	: 14.02.2025
Issued to	: **M/s.Chennai Metro Rail Limited,METROS** No.327 Anna Salai, Nandanam, Chennai - 600035		
Sampling Method	: IS 11255 (Part 3) 2008		
Sampled by	: Laboratory		
Sample Collected Date	: 07.02.2025	**Sample Reference No**	: PCEI/S-315-02-25
Sample Description	: **Stack Monitoring**	**Sample Received On**	: 08.02.2025
Qty of Sample Received	: Thimble & 30ml	**Test Commenced On**	: 08.02.2025
Sample Condition	: Fit for Analysis	**Test Completed On**	: 14.02.2025
Sampling Location	: **DG 750KVA -II**		

STACK DETAILS				
1	Diameter of the stack at Porthole	m	Direct measurement	0.36
2	Stack Temperature	°C	IS 11255 (Part 3) 2008 (RA 2013)	289
3	Stack velocity	m/s	IS 11255 (Part 3) 2008 (RA 2013)	12.5
4	Stack Gas Flow Rate	Nm^3/Hr	IS 11255 (Part 3) 2008 (RA 2013)	2389

EMISSION DATA

S.No	Parameters	Units	Test Method	Results	CPCB General Emission Standards
5	Oxides of Nitrogen (as NO_x)	g/Kw-hr	IS 11255 (Part 7) 2005 (RA 2012)	136	-
6	Sulphur dioxide (as SO_2)	mg/Nm^3	IS 11255 (Part 2) 1985 (RA 2014)	16.8	-
7	Particulate Matter (PM)	g/Kw-hr	IS 11255 (Part 1) 1985 (RA 2014)	29.3	150
8	Oxygen(as O_2)	%	IS 13270 : 1992 (RA 2019)	15.3	1.0
9	Carbon dioxide (as CO_2)	%	IS 13270 : 1992 (RA 2014)	4.1	-
10	Carbon Monoxide (as CO)	g/Kw-hr	IS 13270 : 1992 (RA 2014)	1.06	≤3.5

Note: As per Environmental Protection Act,The Principal rules published Regarding.(Power Category from 75KW to 800KW) in the Gazette of India vide number subsequent amendment rule vide GSR 771(E) dated 11th Dec 2013.
BDL - Below Detection Limit ; DL - Detection Limit, m-meter, C-Degree celsius, m/s-meter per second, Nm3/Hr- normal cubic meter per hour, %-percentage, mg/Nm^3-milligram per normal cubic meter,g/Kw-hr-grams/kilowatt-hour.

Remarks: The above tested parameters are within the limits of CPCB General Emission Standards .

..... End of Report .....

Verified By

Authorised Signatory