

ITPCL-S/GEN/22-23/3555

27.09.2022

To

The District Environmental Engineer
Tamil Nadu Pollution Control Board
Plot No. A3, SIPCOT Industrial Complex
Kudikadu, Cuddalore 607 005
Tamil Nadu

Dear Sir,

Sub: Submission of Environmental Statement - Form V for FY 2021 - 22 by
ITPCL, Cuddalore - Reg.

With reference to the above subject, we IL&FS Tamil Nadu Power Company Limited (ITPCL) is hereby submitting the Environmental Statement - Form V in triplicate for the Financial Year ending 31st March 2022 for our "Coal Based Thermal Power Plant" located at Cuddalore, complying to the conditions of Environmental Clearance dated 31.05.2010.

The receipt for the same may kindly be acknowledged.

Thank you,

Yours Sincerely,

For IL&FS Tamil Nadu Power Company Limited



SUKANTA KUMAR MOHAPATRA
(Station Head)

CC: ✓ 1. The Joint Chief Environmental Engineer, TNPCB, Cuddalore
2. The Member Secretary, TNPCB, Chennai
3. MoEF Regional Office, Chennai

Encl: As above



Environmental Statement - Form V for FY 2021-22: ITPCL's 3180 MW Thermal Power Project in Cuddalore District

Submitted to

Tamil Nadu Pollution Control Board

**Plot No. A3, SIPCOT Industrial Complex
Kudikadu, Cuddalore - 607 005**

by

IL&FS Tamil Nadu Power Company Limited

HO: 4th Floor, KPR Tower, Subba Rao Avenue, College Road, Chennai - 600 006

Plant: C. Pudhupettai (Post), Bhuvanagiri Taluk, Cuddalore - 608 502

September, 2022

FORM V

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

Environmental Statement for the Financial Year ending 31st March 2022

PART-A

1.	Name and address of the owner/ occupier of the industry operation or process	: Shri. Sanjeev Seth Managing Director IL&FS Tamil Nadu Power Company Ltd 4 th Floor, KPR Tower, Old No.21, New No.2, 1st Street, Subba Rao Avenue, College Road, Chennai- 600006
2.	Industry/Category Primary (STC Code) / Secondary (STC Code)	: Red / Large - Coal Based Thermal Power Plant
3.	Production Capacity - Units	: Total Plant Capacity: 1200 MW No. of Units: 2 2 x 600 MW (Sub Critical Technology)
4.	Year of Establishment	: 26.06.2006 (Factory License obtained on 24.08.2015)
5.	Date of the last Environmental Statement submitted	: 15.09.2021

PART-B

WATER AND RAW MATERIAL CONSUMPTION

(i). Sea Water Consumption (m^3 /day) : 18314.93*

Process	: 584.68 m^3 /day
Cooling	: 17602.20 m^3 /day
Domestic	: 128.05 m^3 /day

Name of Products	Process Water Consumption per unit of products output	
	During the previous Financial Year (2020-21)	During the current Financial Year (2021-22)
(i) Electricity	2.08 M^3 /MWh	2.16 M^3 /MWh

* - Plant running days during this FY was less than the previous Financial year



(ii). Raw material Consumption :

*Name of raw materials	Name of products	Consumption of raw material per unit of output	
		During the previous Financial Year (2020-21)	During the current Financial Year (2021-22)
Coal	Electricity	2389612.77 Ton	1665285 Ton
HFO	Electricity	-	-
HSD	Electricity	868.0 KL	792.0 KL

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

PART-C

POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT

(Parameter as specified in the consent issued)

Pollution	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
a. WATER	TE-1. Cooling Tower Blow Down	67,538.48 m ³ /day	No deviation
	TE-2. Reject from SWRO	3,935.00 m ³ /day	
	TE-3. Oily Areas Waste water	Nil	
	TE-4. Coal Handling Area Waste Water	84.40 m ³ /day	
	TE-5. Regular Waste Water from DM/CPU Regeneration	162.33 m ³ /day	
b. AIR	SPM - mg/Nm ³	Analysis report attached as Annexure 3	No deviation
	Sulphur Dioxide (SO ₂) - mg/Nm ³		
	Nitrogen Dioxide (NO _x) - mg/Nm ³		



PART-D
HAZARDOUS WASTES

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

Hazardous Wastes		Total Quantity Generated In (Kg)	
		During the previous Financial Year (2020-21)	During the current Financial Year (2021-22)
(a) From Process			
5.1	Used or Spent Oil	20,800	8,280
5.1	Used or Spent Oil (Used Grease)	Nil	500
5.2	Wastes or residues containing oil	400	1,416
35.3	Chemical sludge from waste water treatment	1,780	4,100
33.1	Empty barrels / containers / liners contaminated with hazardous chemicals/ wastes	Nil	1,985
35.2	Spent ion exchange resin containing toxic metals	Nil	Nil
(b) From Pollution Control Facilities		Nil	Nil

PART- E
SOLID WASTES

Solid Wastes		Total Quantity (TPA)	
		During the previous Financial Year (2020-21)	During the current Financial Year (2021-22)
(a) From Process			
	(i) Fly Ash Generation	1,11,969.69	68,368
	(ii) Bottom Ash Generation	13,982.05	8,200
(b)	From pollution control facility	Nil	Nil
(c)	(1) Quantity recycled or reutilized within the unit	Nil	Nil
	(2) Sold (Utilised)		
	(a) Fly Ash	97,732.19	68,368
	(b) Bottom Ash	13,962.05	8,200



	(c) Pond Ash	608.33	Nil
	(3) Disposed to Ash Dyke		
	(a) Fly Ash	14,237.50**	Nil
	(b) Bottom Ash	20.00	Nil

** Due to COVID-19 Lockdown restrictions, Fly ash & Bottom Ash generation during the months of April'2020 & May'2020 were discharged into Ash Pond (Ash Dyke) under intimation to CPCB/TNPCB as the Truck Transportations were not available and Cement Industries were stopped their plant operations.

PART-F

Please specify the characteristics (in terms of composition of quantum) of +both these categories of wastes.

Sl No	Details of waste	Characteristics of waste	Method of disposal
1	Used or Spent Oil	Hazardous waste (Cat 5.1) Spent oil generated from gear boxes, process fan, Mill area, pumps, etc.	Sent to TNPCB authorized recyclers for reprocessing.
2	Used or Spent Oil (Used Grease)	Hazardous waste (Cat 5.1) Spent grease generated from Conveyor Belt motors, Gear boxes etc.	Sent to TNPCB authorized recyclers for reprocessing.
3	Wastes or residues containing oil	Hazardous waste (Cat 5.2) Waste materials contaminated with oil and grease generated from Machine cleaning and maintenance work	Disposed to TSDF Gummidipoondi for incineration.
4	Chemical sludge from waste water treatment	Hazardous waste (Cat 35.3) Sludge generated from industrial waste water treatment plant.	Disposed to TSDF Gummidipoondi for secured land filling
5	Empty barrels / containers / liners contaminated with hazardous chemicals/ wastes	Hazardous waste (Cat 33.1) Waste HDPE/Plastic/MS drums generated after consumption of water treatment chemicals.	Sent to TNPCB authorized recyclers for reprocessing.
6	Spent ion exchange resin containing toxic metals	Hazardous waste (Cat 35.2) Waste resins generated from water treatment process.	Captive utilization by burning in boiler along with coal.
7	Fly ash	By product - Ash from boiler operations	Sent to cement industries as alternate raw material
8	Bottom Ash	By product - Ash from boiler operations	Sent to cement industries as alternate raw material
9	Gypsum	By product - Gypsum obtained from FGD operations	Sent to cement industries as alternate raw material



PART-G

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

The following measures were undertaken on conservation of natural resources.

- a. Installed FGD for both units to control the SO_x emission.
- b. Effective operation of Sewage Treatment Plant and reuse the water for gardening.
- c. Effective operation of Industrial Waste Water Treatment Plant, Coal Waste Water Treatment Plant, and reuse the water for dust suppression in Coal Handling Plant and floor washing, etc.
- d. Effective operation of Central Monitoring Basin to maintain the temperature and average salinity.
- e. Effective operation of cooling tower (IDCT) and circulating water pump house to minimize consumption of water requirement.

PART-H

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

Additional measures taken for environmental protection and abatement of pollution include the following;

Sl. No.	Particulars	Cost in Lakhs
1.	Cost of Air Pollution Control Measures	
i.	275 mtr tall Chimney	15500.00
ii.	99.99% of efficient Electrostatic Precipitator	
iii.	15 Meter High Wind Barrier at Coal Yard	
iv.	Coal Dust Extraction and Dust Suppression System	
v.	Installation of online Ambient Air Quality Monitoring System (6 Nos.) connectivity to CARE Air Center.	
vi.	Installation of online Stack Monitoring System in Chimney connectivity to CARE Air Center, TNPCB and CPCB.	
2.	Cost of Water Pollution Control Measures	
i.	Sewage Treatment Plant	75500.00
ii.	Industrial Waste Water Treatment Plant	
iii.	Coal Waste Water Treatment Plant	
iv.	Oil Waste Water Treatment Plant	
v.	Central Monitoring Basin	
vi.	Central Effluent Monitoring Basin	
vii.	Ash Water Recovery Pump House	
viii.	Cooling Tower	



	ix	Water Sprinkler System	
	x	Installation of online effluent monitoring system and connectivity to Water Quality Watch Center and CPCB.	
3.		Additional measures for environmental protection including abatement of pollution, prevention of pollution during Operation & Maintenance period 2021-22	2909.50

PART-I

Any other particulars for improving the quality of the environment

Various plans have been devised and implemented to reduce the impact of the Power Plant activities on the surrounding areas and its natural environment. Some of them are as follows:

- Regular monitoring of online ambient air quality, online stack emissions and effluent quality have been taken up to evaluate the efficiency of the pollution control systems and control measures on the overall emissions from stack, ambient air and effluents.
- Noise barrier of 8 meter height and 400 meter length has been provided along South West boundary near Cooling Towers-2.
- Sound proof enclosures provided in the following areas:
 - Turbine Generator (TG)
 - Turbine Driven Boiler Feed Pump (TDBFP)
 - Diesel Generator (DG)
- Low NOx burners provided to control the NOx emissions.
- Continuous monitoring of seawater in and around the ITPCL site in marine zone is being monitored through CASMB (Center for Advanced Study in Marine Biology, Annamalai University every month to ensure that the marine ecosystem/biodiversity is not affected due to discharge of water.
- Undertaken mangrove conservation program in 25 hectares nearby Pichavaram with help of Forest Department & CASMB "Centre for Advanced Study in Marine Biology", Annamalai University, Parangipettai.
- Double flue can 275 meters tall chimney constructed to equal dispersion and dilution of flue gas to maintain the various ground level concentration.
- 99.99% efficient Electrostatic Precipitator (ESP), installed to control particulate matter with respect to air pollution control measure.
- Installation of FGD (Wet lime scrubbing system) to remove SO₂ from the flue gas to minimize air pollution at an approximate cost of about Rs. 775 crore.
- Installation of Roof Top Solar Power Plant (151 KWp, First Phase) as part of renewable energy source to minimize the greenhouse gases at an approximate cost of about Rs.68 Lakhs.
- Replacement of Conventional Lighting units with LED Lighting units and saved 1,23,583 watts/day as part of Energy Conservation Program during the year.
- Fencing of entire coal yard with 15 meters High wind barrier to control the fugitive emission control.
- Coal rake wagons while transportation and coal heaps in coal yard covered with tarpaulin to avoid fugitive emission.



- Utilizing sea water for operation of the power plant, contributing to conservation of precious ground water.
- Landscaping is done with diverse & decorative trees in open areas to maintain healthy environment and Greenery in plant premises.
- Greenbelt development is taken up in 253.46 acres. A massive tree plantation was done, inside as well as outside of the plant premises which serve as wind barriers and dust adsorption.
- Adopted best technology in SWRO, by introducing energy recovery system to save energy.
- All internal roads are made-up with bitumen topped, to reduce the fugitive dust emission inside the plant premises.
- Vermi Composting System has been developed to manage the food and garden waste.
- Awareness programs like plantation activities, training programs for employees was conducted in view of World Environment Day.
- Housekeeping is taken up on top priority for maintaining neat and clean environment in the plant premises.
 - Dedicated separate contract has been given for plant general housekeeping.
 - Daily area wise housekeeping schedule is in place and is being monitored by housekeeping supervisor.
 - Equipment wise periodic cleaning schedule is in place and is being reviewed in daily planning meeting.
 - Vaccum cleaners are also being used to remove fine coal dust from inaccessible areas.

Sukanta Mohapatra



ANNEXURE - 1

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-11217/2021-22 & 21.05.2021		
Sample Number	N-11217/21-22		
Customer Name & Address	M/s. IL&FS TAMILNADU POWER CO. LTD., C.Pudhupettai(Post), Perangipettai, Chidambaram Taluka,Cuddalore - 608502.		
SAMPLE DETAILS			
Sample Description By Customer	Central Monitoring Basin Water (CMB)		
Sampling Location	Guard Pond		
Sampling Date	15.05.2021	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	5 Litres	Sampling Method	CTL/QSP/09
Date of Receipt	16.05.2021	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	17.05.2021	Analysis Completion Date	21.05.2021

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	Colour	2120-B-APHA 23rd Ed.2017	-	2	Not Specified
2	Odour	2150-B-APHA 23rd Ed.2017	-	Unobjectionable	Not Specified
3	Total Suspended Solids	2540-D- APHA 23rd Ed.2017	mg/l	8	100
4	Particle Size of Suspended Solids	CTL/SOP/WATER/61-2012	-	Passed through 15 850 micron Sieve	a)Floatable solids max. 3mm. b)Settleable solids max. 850 microns.
5	Total Dissolved Solids	2540-C- APHA 23rd Ed.2017	mg/l	36740	Not Specified
6	pH @ 25°C	4500-H+-B APHA 23rd Ed.2017	-	8.3	5.5 to 9.0
7	Temperature	2550-B-APHA 23rd Ed.2017	°C	27.8 (I/L)	Shall not exceed 5°C above the receiving water temperature
	Temperature	2550-B-APHA 23rd Ed.2017	°C	28.3 (O/L)	
8	Oil & Grease	5520-B APHA 23rd Ed.2017 (Partition Gravimetric Method)	mg/l	< 2	20
9	Total Residual Chlorine	4500-Cl-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	1
10	Ammonical Nitrogen as N	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	50
11	Total Kjeldahl Nitrogen as N	4500-N-B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	100
12	Free Ammonia as NH ₃	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	5
13	Biochemical Oxygen Demand (BOD) 3 days at 27°C	5210-B APHA 23rd Ed.2017	mg/l	18	100
14	Chemical Oxygen Demand (COD)	5220-B- APHA 23rd Ed.2017	mg/l	132	250
15	Hexavalent Chromium as Cr ⁶⁺	3500-Cr-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.01)	1

For Chennai Testing Laboratory Pvt Ltd

A. Rajkumar
Authorised Signatory
A. RAJKUMAR
Technical Manager

The Report shall not be used to malign, defame and for any malicious purpose.
The Report is meant only for sole use of the addressee to promote his/her own business.

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-11217/2021-22 & 21.05.2021
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S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
16	Percent Sodium	CTL/SOP/WATER/60-2012	%	74.85	Not Specified
17	Residual Sodium Carbonate	IS 11624-1986(R.2001)	meq/l	Nil	Not Specified
18	Cyanide as CN	4500-CN-C,E -APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.2
19	Chloride as Cl	4500-Cl-B- APHA 23rd Ed.2017	mg/l	19920	Not Specified
20	Fluoride as F	4500-F- B ,D-APHA 23rd Ed.2017	mg/l	1.8	15
21	Dissolved Phosphate as P	4500-P-B,D-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified
22	Sulphate as SO ₄	4500- SO4 -E- APHA 23rd Ed.2017	mg/l	1676	1000
23	Sulphide as S	4500-S ²⁻ -F-APHA 23rd Ed.2017 (Iodometric Method)	mg/l	BDL(DL:0.01)	5
24	Phenolic Compounds as C ₆ H ₅ OH	5530-B,C- APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	5
25	Boron as B	4500-B-B-APHA 23rd Ed.2017	mg/l	1.8	2
26	Arsenic as As	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.05)	0.2
27	Cadmium as Cd	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	2
28	Total Chromium as Cr	3111-D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
29	Copper as Cu	3111-B-APHA 23rd Ed.2017	mg/l	0.72	3
30	Lead as Pb	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
31	Mercury as Hg	3112-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	0.01
32	Nickel as Ni	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	3
33	Selenium as Se	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.05
34	Zinc as Zn	3111-B-APHA 23rd Ed.2017	mg/l	0.07	1.5

For Chennai Testing Laboratory Pvt Ltd


 Authorised Signatory
A. RAJKUMAR
 Technical Manager
 (CHEMICAL)

Page 2 of 3

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-11217/2021-22 & 21.05.2021
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
	Pesticide Residues**				
	Alachlor		µg/l	Absent	
	Atrazine		µg/l	Absent	
	Aldrin		µg/l	Absent	
	Dieldrin		µg/l	Absent	
	Alpha HCH		µg/l	Absent	
	Beta HCH		µg/l	Absent	
	Butachlor		µg/l	Absent	
	Chlorpyriphos		µg/l	Absent	
	Delta HCH		µg/l	Absent	
	2,4 - Dichlorophenoxyacetic acid		µg/l	Absent	
	o,p'-DDT		µg/l	Absent	
	p,p'-DDT		µg/l	Absent	
35	p,p'-DDE	CTL/SOP/WATER/101-2014	µg/l	Absent	Absent
	o,p'-DDE		µg/l	Absent	
	o,p'-DDD		µg/l	Absent	
	p,p'-DDD		µg/l	Absent	
	Endosulfan alpha		µg/l	Absent	
	Endosulfan Beta		µg/l	Absent	
	Endosulfan Sulfate		µg/l	Absent	
	Ethion		µg/l	Absent	
	Gamma HCH (Lindane)		µg/l	Absent	
	Isoproturan		µg/l	Absent	
	Malathion		µg/l	Absent	
	Methyl Parathion		µg/l	Absent	
	Monocrotophos		µg/l	Absent	
	Phorate		µg/l	Absent	

BDL - Below Detection Limit; DL - Detection limit

*Limits as per TNPCB Norms (Marine Coastal Areas)

**For Total Pesticides , Not Detected (DL:0.01µg/l) is considered as Absent.

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

A. Rajkumar
Authorised Signatory
A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 3 of 3

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MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



TC-6206

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

RADIOACTIVITY MEASUREMENT / TEST REPORT

ULR-TC620621000002095F

DATED: 22.05.2021

Discipline: Radiological

Ref: MBT/ RL / 026002 / 2021-2022

PARTICULARS OF SAMPLE SUBMITTED

Sample Described by customer as : CENTRAL MONITORING BASIN WATER-GUARD POND
Customer Name : M/S. IL & FS TAMILNADU POWER CO. LTD.,
Customer Address : C.PUDHUPETTAI (POST), PERANGIPETTAI,
CHIDAMBARAM TALUKA, CUDDALORE.
Postal Code : 608502
State : TAMIL NADU
Country : INDIA
Customer ID No : N-11217/21-22
Sample Code No : 2105067
Sample Type : Water
Sample Received Date : 18.05.21
Sample Qty. Recd. : 10 Lit x 1No
Customer Reference : Letter Dated: 18.05.21

Terms and Condition

This report in full or in part shall not be published, advertised, used for any legal action, unless prior permission has been secured. This test report pertains only for the sample tested and such samples are retained for 7 days (in case of perishable) and 30 days for all other samples. If there is any discrepancy / complaint received from the customer within 30 days from the date of report, sample will be kept for four months. Sample not drawn by laboratory.

For MONARCH BIOTECH PVT LTD



A.M. Shivakaarthick
Director

Page 1 of 2

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA
Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com
LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

FORM No.: MBT / QF / 059

Issue No.: 01

Issue Date: 06/06/14

Amend No.: NIL

Amend Date: NIL

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

ULR-TC620621000002095F
Discipline: Radiological
Group: Water

DATED: 22.05.2021

PART - B: SUPPLEMENTARY INFORMATIONS:

Sample No : 2105067
Job Card No : 26112
Reference to sampling procedure, wherever applicable : Not Applicable
Deviation from the test methods as prescribed irrelevant ISS/Work Instructions, if any : Nil
Testing Commenced on : 20.05.2021
Testing Completed on : 21.05.2021

PART C: TEST RESULTS

S. No	Test Parameters	Test Method	Minimum Detectable Activity of the Instrument	Result ($\mu\text{Ci/ml}$)	Specification value Maximum As per (TNPCB - Marine coastal areas)
1.	Alpha Emitters	IS14194(part2):2013 [cl.6.3](RA-2018)	MDA (3σ) $1.46 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-7} \mu\text{Ci/ml}$
2.	Beta Emitters	IS 14194 (part 1) : 2020	MDA (3σ) $8.11 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-7} \mu\text{Ci/ml}$

MDA: Minimum Detectable Activity, BDL: Below Detection Level & Ci: Curie

PART D: REMARKS

The concentrations of the radionuclides in the water sample are within the prescribed limits of TNPCB Standards for discharge of Trade effluent into Marine coastal areas.
The spectrum / result files are stored as part of Nuclear Counting Facility Records.

Sample return: The sample will be kept for one month and disposed-of or returned on request after one month. The samples from regulatory bodies will be retained for 3 months and disposed-of or returned.

***** End of Report *****



Page 2 of 2



M. Saravanan
Authorised Signatory
M. SARAVANAN
Technical Manager - Radiological

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-14814/2021-22 & 23.08.2021		
Sample Number	N-14814/21-22		
Customer Name & Address	M/s. IL&FS TAMILNADU POWER CO. LTD.,		
	C.Pudhupettai(Post), Perangipettai, Chidambaram Taluka,Cuddalore - 608502.		
SAMPLE DETAILS			
Sample Description By Customer	Central Monitoring Basin Water (CMB)		
Sampling Location	Guard Pond		
Sampling Date	16.08.2021	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	5 Litres	Sampling Method	CTL/QSP/09
Date of Receipt	18.08.2021	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	18.08.2021	Analysis Completion Date	23.08.2021

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	Colour	2120-B-APHA 23rd Ed.2017	-	2	Not Specified
2	Odour	2150-B-APHA 23rd Ed.2017	-	Disagreeable	Not Specified
3	Total Suspended Solids	2540-D- APHA 23rd Ed.2017	mg/l	10	100
4	Particle Size of Suspended Solids	CTL/SOP/WATER/61-2012	-	Passed through IS 850 micron Sieve	a)Floatable solids max. 3mm. b)Settleable solids max. 850 microns.
5	Total Dissolved Solids	2540-C- APHA 23rd Ed.2017	mg/l	42170	Not Specified
6	pH @ 25°C	4500-H+-B APHA 23rd Ed.2017	-	7.9	5.5 to 9.0
7	Temperature	2550-B-APHA 23rd Ed.2017	°C	28.0 (I/L)	Shall not exceed 5°C above the receiving water temperature
	Temperature	2550-B-APHA 23rd Ed.2017	°C	28.5 (O/L)	
8	Oil & Grease	5520-B APHA 23rd Ed.2017 (Partition Gravimetric Method)	mg/l	< 2	20
9	Total Residual Chlorine	4500-Cl-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	1
10	Ammonical Nitrogen as N	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	50
11	Total Kjeldahl Nitrogen as N	4500-N-B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	100
12	Free Ammonia as NH ₃	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	5
13	Biochemical Oxygen Demand (BOD) 3 days at 27°C	5210-B APHA 23rd Ed.2017	mg/l	14	100
14	Chemical Oxygen Demand (COD)	5220-B- APHA 23rd Ed.2017	mg/l	122	250
15	Hexavalent Chromium as Cr ⁶⁺	3500-Cr-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.01)	1

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
A. Rajkumar
A. RAJKUMAR
Technical Manager

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Page 1 of 3

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-14814/2021-22 & 23.08.2021
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S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
16	Percent Sodium	CTL/SOP/WATER/60-2012	%	90.62	Not Specified
17	Residual Sodium Carbonate	IS 11624-1986(R.2001)	meq/l	Nil	Not Specified
18	Cyanide as CN	4500-CN-C,E -APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.2
19	Chloride as Cl	4500-Cl-B- APHA 23rd Ed.2017	mg/l	22340	Not Specified
20	Fluoride as F	4500-F- B ,D-APHA 23rd Ed.2017	mg/l	1.5	15
21	Dissolved Phosphate as P	4500-P-B,D-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified
22	Sulphate as SO ₄	4500- SO4 -E- APHA 23rd Ed.2017	mg/l	1692	1000
23	Sulphide as S	4500-S ² -F-APHA 23rd Ed.2017 (Iodometric Method)	mg/l	BDL(DL:0.01)	5
24	Phenolic Compounds as C ₆ H ₅ OH	5530-B,C- APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	5
25	Boron as B	4500-B-B-APHA 23rd Ed.2017	mg/l	1.7	2
26	Arsenic as As	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.05)	0.2
27	Cadmium as Cd	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	2
28	Total Chromium as Cr	3111-D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
29	Copper as Cu	3111-B-APHA 23rd Ed.2017	mg/l	0.15	3
30	Lead as Pb	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
31	Mercury as Hg	3112-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	0.01
32	Nickel as Ni	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	3
33	Selenium as Se	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.05
34	Zinc as Zn	3111-B-APHA 23rd Ed.2017	mg/l	0.08	1.5

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory
A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 2 of 3

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-14814/2021-22 & 23.08.2021
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
Pesticide Residues**					
35	Alachlor	CTL/SOP/WATER/101-2014	µg/l	Absent	Absent
	Atrazine		µg/l	Absent	
	Aldrin		µg/l	Absent	
	Dieldrin		µg/l	Absent	
	Alpha HCH		µg/l	Absent	
	Beta HCH		µg/l	Absent	
	Butachlor		µg/l	Absent	
	Chlorpyrifos		µg/l	Absent	
	Delta HCH		µg/l	Absent	
	2,4 - Dichlorophenoxyacetic acid		µg/l	Absent	
	o,p'-DDT		µg/l	Absent	
	p,p'-DDT		µg/l	Absent	
	p,p'-DDE		µg/l	Absent	
	o,p'-DDE		µg/l	Absent	
	o,p'-DDD		µg/l	Absent	
	p,p'-DDD		µg/l	Absent	
	Endosulfan alpha		µg/l	Absent	
	Endosulfan Beta		µg/l	Absent	
	Endosulfan Sulfate		µg/l	Absent	
	Ethion		µg/l	Absent	
Gamma HCH (Lindane)	µg/l	Absent			
Isoproturan	µg/l	Absent			
Malathion	µg/l	Absent			
Methyl Parathion	µg/l	Absent			
Monocrotophos	µg/l	Absent			
Phorate	µg/l	Absent			

BDL - Below Detection Limit; DL - Detection limit

*Limits as per TNPCB Norms (Marine Coastal Areas)

**For Total Pesticides , Not Detected (DL:0.01µg/l) is considered as Absent.

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

A. Raj
Authorised Signatory

A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 3 of 3

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MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



TC-6206

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

RADIOACTIVITY MEASUREMENT / TEST REPORT

ULR- TC620621000003740F
Discipline: Radiological
Ref: MBT/ RL / 026541 / 2021-22

DATED: 24.08.2021

PARTICULARS OF SAMPLE SUBMITTED

Sample Described by customer as : CENTRAL MONITORING BASIN WATER-GUARD POND

Customer Name : M/S. IL & FS TAMILNADU POWER CO.LTD.,

Customer Address : C.PUDHUPETTAI (POST), PERANGIPETTAI, CHIDAMBARAM TALUKA, CUDDALORE

Postal Code : 608502

State : TAMIL NADU

Country : INDIA

Customer ID No : N-14814/21-22

Sample Code No : 2108112

Sample Type : Water

Sample Received Date : 20.08.2021

Sample Qty. Recd. : 10Lit x 1No

Mode of Packing : 10 Lit Can

Customer Reference : Letter Dated: 20.08.2021

Terms and Condition

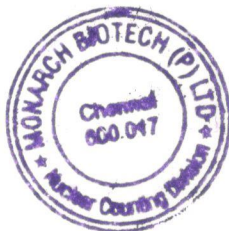
This report in full or in part shall not be published, advertised, used for any legal action, unless prior permission has been secured. This test report pertains only for the sample tested and such samples are retained for 7 days (in case of perishable) and 30 days for all other samples. If there is any discrepancy / complaint received from the customer within 30 days from the date of report, sample will be kept for four months. Sample not drawn by laboratory.

For MONARCH BIOTECH PVT LTD



A.M. Shivakaarthick

A.M. Shivakaarthick
Director



Page 1 of 2

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA

Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com

LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

ULR-TC620621000003740F

DATED: 24.08.2021

Discipline: Radiological

Group: Water

PART - B: SUPPLIMENTARY INFORMATIONS:

Sample No : 2108112
 Job Card No : 26651
 Reference to sampling procedure, wherever applicable : Not Applicable
 Deviation from the test methods as prescribed in relevant ISS/Work Instructions, if any : Nil
 Testing Commenced on : 21.08.2021
 Testing Completed on : 23.08.2021

PART C: TEST RESULTS

S. No	Test Parameters	Test Method	Minimum Detectable Activity of the Instrument	Result ($\mu\text{Ci/ml}$)	Specification value Maximum As per(TNPCB - Marine coastal areas)
1.	Alpha Emitters	IS 14194 (part 2) : 2013[cl.6.3] (RA-2018)	MDA (3σ) $1.46 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-7} \mu\text{Ci/ml}$
2.	Beta Emitters	IS 14194 (part 1) : 2020 [Cl.6.2]	MDA (3σ) $8.11 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-7} \mu\text{Ci/ml}$

MDA: Minimum Detectable Activity, BDL: Below Detection Level & Ci: Curie

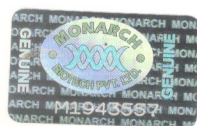
PART D: REMARKS

The concentrations of the radionuclides in the water sample are within the prescribed limits of TNPCB Standards for discharge of Trade effluent into Marine coastal areas.

The spectrum / result files are stored as part of Nuclear Counting Facility Records.

Sample return: The sample will be kept for one month and disposed-of or returned on request after one month. The samples from regulatory bodies will be retained for 3 months and disposed-of or returned.

**** End of Report ****



H. Saravanan

Authorized Signatory
M. SARAVANAN
 Technical Manager - Radiological

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-19627/2021-22 & 31.12.2021		
Sample Number	N-19627/21-22		
Customer Name & Address	M/s. IL&FS TAMILNADU POWER CO. LTD.,		
	C.Pudhupettai(Post), Perangipettai, Chidambaram Taluka,Cuddalore - 608502.		
SAMPLE DETAILS			
Sample Description By Customer	Central Monitoring Basin Water (CMB)		
Sampling Location	Guard Pond		
Sampling Date	22.12.2021	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	5 Litres	Sampling Method	CTL/QSP/09
Date of Receipt	23.12.2021	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	23.12.2021	Analysis Completion Date	31.12.2021

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	Colour	2120-B-APHA 23rd Ed.2017	-	2	Not Specified
2	Odour	2150-B-APHA 23rd Ed.2017	-	Agreeable	Not Specified
3	Total Suspended Solids	2540-D- APHA 23rd Ed.2017	mg/l	4	100
4	Particle Size of Suspended Solids	CTL/SOP/WATER/61-2012	-	Passed through IS 850 micron Sieve	a)Floatable solids max. 3mm. b)Settleable solids max. 850 microns.
5	Total Dissolved Solids	2540-C- APHA 23rd Ed.2017	mg/l	36210	Not Specified
6	pH @ 25°C	4500-H+-B APHA 23rd Ed.2017	-	7.9	5.5 to 9.0
7	Temperature	2550-B-APHA 23rd Ed.2017	°C	28.1 (I/L)	Shall not exceed 5°C above the receiving water temperature
	Temperature	2550-B-APHA 23rd Ed.2017	°C	28.6 (O/L)	
8	Oil & Grease	5520-B APHA 23rd Ed.2017 (Partition Gravimetric Method)	mg/l	< 2	20
9	Total Residual Chlorine	4500-Cl-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	1
10	Ammonical Nitrogen as N	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	50
11	Total Kjeldahl Nitrogen as N	4500-N-B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	100
12	Free Ammonia as NH ₃	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	5
13	Biochemical Oxygen Demand (BOD) 3 days at 27°C	5210-B APHA 23rd Ed.2017	mg/l	18	100
14	Chemical Oxygen Demand (COD)	5220-B- APHA 23rd Ed.2017	mg/l	142	250
15	Hexavalent Chromium as Cr ⁶⁺	3500-Cr-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.01)	1

For Chennai Testing Laboratory Pvt Ltd

A. Rajkumar
Authorised Signatory
A. RAJKUMAR
Technical Manager
CHEMICAL

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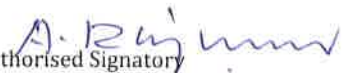
CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-19627/2021-22 & 31.12.2021
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
16	Percent Sodium	CTL/SOP/WATER/60-2012	%	74.12	Not Specified
17	Residual Sodium Carbonate	IS 11624-1986(R.2001)	meq/l	Nil	Not Specified
18	Cyanide as CN	4500-CN-C,E -APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.2
19	Chloride as Cl	4500-Cl-B- APHA 23rd Ed.2017	mg/l	19977	Not Specified
20	Fluoride as F	4500-F- B ,D-APHA 23rd Ed.2017	mg/l	2.1	15
21	Dissolved Phosphate as P	4500-P-B,D-APHA 23rd Ed.2017	mg/l	0.15	Not Specified
22	Sulphate as SO ₄	4500- SO4 -E- APHA 23rd Ed.2017	mg/l	1692	1000
23	Sulphide as S	4500-S ² -F-APHA 23rd Ed.2017 (Iodometric Method)	mg/l	BDL(DL:0.01)	5
24	Phenolic Compounds as C ₆ H ₅ OH	5530-B,C- APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	5
25	Boron as B	4500-B-B-APHA 23rd Ed.2017	mg/l	1.7	2
26	Arsenic as As	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.05)	0.2
27	Cadmium as Cd	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	2
28	Total Chromium as Cr	3111-D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
29	Copper as Cu	3111-B-APHA 23rd Ed.2017	mg/l	1.26	3
30	Lead as Pb	3111-B-APHA 23rd Ed.2017	mg/l	0.82	1
31	Mercury as Hg	3112-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	0.01
32	Nickel as Ni	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	3
33	Selenium as Se	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.05
34	Zinc as Zn	3111-B-APHA 23rd Ed.2017	mg/l	0.08	1.5

For Chennai Testing Laboratory Pvt Ltd


Authorised Signatory
A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 2 of 3

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TEST REPORT

Report Number and date	CTL/CH/N-19627/2021-22 & 31.12.2021
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
	Pesticide Residues**				
35	Alachlor	CTL/SOP/WATER/101-2014	µg/l	Absent	Absent
	Atrazine		µg/l	Absent	
	Aldrin		µg/l	Absent	
	Dieldrin		µg/l	Absent	
	Alpha HCH		µg/l	Absent	
	Beta HCH		µg/l	Absent	
	Butachlor		µg/l	Absent	
	Chlorpyriphos		µg/l	Absent	
	Delta HCH		µg/l	Absent	
	2,4 - Dichlorophenoxyacetic acid		µg/l	Absent	
	o,p'-DDT		µg/l	Absent	
	p,p'-DDT		µg/l	Absent	
	p,p'-DDE		µg/l	Absent	
	o,p'-DDE		µg/l	Absent	
	o,p'-DDD		µg/l	Absent	
	p,p'-DDD		µg/l	Absent	
	Endosulfan alpha		µg/l	Absent	
	Endosulfan Beta		µg/l	Absent	
	Endosulfan Sulfate		µg/l	Absent	
	Ethion		µg/l	Absent	
	Gamma HCH (Lindane)		µg/l	Absent	
	Isoproturan		µg/l	Absent	
	Malathion		µg/l	Absent	
Methyl Parathion	µg/l	Absent			
Monocrotophos	µg/l	Absent			
Phorate	µg/l	Absent			

BDL - Below Detection Limit; DL - Detection limit

*Limits as per TNPCB Norms (Marine Coastal Areas)

**For Total Pesticides , Not Detected (DL:0.01µg/l) is considered as Absent.

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory
A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 3 of 3

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MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



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TEST REPORT

RADIOACTIVITY MEASUREMENT / TEST REPORT

ULR- TC620621000006030F

DATED: 01.01.2022

Discipline: Radiological

Ref: MBT/ RL / 027236 / 2021-22

PARTICULARS OF SAMPLE SUBMITTED

Sample Described by customer as : CENTRAL MONITORING BASIN WATER
– GUARD POND

Customer Name : M/S. IL & FS TAMILNADU POWER CO.LTD.,

Customer Address : C.PUDHUPETTAI (POST), PERANGIPETTAI,
CHIDAMBARAM TALUKA, CUDDALORE

Postal Code : 608502

State : TAMIL NADU

Country : INDIA

Customer ID No : N-19627 / 21-22

Sample Code No : 2112151

Sample Type : Water

Sample Received Date : 28.12.2021

Sample Qty. Recd. : 10 Lit x 1 No

Mode of Packing : 10 Lit Can

Customer Reference : Letter Dated: 28.12.2021

Terms and Condition

This report in full or in part shall not be published, advertised, used for any legal action, unless prior permission has been secured. This test report pertains only for the sample tested and such samples are retained for 7 days (in case of perishable) and 30 days for all other samples. If there is any discrepancy / complaint received from the customer within 30 days from the date of report, sample will be kept for four months. Sample not drawn by laboratory.



For MONARCH BIOTECH PVT LTD



M1944648

A.M. Shivakaarthick
Director

Page 1 of 2

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA
Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com
LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

FORM No.: MBT / QF / 059

Issue No.: 01

Issue Date: 06/06/14

Amend No.: NIL

Amend Date: NIL



Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

ULR-TC620621000006030F
Discipline: Radiological
Group: Water

DATED: 01.01.2022

PART - B: SUPPLIMENTARY INFORMATIONS:

Sample No : 2112151
 Job Card No : 27346
 Reference to sampling procedure, wherever applicable : Not Applicable
 Deviation from the test methods as prescribed in relevant ISS/Work Instructions, if any : Nil
 Testing Commenced on : 29.12.2021
 Testing Completed on : 30.12.2021

PART C: TEST RESULTS

S. No	Test Parameters	Test Method	Minimum Detectable Activity of the Instrument	Result (μCi/ml)	Specification value Maximum As per(TNPCB - Marine coastal areas)
1.	Alpha Emitters	IS 14194 (part 2) : 2013[cl.6.3] (RA-2018)	MDA (3σ) 1.46 × 10 ⁻¹⁰ μ Ci/ml	BDL	10 ⁻⁷ μCi/ml
2.	Beta Emitters	IS 14194 (part 1) : 2020 [Cl.6.2]	MDA (3σ) 8.11 × 10 ⁻¹⁰ μ Ci/ml	BDL	10 ⁻⁷ μCi/ml

MDA: Minimum Detectable Activity, BDL: Below Detection Level &Ci: Curie

PART D: REMARKS

The concentrations of the radionuclides in the water sample are within the prescribed limits of TNPCB Standards for discharge of Trade effluent into Marine coastal areas.

The spectrum / result files are stored as part of Nuclear Counting Facility Records.

Sample return: The sample will be kept for one month and disposed-of or returned on request after one month. The samples from regulatory bodies will be retained for 3 months and disposed-of or returned.

***** End of Report *****



Page 2 of 2



M. Saravanan

Authorised Signatory
M. SARAVANAN
Technical Manager - Radiological

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-23639/2021-22 & 07.04.2022		
Sample Number	N-23639/21-22		
Customer Name & Address	M/s. IL&FS TAMILNADU POWER CO. LTD.,		
	C.Pudhupettai(Post), Perangipettai, Chidambaram Taluka,Cuddalore - 608502.		
SAMPLE DETAILS			
Sample Description By Customer	Central Monitoring Basin Water (CMB)		
Sampling Location	Guard Pond		
Sampling Date	29.03.2022	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	5 Litres	Sampling Method	CTL/QSP/09
Date of Receipt	31.03.2022	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	31.03.2022	Analysis Completion Date	07.04.2022

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	Colour	2120-B-APHA 23rd Ed.2017	-	2	Not Specified
2	Odour	2150-B-APHA 23rd Ed.2017	-	Agreeable	Not Specified
3	Total Suspended Solids	2540-D- APHA 23rd Ed.2017	mg/l	12	100
4	Particle Size of Suspended Solids	CTL/SOP/WATER/61-2012	-	Passed through IS 850 micron Sieve	a)Floatable solids max. 3mm. b)Settleable solids max. 850 microns.
5	Total Dissolved Solids	2540-C- APHA 23rd Ed.2017	mg/l	44020	Not Specified
6	pH @ 25°C	4500-H+-B APHA 23rd Ed.2017	-	8.0	5.5 to 9.0
7	Temperature	2550-B-APHA 23rd Ed.2017	°C	29.1 (I/L)	Shall not exceed 5°C above the receiving water temperature
	Temperature	2550-B-APHA 23rd Ed.2017	°C	29.6 (O/L)	
8	Oil & Grease	5520-B APHA 23rd Ed.2017 (Partition Gravimetric Method)	mg/l	< 2	20
9	Total Residual Chlorine	4500-Cl-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	1
10	Ammonical Nitrogen as N	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	50
11	Total Kjeldahl Nitrogen as N	4500-N-B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	100
12	Free Ammonia as NH ₃	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	5
13	Biochemical Oxygen Demand (BOD) 3 days at 27°C	5210-B APHA 23rd Ed.2017	mg/l	16	100
14	Chemical Oxygen Demand (COD)	5220-B- APHA 23rd Ed.2017	mg/l	146	250
15	Hexavalent Chromium as Cr ⁶⁺	3500-Cr-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.01)	1

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory

A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 1 of 3

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-23639/2021-22 & 07.04.2022
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
16	Percent Sodium	CTL/SOP/WATER/60-2012	%	76.08	Not Specified
17	Residual Sodium Carbonate	IS 11624-1986(R.2001)	meq/l	Nil	Not Specified
18	Cyanide as CN	4500-CN-C,E -APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.2
19	Chloride as Cl	4500-Cl-B- APHA 23rd Ed.2017	mg/l	24106	Not Specified
20	Fluoride as F	4500-F- B ,D-APHA 23rd Ed.2017	mg/l	0.76	15
21	Dissolved Phosphate as P	4500-P-B,D-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified
22	Sulphate as SO ₄	4500- SO4 -E- APHA 23rd Ed.2017	mg/l	2891	1000
23	Sulphide as S	4500-S ²⁻ -F-APHA 23rd Ed.2017 (Iodometric Method)	mg/l	BDL(DL:0.01)	5
24	Phenolic Compounds as C ₆ H ₅ OH	5530-B,C- APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	5
25	Boron as B	4500-B-B-APHA 23rd Ed.2017	mg/l	4.1	2
26	Arsenic as As	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.05)	0.2
27	Cadmium as Cd	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	2
28	Total Chromium as Cr	3111-D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
29	Copper as Cu	3111-B-APHA 23rd Ed.2017	mg/l	1.18	3
30	Lead as Pb	3111-B-APHA 23rd Ed.2017	mg/l	0.65	1
31	Mercury as Hg	3112-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	0.01
32	Nickel as Ni	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	3
33	Selenium as Se	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.05
34	Zinc as Zn	3111-B-APHA 23rd Ed.2017	mg/l	0.06	1.5

For Chennai Testing Laboratory Pvt Ltd

A. Rajkumar
Authorised Signatory

A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 2 of 3

*The Report shall not be used to malign, defame and for any malicious purpose,
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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-23639/2021-22 & 07.04.2022
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S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
	Pesticide Residues**				
35	Alachlor	CTL/SOP/WATER/101-2014	µg/l	Absent	Absent
	Atrazine		µg/l	Absent	
	Aldrin		µg/l	Absent	
	Dieldrin		µg/l	Absent	
	Alpha HCH		µg/l	Absent	
	Beta HCH		µg/l	Absent	
	Butachlor		µg/l	Absent	
	Chlorpyriphos		µg/l	Absent	
	Delta HCH		µg/l	Absent	
	2,4 - Dichlorophenoxyacetic acid		µg/l	Absent	
	o,p'-DDT		µg/l	Absent	
	p,p'-DDT		µg/l	Absent	
	p,p'-DDE		µg/l	Absent	
	o,p'-DDE		µg/l	Absent	
	o,p'-DDD		µg/l	Absent	
	p,p'-DDD		µg/l	Absent	
	Endosulfan alpha		µg/l	Absent	
	Endosulfan Beta		µg/l	Absent	
	Endosulfan Sulfate		µg/l	Absent	
	Ethion		µg/l	Absent	
Gamma HCH (Lindane)	µg/l	Absent			
Isoproturan	µg/l	Absent			
Malathion	µg/l	Absent			
Methyl Parathion	µg/l	Absent			
Monocrotophos	µg/l	Absent			
Phorate	µg/l	Absent			

BDL - Below Detection Limit; DL - Detection limit

*Limits as per TNPCB Norms (Marine Coastal Areas)

**For Total Pesticides , Not Detected (DL:0.01µg/l) is considered as Absent.

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory

A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 3 of 3

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MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



TC-6206

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

RADIOACTIVITY MEASUREMENT / TEST REPORT

ULR-TC620622000001674F

DATED: 06.04.2022

Discipline: Radiological

Ref: MBT/ RL / 027870 / 2022-23

PARTICULARS OF SAMPLE SUBMITTED

Sample Described by customer as : CENTRAL MONITORING BASIN WATER - GUARD POND
Customer Name : M/s.IL & FS TAMILNADU POWER CO. LTD,
Customer Address : C.PUDHUPETTAI (POST), PERANGIPETTAI,
CHIDAMBARAM TALUKA, CUDDALORE
Postal Code : 608502
State : TAMIL NADU
Country : INDIA
Customer Sample ID No : N - 22639 / 21 - 22
Sample Code No : 2204017
Sample Type : Water
Sample Received Date : 02.04.2022
Sample Qty. Recd. : 10 Liter x 1 No
Mode of Packing : 10 Liter Can x 1 No
Customer Reference : Letter Dated: 02.04.2022

Terms and Condition

This report in full or in part shall not be published, advertised, used for any legal action, unless prior permission has been secured. This test report pertains only for the sample tested and such samples are retained for 7 days (in case of perishable) and 30 days for all other samples. If there is any discrepancy / complaint received from the customer within 30 days from the date of report, sample will be kept for 30 days. The samples from regulatory bodies are to be retained as specified. Sample not drawn by laboratory.

For MONARCH BIOTECH PVT LTD



A.M. Shivakaarthick
Mg. Director

Page 1 of 2

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA

Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com

LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124; Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

FORM No.: MBT / QF / 059

Issue No.: 01

Issue Date: 06/06/14

Amend No.: NIL

Amend Date: NIL

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssa*

TEST REPORT

ULR-TC620622000001674F

DATED: 06.04.2022

Discipline: Radiological

Group: Water

PART - B: SUPPLIMENTARY INFORMATIONS:

Sample No : 2204017
 Job Card No : 27980
 Reference to sampling procedure, wherever applicable : Not Applicable
 Deviation from the test methods as prescribed in relevant ISS/Work Instructions, if any : Nil
 Testing Commenced on : 04.04.2022
 Testing Completed on : 05.04.2022

PART C: TEST RESULTS

S. No	Test Parameters	Test Method	Minimum Detectable Activity of the Instrument	Result (µCi/ml)	Specification value Maximum As per(TNPCB - Marine coastal areas)
1.	Alpha Emitters	IS14194(part2):2013 [cl.6.3](RA2018)	MDA (3σ) 1.46 × 10 ⁻¹⁰ µ Ci/ml	BDL	10 ⁻⁷ µCi/ml
2.	Beta Emitters	IS14194(part1):2020 [Cl.6.2]	MDA (3σ) 8.11 × 10 ⁻¹⁰ µ Ci/ml	BDL	10 ⁻⁷ µCi/ml

MDA: Minimum Detectable Activity, BDL: Below Detection Level &Ci: Curie

PART D: REMARKS

The concentrations of the radionuclides in the water sample are within the prescribed limits of TNPCB Standards for discharge of Trade effluent into Marine coastal areas.
 The spectrum / result files are stored as part of Nuclear Counting Facility Records.

Sample return: The sample will be kept for one month and disposed-of or returned on request after one month. The samples from regulatory bodies will be retained for 3 months and disposed-of or returned.

**** End of Report ****



Page 2 of 2

M. Saravanan
 Authorised Signatory
M. SARAVANAN
 Technical Manager - Radiological

ANNEXURE - 2

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-11214/2021-22 & 21.05.2021		
Sample Number	N-11214/21-22		
Customer Name & Address	M/s. IL&FS TAMILNADU POWER CO. LTD.,		
	C.Pudhupettai(Post), Perangipettai, Chidambaram Taluka,Cuddalore - 608502.		
SAMPLE DETAILS			
Sample Description By Customer	ETP Treated Water		
Sampling Location	ETP Outlet		
Sampling Date	15.05.2021	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	5 Litres	Sampling Method	CTL/QSP/09
Date of Receipt	16.05.2021	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	17.05.2021	Analysis Completion Date	21.05.2021

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	Temperature	2550-B-APHA 23rd Ed.2017	°C	27.9 (I/L)	Shall not exceed more than 5°C above ambient water temperature
	Temperature		°C	28.4 (O/L)	
2	Total Suspended Solids	2540-D- APHA 23rd Ed.2017	mg/l	< 2	100
3	Total Dissolved Solids	2540-C- APHA 23rd Ed.2017	mg/l	720	2100
4	Oil & Grease	5520-B APHA 23rd Ed.2017 (Partition Gravimetric Method)	mg/l	< 2	10
5	Biochemical Oxygen Demand (BOD) 3 days at 27°C	5210-B APHA 23rd Ed.2017	mg/l	3	100
6	pH @ 25°C	4500-H+-B APHA 23rd Ed.2017	-	7.4	6.0 to 9.0
7	Particle Size of Suspended Solids	CTL/SOP/WATER/61-2012	-	Passed through IS 850 micron Sieve	Not Specified
8	Chemical Oxygen Demand (COD)	5220-B- APHA 23rd Ed.2017	mg/l	15	250
9	Chloride as Cl	4500-Cl-B- APHA 23rd Ed.2017	mg/l	273	600
10	Sulphate as SO ₄	4500- SO4 -E- APHA 23rd Ed.2017	mg/l	46	1000
11	Total Residual Chlorine	4500-Cl-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
12	Ammonical Nitrogen as N	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	0.5	50

For Chennai Testing Laboratory Pvt Ltd

A. Raju
Authorised Signatory
A. RAJUKUMAR
Technical Manager
(CHEMICAL)

Page 1 of 3

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date		CTL/CH/N-11214/2021-22 & 21.05.2021			
S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
13	Total Kjeldahl Nitrogen as N	4500-N-B,C-APHA 23rd Ed.2017	mg/l	1.6	Not Specified
14	Free Ammonia as NH ₃	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
15	Hexavalent Chromium as Cr ⁶⁺	3500-Cr-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.01)	1
16	Boron as B	4500-B-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
17	Percent Sodium	CTL/SOP/WATER/60-2012	%	58.35	60
18	Cyanide as CN	4500-CN-C,E -APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.2
19	Fluoride as F	4500-F- B ,D-APHA 23rd Ed.2017	mg/l	0.21	2
20	Residual Sodium Carbonate	IS 11624-1986(R.2001)	meq/l	Nil	5
21	Dissolved Phosphate as P	4500-P-B,D-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified
22	Sulphide as S	4500-S ²⁻ -F-APHA 23rd Ed.2017 (Iodometric Method)	mg/l	BDL (DL:0.1)	2
23	Phenolic Compounds as C ₆ H ₅ OH	5530-B,C- APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	1
24	Nitrate Nitrogen as N	4500-NO ₃ -B-APHA 23rd Ed.2017	mg/l	2.1	Not Specified
25	Iron as Fe	3500-Fe-B- APHA 23rd Ed. 2017	mg/l	0.14	3
26	Trivalent Chromium as Cr ³⁺	3500-Cr-B-APHA 23rd Ed. 2017	mg/l	BDL(DL:0.01)	2
27	Arsenic as As	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.05)	0.2
28	Mercury as Hg	3112-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	0.01
29	Lead as Pb	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
30	Cadmium as Cd	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
31	Total Chromium as Cr	3111-D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
32	Copper as Cu	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.12)	3
33	Zinc as Zn	3111-B-APHA 23rd Ed.2017	mg/l	0.05	1.5
34	Selenium as Se	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.05
35	Nickel as Ni	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	3
36	Manganese as Mn	3111-B-APHA 23rd Ed.2017	mg/l	0.08	Not Specified
37	Vanadium as V	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified

For Chennai Testing Laboratory Pvt Ltd

A. Rajkumar
Authorised Signatory

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TEST REPORT

Report Number and date	CTL/CH/N-11214/2021-22 & 21.05.2021
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S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
38	Pesticide Residues**				
	Alachlor	CTL/SOP/WATER/101-2014	µg/l	Absent	Absent
	Atrazine		µg/l	Absent	
	Aldrin		µg/l	Absent	
	Dieldrin		µg/l	Absent	
	Alpha HCH		µg/l	Absent	
	Beta HCH		µg/l	Absent	
	Butachlor		µg/l	Absent	
	Chlorpyriphos		µg/l	Absent	
	Delta HCH		µg/l	Absent	
	2,4 - Dichlorophenoxyacetic acid		µg/l	Absent	
	o,p'-DDT		µg/l	Absent	
	p,p'-DDT		µg/l	Absent	
	p,p'-DDE		µg/l	Absent	
	o,p'-DDE		µg/l	Absent	
	o,p'-DDD		µg/l	Absent	
	p,p'-DDD		µg/l	Absent	
	Endosulfan alpha		µg/l	Absent	
	Endosulfan Beta		µg/l	Absent	
	Endosulfan Sulfate		µg/l	Absent	
	Ethion		µg/l	Absent	
Gamma HCH (Lindane)	µg/l		Absent		
Isoproturan	µg/l	Absent			
Malathion	µg/l	Absent			
Methyl Parathion	µg/l	Absent			
Monocrotophos	µg/l	Absent			
Phorate	µg/l	Absent			
39	Bio - Assay Test [#]	IS 6582 (Part 1); 2001	-	No symptoms of toxicity were observed	90% survival of fish after 96 hrs in 100% effluent

BDL, - Below Detection Limit; DL - Detection limit.

*(MOEF&CC ENVIRONMENT PROTECTION RULES 1986 & SUBSEQUENT AMENDMENT DATED 1st JANUARY, 2016) AND TNPCB STANDARDS.

**For Total Pesticides, Not Detected (DL:0.01µg/l) is considered as Absent; [#] Limit as per CPCB.

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory

A. RAJKUMAR
Technical Manager

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MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



TC-6206

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

RADIOACTIVITY MEASUREMENT / TEST REPORT

ULR-TC620621000002094F

DATED: 22.05.2021

Discipline: Radiological

Ref: MBT/ RL / 026001 / 2021-2022

PARTICULARS OF SAMPLE SUBMITTED

Sample Described by customer as : ETP TREATED WATER – ETP OUTLET
Customer Name : M/S. IL & FS TAMILNADU POWER CO.LTD.,
Customer Address : C.PUDHUPETTAI (POST), PERANGIPETTAI,
CHIDAMBARAM TALUKA, CUDDALORE
Postal Code : 608502
State : TAMIL NADU
Country : INDIA
Customer ID No : N-11214/21-22
Sample Code No : 2105066
Sample Type : Water
Sample Received Date : 18.05.21
Sample Qty. Recd. : 10 Lit x 1No
Customer Reference : Letter Dated: 18.05.21

Terms and Condition

This report in full or in part shall not be published, advertised, used for any legal action, unless prior permission has been secured. This test report pertains only for the sample tested and such samples are retained for 7 days (in case of perishable) and 30 days for all other samples. If there is any discrepancy / complaint received from the customer within 30 days from the date of report, sample will be kept for four months. Sample not drawn by laboratory.

For MONARCH BIOTECH PVT LTD



A.M. Shivakaarthick

A.M. Shivakaarthick
Director

Page 1 of 2

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA

Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com

LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

FORM No.: MBT / QF / 059

Issue No.: 01

Issue Date: 06/06/14

Amend No.: NIL

Amend Date: NIL



MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

ULR-TC620621000002094F
Discipline: Radiological
Group: Water

DATED: 22.05.2021

PART - B: SUPPLEMENTARY INFORMATIONS:

Sample No : 2105066
Job Card No : 26111
Reference to sampling procedure, wherever applicable : Not Applicable
Deviation from the test methods as prescribed irrelevant ISS/Work Instructions, if any : Nil
Testing Commenced on : 20.05.2021
Testing Completed on : 21.05.2021

PART C: TEST RESULTS

S. No	Test Parameters	Test Method	Minimum Detectable Activity of the Instrument	Result ($\mu\text{Ci/ml}$)	Specification value Maximum As per(TNPCBNORMS – on land for irrigation)
1.	Alpha Emitters	IS14194(part2):2013 [cl.6.3](RA-2018)	MDA (3σ) $1.46 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-8} \mu\text{Ci/ml}$
2.	Beta Emitters	IS14194 (part 1) : 2020	MDA (3σ) $8.11 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-6} \mu\text{Ci/ml}$

MDA: Minimum Detectable Activity, BDL: Below Detection Level & Ci: Curie

PART D: REMARKS

The concentrations of the radionuclides in the water sample are within the prescribed limits of TNPCB NORMS – on land for irrigation.
The spectrum / result files are stored as part of Nuclear Counting Facility Records.

Sample return: The sample will be kept for one month and disposed-of or returned on request after one month. The samples from regulatory bodies will be retained for 3 months and disposed-of or returned.

***** End of Report *****



Page 2 of 2



M. Saravanan
Authorised Signatory
M. SARAVANAN
Technical Manager - Radiological

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA
Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com
LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

FORM No.: MBT / QF / 059

Issue No.: 01

Issue Date: 06/06/14

Amend No.: NIL

Amend Date: NIL

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-14810/2021-22 & 23.08.2021		
Sample Number	N-14810/21-22		
Customer Name & Address	M/s. IL&FS TAMILNADU POWER CO. LTD.,		
	C.Pudhupettai(Post), Parangipettai, Bhuvanagiri Taluka,Cuddalore - 608502.		
SAMPLE DETAILS			
Sample Description By Customer	ETP Treated Water		
Sampling Location	ETP Outlet		
Sampling Date	16.08.2021	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	5 Litres	Sampling Method	CTL/QSP/09
Date of Receipt	18.08.2021	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	18.08.2021	Analysis Completion Date	23.08.2021

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	Temperature	2550-B-APHA 23rd Ed.2017	°C	28.1 (I/L)	Shall not exceed more than 5°C above ambient water temperature
	Temperature		°C	28.6 (O/L)	
2	Total Suspended Solids	2540-D- APHA 23rd Ed.2017	mg/l	2	100
3	Total Dissolved Solids	2540-C- APHA 23rd Ed.2017	mg/l	1130	2100
4	Oil & Grease	5520-B APHA 23rd Ed.2017 (Partition Gravimetric Method)	mg/l	< 2	10
5	Biochemical Oxygen Demand (BOD) 3 days at 27°C	5210-B APHA 23rd Ed.2017	mg/l	4	100
6	pH @ 25°C	4500-H+-B APHA 23rd Ed.2017	-	6.4	6.0 to 9.0
7	Particle Size of Suspended Solids	CTL/SOP/WATER/61-2012	-	Passed through IS 850 micron Sieve	Not Specified
8	Chemical Oxygen Demand (COD)	5220-B- APHA 23rd Ed.2017	mg/l	20	250
9	Chloride as Cl	4500-Cl-B- APHA 23rd Ed.2017	mg/l	515	600
10	Sulphate as SO ₄	4500- SO ₄ -E- APHA 23rd Ed.2017	mg/l	54	1000
11	Total Residual Chlorine	4500-Cl-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
12	Ammonical Nitrogen as N	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	0.5	50

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
A. Rajkumar
A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 1 of 3

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-14810/2021-22 & 23.08.2021
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
13	Total Kjeldahl Nitrogen as N	4500-N-B,C-APHA 23rd Ed.2017	mg/l	1.3	Not Specified
14	Free Ammonia as NH ₃	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
15	Hexavalent Chromium as Cr ⁶⁺	3500-Cr-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.01)	1
16	Boron as B	4500-B-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
17	Percent Sodium	CTL/SOP/WATER/60-2012	%	58.84	60
18	Cyanide as CN	4500-CN-C,E -APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.2
19	Fluoride as F	4500-F- B ,D-APHA 23rd Ed.2017	mg/l	0.14	2
20	Residual Sodium Carbonate	IS 11624-1986(R.2001)	meq/l	Nil	5
21	Dissolved Phosphate as P	4500-P-B,D-APHA 23rd Ed.2017	mg/l	0.3	Not Specified
22	Sulphide as S	4500-S ²⁻ -F-APHA 23rd Ed.2017 (Iodometric Method)	mg/l	BDL (DL:0.1)	2
23	Phenolic Compounds as C ₆ H ₅ OH	5530-B,C- APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	1
24	Nitrate Nitrogen as N	4500-NO ₃ -B-APHA 23rd Ed.2017	mg/l	0.5	Not Specified
25	Iron as Fe	3500-Fe-B- APHA 23rd Ed. 2017	mg/l	0.7	3
26	Trivalent Chromium as Cr ³⁺	3500-Cr-B-APHA 23rd Ed. 2017	mg/l	BDL(DL:0.01)	2
27	Arsenic as As	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.05)	0.2
28	Mercury as Hg	3112-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	0.01
29	Lead as Pb	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
30	Cadmium as Cd	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
31	Total Chromium as Cr	3111-D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
32	Copper as Cu	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.12)	3
33	Zinc as Zn	3111-B-APHA 23rd Ed.2017	mg/l	0.06	1.5
34	Selenium as Se	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.05
35	Nickel as Ni	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	3
36	Manganese as Mn	3111-B-APHA 23rd Ed.2017	mg/l	0.04	Not Specified
37	Vanadium as V	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified

For Chennai Testing Laboratory Pvt Ltd

The Report shall not be used to malign, defame and for any malicious purpose.
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Chennai - 600 032 | Tamil Nadu | India | Telefax : +91-44-2250 1757

A. Raj Kumar
Authorised Signatory
A. RAJKUMAR
CHEMICAL

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-14810/2021-22 & 23.08.2021
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S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
38	Pesticide Residues**	CTL/SOP/WATER/101-2014	µg/l	Absent	Absent
	Alachlor				
	Atrazine				
	Aldrin				
	Dieldrin				
	Alpha HCH				
	Beta HCH				
	Butachlor				
	Chlorpyrifos				
	Delta HCH				
	2,4 - Dichlorophenoxyacetic acid				
	o,p'-DDT				
	p,p'-DDT				
	p,p'-DDE				
	o,p'-DDE				
	o,p'-DDD				
	p,p'-DDD				
	Endosulfan alpha				
	Endosulfan Beta				
	Endosulfan Sulfate				
Ethion					
Gamma HCH (Lindane)					
Isoproturan					
Malathion					
Methyl Parathion					
Monocrotophos					
Phorate					
39	Bio - Assay Test [#]	IS 6582 (Part 1): 2001	-	No symptoms of toxicity were observed	90% survival of fish after 96 hrs in 100% effluent

BDL - Below Detection Limit; DL - Detection limit.

*(MoEF&CC ENVIRONMENT PROTECTION RULES 1986 & SUBSEQUENT AMENDMENT DATED 1st JANUARY, 2016) AND TNPCB STANDARDS.

**For Total Pesticides , Not Detected (DL:0.01µg/l) is considered as Absent; [#] Limit as per CPCB.

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory

The Report shall not be used to malign, defame and for any malicious purpose.
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A. RAJKUMAR
Technical Manager
(CHEMICAL)

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MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



TC-6206

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

RADIOACTIVITY MEASUREMENT / TEST REPORT

ULR- TC620621000003739F
Discipline: Radiological
Ref: MBT/ RL / 026540 / 2021-22

DATED: 24.08.2021

PARTICULARS OF SAMPLE SUBMITTED

Sample Described by customer as : ETP TREATED WATER-ETP OUTLET
Customer Name : M/S. IL & FS TAMILNADU POWER CO.LTD.,
Customer Address : C.PUDHUPETTAI (POST), PERANGIPETTAI,
CHIDAMBARAM TALUKA, CUDDALORE
Postal Code : 608502
State : TAMIL NADU
Country : INDIA
Customer ID No : N-14810/21-22
Sample Code No : 2108111
Sample Type : Water
Sample Received Date : 20.08.2021
Sample Qty. Recd. : 10Lit x 1No
Mode of Packing : 10 Lit Can
Customer Reference : Letter Dated: 20.08.2021

Terms and Condition

This report in full or in part shall not be published, advertised, used for any legal action, unless prior permission has been secured. This test report pertains only for the sample tested and such samples are retained for 7 days (in case of perishable) and 30 days for all other samples. If there is any discrepancy / complaint received from the customer within 30 days from the date of report, sample will be kept for four months. Sample not drawn by laboratory.

For MONARCH BIOTECH PVT LTD



A.M. Shivakaarthick
Director

Page 1 of 2



MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

ULR-TC620621000003739F

DATED: 24.08.2021

Discipline: Radiological

Group: Water

PART - B: SUPPLIMENTARY INFORMATIONS:

Sample No : 2108111
 Job Card No : 26650
 Reference to sampling procedure, wherever applicable : Not Applicable
 Deviation from the test methods as prescribed in relevant ISS/Work Instructions, if any : Nil
 Testing Commenced on : 21.08.2021
 Testing Completed on : 23.08.2021

PART C: TEST RESULTS

S. No	Test Parameters	Test Method	Minimum Detectable Activity of the Instrument	Result ($\mu\text{Ci/ml}$)	Specification value Maximum As per(TNPCBNORMS – on land for irrigation)
1.	Alpha Emitters	IS 14194 (part 2) : 2013[cl.6.3] (RA-2018)	MDA (3σ) $1.46 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-8} \mu\text{Ci/ml}$
2.	Beta Emitters	IS 14194 (part 1) :2020[cl.6.2]	MDA (3σ) $8.11 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-6} \mu\text{Ci/ml}$

MDA: Minimum Detectable Activity, BDL: Below Detection Level & Ci: Curie

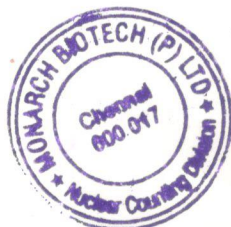
PART D: REMARKS

The concentrations of the radionuclides in the water sample are within the prescribed limits of TNPCB NORMS – on land for irrigation.

The spectrum / result files are stored as part of Nuclear Counting Facility Records.

Sample return: The sample will be kept for one month and disposed-of or returned on request after one month. The samples from regulatory bodies will be retained for 3 months and disposed-of or returned.

***** End of Report *****



Page 2 of 2

M. Saravanan

Authorised Signatory
M. SARAVANAN
Technical Manager - Radiological

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA

Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com

LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-19624/2021-22 & 31.12.2021		
Sample Number	N-19624/21-22		
Customer Name & Address	M/s. IL&FS TAMILNADU POWER CO. LTD.,		
	C.Pudhupettai(Post), Parangipettai, Bhuvanagiri Taluka,Cuddalore - 608502.		
SAMPLE DETAILS			
Sample Description By Customer	ETP Treated Water		
Sampling Location	ETP Outlet		
Sampling Date	21.12.2021	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	5 Litres	Sampling Method	CTL/QSP/09
Date of Receipt	23.12.2021	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	23.12.2021	Analysis Completion Date	31.12.2021

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	Temperature	2550-B-APHA 23rd Ed.2017	°C	27.8 (I/L)	Shall not exceed more than 5°C above ambient water temperature
	Temperature		°C	28.3 (O/L)	
2	Total Suspended Solids	2540-D- APHA 23rd Ed.2017	mg/l	< 2	100
3	Total Dissolved Solids	2540-C- APHA 23rd Ed.2017	mg/l	482	2100
4	Oil & Grease	5520-B APHA 23rd Ed.2017 (Partition Gravimetric Method)	mg/l	< 2	10
5	Biochemical Oxygen Demand (BOD) 3 days at 27°C	5210-B APHA 23rd Ed.2017	mg/l	< 2	100
6	pH @ 25°C	4500-H+-B APHA 23rd Ed.2017	-	8.2	6.0 to 9.0
7	Particle Size of Suspended Solids	CTL/SOP/WATER/61-2012	-	Passed through IS 850 micron Sieve	Not Specified
8	Chemical Oxygen Demand (COD)	5220-B- APHA 23rd Ed.2017	mg/l	< 4	250
9	Chloride as Cl	4500-Cl-B- APHA 23rd Ed.2017	mg/l	98	600
10	Sulphate as SO ₄	4500- SO4 -E- APHA 23rd Ed.2017	mg/l	106	1000
11	Total Residual Chlorine	4500-Cl-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
12	Ammonical Nitrogen as N	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	50

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory
A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 1 of 3

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-19624/2021-22 & 31.12.2021
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
13	Total Kjeldahl Nitrogen as N	4500-N-B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
14	Free Ammonia as NH ₃	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
15	Hexavalent Chromium as Cr ⁶⁺	3500-Cr-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.01)	1
16	Boron as B	4500-B-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
17	Percent Sodium	CTL/SOP/WATER/60-2012	%	39.33	60
18	Cyanide as CN	4500-CN-C,E -APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.2
19	Fluoride as F	4500-F- B ,D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
20	Residual Sodium Carbonate	IS 11624-1986(R.2001)	meq/l	Nil	5
21	Dissolved Phosphate as P	4500-P-B,D-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified
22	Sulphide as S	4500-S ²⁻ -F-APHA 23rd Ed.2017 (Iodometric Method)	mg/l	BDL (DL:0.1)	2
23	Phenolic Compounds as C ₆ H ₅ OH	5530-B,C- APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	1
24	Nitrate Nitrogen as N	4500-NO ₃ -B-APHA 23rd Ed.2017	mg/l	0.49	Not Specified
25	Iron as Fe	3500-Fe-B- APHA 23rd Ed. 2017	mg/l	0.34	3
26	Trivalent Chromium as Cr ³⁺	3500-Cr-B-APHA 23rd Ed. 2017	mg/l	BDL(DL:0.01)	2
27	Arsenic as As	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.05)	0.2
28	Mercury as Hg	3112-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	0.01
29	Lead as Pb	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
30	Cadmium as Cd	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
31	Total Chromium as Cr	3111-D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
32	Copper as Cu	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.12)	3
33	Zinc as Zn	3111-B-APHA 23rd Ed.2017	mg/l	0.04	1.5
34	Selenium as Se	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.05
35	Nickel as Ni	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	3
36	Manganese as Mn	3111-B-APHA 23rd Ed.2017	mg/l	0.07	Not Specified
37	Vanadium as V	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified

For Chennai Testing Laboratory Pvt Ltd

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Chennai - 600 032 | Tamil Nadu | India

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Telefax : +91-44-2250 1757

A. Rajkumar
Authorised Signatory
A. RAJKUMAR
Technical Manager
(CHEMICAL)

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-19624/2021-22 & 31.12.2021
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
38	Pesticide Residues**				
	Alachlor	CTL/SOP/WATER/101-2014	µg/l	Absent	Absent
	Atrazine		µg/l	Absent	
	Aldrin		µg/l	Absent	
	Dieldrin		µg/l	Absent	
	Alpha HCH		µg/l	Absent	
	Beta HCH		µg/l	Absent	
	Butachlor		µg/l	Absent	
	Chlorpyriphos		µg/l	Absent	
	Delta HCH		µg/l	Absent	
	2,4 - Dichlorophenoxyacetic acid		µg/l	Absent	
	o,p'-DDT		µg/l	Absent	
	p,p'-DDT		µg/l	Absent	
	p,p'-DDE		µg/l	Absent	
	o,p'-DDE		µg/l	Absent	
	o,p'-DDD		µg/l	Absent	
	p,p'-DDD		µg/l	Absent	
	Endosulfan alpha		µg/l	Absent	
	Endosulfan Beta		µg/l	Absent	
	Endosulfan Sulfate		µg/l	Absent	
	Ethion		µg/l	Absent	
Gamma HCH (Lindane)	µg/l		Absent		
Isoproturan	µg/l	Absent			
Malathion	µg/l	Absent			
Methyl Parathion	µg/l	Absent			
Monocrotophos	µg/l	Absent			
Phorate	µg/l	Absent			
39	Bio - Assay Test [#]	IS 6582 (Part 1): 2001	-	No symptoms of toxicity were observed	90% survival of fish after 96 hrs in 100% effluent

BDL - Below Detection Limit; DL - Detection limit.

*(MoEF&CC ENVIRONMENT PROTECTION RULES 1986 & SUBSEQUENT AMENDMENT DATED 1st JANUARY, 2016) AND TNPCB STANDARDS.

**For Total Pesticides , Not Detected (DL:0.01µg/l) is considered as Absent; [#] Limit as per CPCB.

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

A. Rajkumar
Authorised Signatory
A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 3 of 3

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MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



TC-6206

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

RADIOACTIVITY MEASUREMENT / TEST REPORT

ULR- TC620621000006029F
Discipline: Radiological
Ref: MBT/ RL / 027235 / 2021-22

DATED: 01.01.2022

PARTICULARS OF SAMPLE SUBMITTED

Sample Described by customer as : ETP TREATED WATER – ETP OUTLET
Customer Name : M/S. IL & FS TAMILNADU POWER CO.LTD.,
Customer Address : C.PUDHUPETTAI (POST), PERANGIPETTAI,
CHIDAMBARAM TALUKA, CUDDALORE
Postal Code : 608502
State : TAMIL NADU
Country : INDIA
Customer ID No : N-19624 / 21-22
Sample Code No : 2112150
Sample Type : Water
Sample Received Date : 28.12.2021
Sample Qty. Recd. : 10 Lit x 1 No
Mode of Packing : 10 Lit Can
Customer Reference : Letter Dated: 28.12.2021

Terms and Condition

This report in full or in part shall not be published, advertised, used for any legal action, unless prior permission has been secured. This test report pertains only for the sample tested and such samples are retained for 7 days (in case of perishable) and 30 days for all other samples. If there is any discrepancy / complaint received from the customer within 30 days from the date of report, sample will be kept for four months. Sample not drawn by laboratory.

For MONARCH BIOTECH PVT LTD



A.M. Shivakaarthick
Director

Page 1 of 2

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA
Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com
LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

FORM No.: MBT / QF / 059

Issue No.: 01

Issue Date: 06/06/14

Amend No.: NIL

Amend Date: NIL



Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

ULR-TC620621000006029F

Discipline: Radiological

Group: Water

DATED: 01.01.2022

PART - B: SUPPLEMENTARY INFORMATIONS:

Sample No : 2112150
 Job Card No : 27345
 Reference to sampling procedure, wherever applicable : Not Applicable
 Deviation from the test methods as prescribed in relevant ISS/Work Instructions, if any : Nil
 Testing Commenced on : 29.12.2021
 Testing Completed on : 30.12.2021

PART C: TEST RESULTS

S. No	Test Parameters	Test Method	Minimum Detectable Activity of the Instrument	Result (µCi/ml)	Specification value Maximum As per(TNPCBNORMS – on land for irrigation)
1.	Alpha Emitters	IS 14194 (part 2) : 2013[cl.6.3] (RA-2018)	MDA (3σ) $1.46 \times 10^{-10} \mu \text{ Ci/ml}$	BDL	$10^{-8} \mu \text{ Ci/ml}$
2.	Beta Emitters	IS 14194 (part 1) : 2020 [cl.6.2]	MDA (3σ) $8.11 \times 10^{-10} \mu \text{ Ci/ml}$	BDL	$10^{-6} \mu \text{ Ci/ml}$

MDA: Minimum Detectable Activity, BDL: Below Detection Level &Ci: Curie

PART D: REMARKS

The concentrations of the radionuclides in the water sample are within the prescribed limits of TNPCB NORMS – on land for irrigation.

The spectrum / result files are stored as part of Nuclear Counting Facility Records.

Sample return: The sample will be kept for one month and disposed-of or returned on request after one month. The samples from regulatory bodies will be retained for 3 months and disposed-of or returned.

***** End of Report *****



Page 2 of 2

M. Saravanan

Authorised Signatory
M. SARAVANAN
Technical Manager - Radiological

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-23636/2021-22 & 07.04.2022		
Sample Number	N-23636/21-22		
Customer Name & Address	M/s. IL&FS TAMILNADU POWER CO. LTD.,		
	C.Pudhupettai(Post), Parangipettai, Bhuvanagiri Taluka,Cuddalore - 608502.		
SAMPLE DETAILS			
Sample Description By Customer	ETP Treated Water		
Sampling Location	ETP Outlet		
Sampling Date	29.03.2022	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	5 Litres	Sampling Method	CTL/QSP/09
Date of Receipt	31.03.2022	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	31.03.2022	Analysis Completion Date	07.04.2022

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	Temperature	2550-B-APHA 23rd Ed.2017	°C	29.3 (I/L)	Shall not exceed more than 5°C above ambient water temperature
	Temperature		°C	29.8 (O/L)	
2	Total Suspended Solids	2540-D- APHA 23rd Ed.2017	mg/l	12	100
3	Total Dissolved Solids	2540-C- APHA 23rd Ed.2017	mg/l	366	2100
4	Oil & Grease	5520-B APHA 23rd Ed.2017 (Partition Gravimetric Method)	mg/l	< 2	10
5	Biochemical Oxygen Demand (BOD) 3 days at 27°C	5210-B APHA 23rd Ed.2017	mg/l	5	100
6	pH @ 25°C	4500-H+-B APHA 23rd Ed.2017	-	7.6	6.0 to 9.0
7	Particle Size of Suspended Solids	CTL/SOP/WATER/61-2012	-	Passed through IS 850 micron Sieve	Not Specified
8	Chemical Oxygen Demand (COD)	5220-B- APHA 23rd Ed.2017	mg/l	24	250
9	Chloride as Cl	4500-Cl-B- APHA 23rd Ed.2017	mg/l	102	600
10	Sulphate as SO ₄	4500- SO4 -E- APHA 23rd Ed.2017	mg/l	50	1000
11	Total Residual Chlorine	4500-Cl-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
12	Ammonical Nitrogen as N	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	50

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory

A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 1 of 3

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	CTL/CH/N-23636/2021-22 & 07.04.2022
------------------------	-------------------------------------

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
13	Total Kjeldahl Nitrogen as N	4500-N-B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
14	Free Ammonia as NH ₃	4500-NH ₃ -B,C-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	Not Specified
15	Hexavalent Chromium as Cr ⁶⁺	3500-Cr-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.01)	1
16	Boron as B	4500-B-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
17	Percent Sodium	CTL/SOP/WATER/60-2012	%	41.69	60
18	Cyanide as CN	4500-CN-C,E -APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.2
19	Fluoride as F	4500-F- B ,D-APHA 23rd Ed.2017	mg/l	0.26	2
20	Residual Sodium Carbonate	IS 11624-1986(R.2001)	meq/l	Nil	5
21	Dissolved Phosphate as P	4500-P-B,D-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified
22	Sulphide as S	4500-S ²⁻ -F-APHA 23rd Ed.2017 {Iodometric Method}	mg/l	BDL (DL:0.1)	2
23	Phenolic Compounds as C ₆ H ₅ OH	5530-B,C- APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	1
24	Nitrate Nitrogen as N	4500-NO ₃ -B-APHA 23rd Ed.2017	mg/l	3.3	Not Specified
25	Iron as Fe	3500-Fe-B- APHA 23rd Ed. 2017	mg/l	1.74	3
26	Trivalent Chromium as Cr ³⁺	3500-Cr-B-APHA 23rd Ed. 2017	mg/l	BDL(DL:0.01)	2
27	Arsenic as As	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.05)	0.2
28	Mercury as Hg	3112-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.001)	0.01
29	Lead as Pb	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
30	Cadmium as Cd	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	1
31	Total Chromium as Cr	3111-D-APHA 23rd Ed.2017	mg/l	BDL(DL:0.1)	2
32	Copper as Cu	3111-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.12)	3
33	Zinc as Zn	3111-B-APHA 23rd Ed.2017	mg/l	0.07	1.5
34	Selenium as Se	3114-B-APHA 23rd Ed.2017	mg/l	BDL(DL:0.01)	0.05
35	Nickel as Ni	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	3
36	Manganese as Mn	3111-B-APHA 23rd Ed.2017	mg/l	0.05	Not Specified
37	Vanadium as V	3111-B-APHA 23rd Ed.2017	mg/l	BDL (DL:0.1)	Not Specified

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
A. RAJKUMAR
Technical Manager
(CHEMICAL)

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Page 2 of 3

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date		CTL/CH/N-23636/2021-22 & 07.04.2022			
S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
38	Pesticide Residues**				
	Alachlor	CTL/SOP/WATER/101-2014	µg/l	Absent	Absent
	Atrazine		µg/l	Absent	
	Aldrin		µg/l	Absent	
	Dieldrin		µg/l	Absent	
	Alpha HCH		µg/l	Absent	
	Beta HCH		µg/l	Absent	
	Butachlor		µg/l	Absent	
	Chlorpyriphos		µg/l	Absent	
	Delta HCH		µg/l	Absent	
	2,4 - Dichlorophenoxyacetic acid		µg/l	Absent	
	o,p'-DDT		µg/l	Absent	
	p,p'-DDT		µg/l	Absent	
	p,p'-DDE		µg/l	Absent	
	o,p'-DDE		µg/l	Absent	
	o,p'-DDD		µg/l	Absent	
	p,p'-DDD		µg/l	Absent	
	Endosulfan alpha		µg/l	Absent	
	Endosulfan Beta		µg/l	Absent	
	Endosulfan Sulfate		µg/l	Absent	
Ethion	µg/l		Absent		
Gamma HCH (Lindane)	µg/l	Absent			
Isoproturan	µg/l	Absent			
Malathion	µg/l	Absent			
Methyl Parathion	µg/l	Absent			
Monocrotophos	µg/l	Absent			
Phorate	µg/l	Absent			
39	Bio - Assay Test #	IS 6582 (Part 1): 2001	-	No symptoms of toxicity were observed	90% survival of fish after 96 hrs in 100% effluent

BDL - Below Detection Limit; DL - Detection limit.

*(MoEF&CC ENVIRONMENT PROTECTION RULES 1986 & SUBSEQUENT AMENDMENT DATED 1st JANUARY, 2016) AND TNPCC STANDARDS.

**For Total Pesticides , Not Detected (DL:0.01µg/l) is considered as Absent; # Limit as per CPCB.

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

A. Raj Kumar
Authorised Signatory
A. RAJKUMAR
Technical Manager
(CHEMICAL)

Page 3 of 3

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MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



TC-6206

Accredited by AERB & NABL, Recognized By BIS & Notified by *fssai*

TEST REPORT

RADIOACTIVITY MEASUREMENT / TEST REPORT

ULR-TC620622000001673F

DATED: 06.04.2022

Discipline: Radiological

Ref: MBT/ RL / 027869 / 2022-23

PARTICULARS OF SAMPLE SUBMITTED

Sample Described by customer as : ETP TREATED WATER – ETP OUTLET
Customer Name : M/s.IL & FS TAMILNADU POWER CO. LTD,
Customer Address : C.PUDHUPETTAI (POST), PERANGIPETTAI,
CHIDAMBARAM TALUKA, CUDDALORE
Postal Code : 608502
State : TAMIL NADU
Country : INDIA
Customer Sample ID No : N - 22636 / 21 – 22
Sample Code No : 2204016
Sample Type : Water
Sample Received Date : 02.04.2022
Sample Qty. Recd. : 10 Liter x 1 No
Mode of Packing : 10 Liter Can x 1 No
Customer Reference : Letter Dated: 02.04.2022

Terms and Condition

This report in full or in part shall not be published, advertised, used for any legal action, unless prior permission has been secured. This test report pertains only for the sample tested and such samples are retained for 7 days (in case of perishable) and 30 days for all other samples. If there is any discrepancy / complaint received from the customer within 30 days from the date of report, sample will be kept for 30 days. The samples from regulatory bodies are to be retained as specified. Sample not drawn by laboratory.

For MONARCH BIOTECH PVT LTD



A.M. Shivakaarthick
Mg. Director

Page 1 of 2

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA

Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com

LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

FORM No.: MBT / QF / 059

Issue No.: 01

Issue Date: 06/06/14

Amend No.: NIL

Amend Date: NIL



MONARCH BIOTECH PVT. LTD.

UNIT : MONARCH NUCLEAR COUNTING LABORATORY



Accredited by AERB & NABL, Recognized By BIS & Notified by *Issai*

TEST REPORT

ULR-TC620622000001673F

DATED: 06.04.2022

Discipline: Radiological

Group: Water

PART - B: SUPPLIMENTARY INFORMATIONS:

Sample No : 2204016
 Job Card No : 27979
 Reference to sampling procedure, wherever applicable : Not Applicable
 Deviation from the test methods as prescribed in relevant ISS/Work Instructions, if any : Nil
 Testing Commenced on : 04.04.2022
 Testing Completed on : 05.04.2022

PART C: TEST RESULTS

S. No	Test Parameters	Test Method	Minimum Detectable Activity of the Instrument	Result ($\mu\text{Ci/ml}$)	Specification value Maximum As per(TNPCBNOR MS – on land for irrigation)
1.	Alpha Emitters	IS14194(part2):2013 [cl.6.3](RA2018)	MDA (3σ) 1. $46 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-8} \mu\text{Ci/ml}$
2.	Beta Emitters	IS14194(part1):2020 [cl.6.2]	MDA (3σ) 8. $11 \times 10^{-10} \mu\text{Ci/ml}$	BDL	$10^{-6} \mu\text{Ci/ml}$

MDA: Minimum Detectable Activity, BDL: Below Detection Level & Ci: Curie

PART D: REMARKS

The concentrations of the radionuclides in the water sample are within the prescribed limits of TNPCB NORMS – on land for irrigation.

The spectrum / result files are stored as part of Nuclear Counting Facility Records.

Sample return: The sample will be kept for one month and disposed-of or returned on request after one month. The samples from regulatory bodies will be retained for 3 months and disposed-of or returned.

***** End of Report *****



Page 2 of 2

H. Saravanan
 Authorised Signatory
M. SARAVANAN
 Technical Manager - Radiological

Regd. Office & Sample Collection Centre : New No. 17/1, Sadullah Street, T. Nagar, Chennai - 600 017 Tamilnadu, INDIA
 Phone : 044 - 2435 2756 / 2431 2656 / 2431 2759 Email: monarchbio@gmail.com info@monarchtestinglab.com; Website: www.monarchtestinglab.com
 LAB : 37-A, SIDCO Industrial Estate, Thirumazhisai, Chennai 600 124, Tamilnadu, INDIA. Ph: 91- 44- 2681 0052

FORM No.: MBT / QF / 059 Issue No.: 01 Issue Date: 06/06/14 Amend No.: NIL Amend Date: NIL

ANNEXURE - 3

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date		CTL/CH/N-11213/2021-22 & 21.05.2021			
Sample Number		N-11213/21-22			
Customer Name & Address		M/s. IL&FS TAMILNADU POWER CO.LTD, C.Pudhupettai(Post),Perangipettai, Chidambaram Taluka,Cuddalore - 608502.			
SAMPLE DETAILS					
Sample Description		Stack Emission Monitoring			
Sampling Method		IS 11255			
Sampled By		Chennai Testing Laboratory Pvt. Ltd.,	Sample Condition	Good	
Analysis Completion Date		21.05.2021			
SL.NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
				SAMPLING DATE	
				25.05.2021	
1	STACK ATTACHED TO	-	-	Chimney(Unit - II)	-
2	CAPACITY	-	MW	600	-
3	STACK HEIGHT	-	m	275	-
4	STACK TEMPERATURE	IS 11255 PART 3 2008	K	372.0	-
5	STACK VELOCITY	IS 11255 PART 3 2008	m/s	23.5	-
6	STACK GAS FLOW RATE	IS 11255 PART 3 2008	Nm ³ /hr	2987298.2	-
7	DIAMETER OF STACK	-	m	7.5	-
8	FROM THE GROUND LEVEL PORTHOLE HEIGHT	-	m	103	-
9	DUCT AREA	-	m ²	44.15	-
10	OXIDES OF NITROGEN (NO _x)	IS 11255 PART 7 2005	mg/Nm ³	238	300
11	SULPHUR DIOXIDE (SO ₂)	IS 11255 PART 2 1985	mg/Nm ³	129	200
12	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm ³	26.7	50
13	CARBON DIOXIDE (CO ₂)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	13.3	NA
14	CARBON MONOXIDE (CO)		mg/Nm ³	22	NA
15	OXYGEN (O ₂)		%	6.8	NA
16	TOTAL MERCURY (Hg)	EPA Method 29	mg/Nm ³	BDL(DL:0.01)	0.03

* MoEF & CC Notification Dated 7th December, 2015

BDL- Below Detection Limit , D.L-Detection Limit NA - Not Available

Instrument Calibration Details :VSS1 Stack Sampler S.No -287 DTI 2020 Due Date:13.12.2021, Kane 905 S S.No 090519403
Calibration Due Date:31.01.2022

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd


Authorised Signatory

The Report shall not be used to malign, defame and for any malicious purpose.
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A. Ramesh
Sr. Chemist
chennaitestinglab@gmail.com

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date		CTL/CH/N-14809/2021-22 & 23.08.2021			
Sample Number		N-14809/21-22			
Customer Name & Address		M/s. IL&FS TAMILNADU POWER CO.LTD, C.Pudhupettai(Post), Parangipettai, Bhuvanagiri Taluka,Cuddalore - 608502.			
SAMPLE DETAILS					
Sample Description		Stack Emission Monitoring			
Sampling Method		IS 11255			
Sampled By		Chennai Testing Laboratory Pvt. Ltd.,	Sample Condition	Good	
Analysis Completion Date		23.08.2021			
SL.NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
				SAMPLING DATE	
				17.08.2021	
1	STACK ATTACHED TO	-	-	Chimney(Unit - I)	-
2	CAPACITY	-	MW	600	-
3	STACK HEIGHT	-	m	275	-
4	STACK TEMPERATURE	IS 11255 PART 3 2008	K	359.0	-
5	STACK VELOCITY	IS 11255 PART 3 2008	m/s	19.9	-
6	STACK GAS FLOW RATE	IS 11255 PART 3 2008	Nm ³ /hr	2621273.2	-
7	DIAMETER OF STACK	-	m	7.5	-
8	FROM THE GROUND LEVEL PORTHOLE HEIGHT	-	m	103	-
9	DUCT AREA	-	m ²	44.15	-
10	OXIDES OF NITROGEN (NO _x)	IS 11255 PART 7 2005	mg/Nm ³	238	300
11	SULPHUR DIOXIDE (SO ₂)	IS 11255 PART 2 1985	mg/Nm ³	107	200
12	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm ³	15.1	50
13	CARBON DIOXIDE (CO ₂)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	12.5	NA
14	CARBON MONOXIDE (CO)		mg/Nm ³	11	NA
15	OXYGEN (O ₂)		%	6.8	NA
16	TOTAL MERCURY (Hg)	EPA Method 29	mg/Nm ³	BDL(DL:0.01)	0.03

* MoEF & CC Notification Dated 7th December, 2015

BDL- Below Detection Limit , D.L-Detection Limit NA - Not Available

Instrument Calibration Details :VSS1 Stack Sampler S.No -287 DTI 2020 Due Date:13.12.2021, Kane 905 S S.No 090519403
Calibration Due Date:31.01.2022

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

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Authorised Signatory
G. MANIKANDAN
Head - Environment Division
(CHEMICAL)

CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date		CTL/CH/N-19623/2021-22 & 30.12.2021			
Sample Number		N-19623/21-22			
Customer Name & Address		M/s. IL&FS TAMILNADU POWER CO.LTD, C.Pudhupettai(Post), Parangipettai, Bhuvanagiri Taluka,Cuddalore - 608502.			
SAMPLE DETAILS					
Sample Description		Stack Emission Monitoring			
Sampling Method		IS 11255			
Sampled By		Chennai Testing Laboratory Pvt. Ltd.,	Sample Condition	Good	
Analysis Completion Date		30.12.2021			
SL.NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
				SAMPLING DATE 22.12.2021	
1	STACK ATTACHED TO	-	-	Chimney(Unit - II)	-
2	CAPACITY	-	MW	600	-
3	STACK HEIGHT	-	m	275	-
4	STACK TEMPERATURE	IS 11255 PART 3 2008	K	371.0	-
5	STACK VELOCITY	IS 11255 PART 3 2008	m/s	23.6	-
6	STACK GAS FLOW RATE	IS 11255 PART 3 2008	Nm ³ /hr	3008096.4	-
7	DIAMETER OF STACK	-	m	7.5	-
8	FROM THE GROUND LEVEL PORTHOLE HEIGHT	-	m	103	-
9	DUCT AREA	-	m ²	44.15	-
10	OXIDES OF NITROGEN (NOx)	IS 11255 PART 7 2005	mg/Nm ³	256	300
11	SULPHUR DIOXIDE (SO ₂)	IS 11255 PART 2 1985	mg/Nm ³	161	200
12	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm ³	18.9	50
13	CARBON DIOXIDE (CO ₂)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	14.5	NA
14	CARBON MONOXIDE (CO)		mg/Nm ³	18	NA
15	OXYGEN (O ₂)		%	6.0	NA
16	TOTAL MERCURY (Hg)	EPA Method 29	mg/Nm ³	BDL(DL:0.01)	0.03

* MoEF & CC Notification Dated 7th December, 2015

BDL- Below Detection Limit , D.L-Detection Limit NA - Not Available

Instrument Calibration Details :VSS1 Stack Sampler S.No -287 DTI 2020 Due Date:16.12.2022, Kane 905 S S.No 090519403
Calibration Due Date:31.01.2022

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory

A. Ramesh

Sr. Chemist

(Chemical)

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date		CTL/CH/N-23635/2021-22 & 07.04.2022			
Sample Number		N-23635/21-22			
Customer Name & Address		M/s. IL&FS TAMILNADU POWER CO.LTD, C.Pudhupettai(Post), Parangipettai, Bhuvanagiri Taluka,Cuddalore - 608502.			
SAMPLE DETAILS					
Sample Description		Stack Emission Monitoring			
Sampling Method		IS 11255			
Sampled By		Chennai Testing Laboratory Pvt. Ltd.,	Sample Condition	Good	
Analysis Completion Date		07.04.2022			
SL.NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
				SAMPLING DATE	
				29.03.2022	
1	STACK ATTACHED TO	-	-	Chimney(Unit - I)	-
2	CAPACITY	-	MW	600	-
3	STACK HEIGHT	-	m	275	-
4	STACK TEMPERATURE	IS 11255 PART 3 2008	K	374.0	-
5	STACK VELOCITY	IS 11255 PART 3 2008	m/s	23.0	-
6	STACK GAS FLOW RATE	IS 11255 PART 3 2008	Nm ³ /hr	2908103.7	-
7	DIAMETER OF STACK	-	m	7.5	-
8	FROM THE GROUND LEVEL PORTHOLE HEIGHT	-	m	103	-
9	DUCT AREA	-	m ²	44.15	-
10	OXIDES OF NITROGEN (NOx)	IS 11255 PART 7 2005	mg/Nm ³	221	450
11	SULPHUR DIOXIDE (SO ₂)	IS 11255 PART 2 1985	mg/Nm ³	155	200
12	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm ³	19.1	50
13	CARBON DIOXIDE (CO ₂)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	13.5	NA
14	CARBON MONOXIDE (CO)		mg/Nm ³	16	NA
15	OXYGEN (O ₂)		%	6.4	NA
16	TOTAL MERCURY (Hg)	EPA Method 29	mg/Nm ³	BDL(DL:0.01)	0.03

* MoEF & CC Notification Dated 19th October, 2020

Note: The Value of SO₂, Nox & PM Corrected to 6% Oxygen

BDL- Below Detection Limit , D.L-Detection Limit NA - Not Available

Instrument Calibration Details :VSS1 Stack Sampler S.No -287 DTI 2020 Due Date:16.12.2022, Kane 905 S S.No 090519403

Calibration Due Date:03.02.2023

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

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Authorised Signatory
S. ANIKANDAN
Head - Environment Division
(CHEMICAL)