

BEFORE THE NATIONAL GREEN TRIBUNAL

SOUTHERN ZONE, CHENNAI

O.A.NO.256 OF 2020 (SZ)

IN THE MATTER OF

Tribunal on its own motion suo motu
Based on the News Item in News Desk
Magazine dated 11.11.2020, Air Pollution
And Industries, These six industries in North
Chennai are polluting the air for more than
half the year, the North Chennai Thermal Power
Station along Ennore Port
With

Union of India and others

: Respondents

TYPED SET OF PAPERS

S.T.RAJA, Advocate,
M/s.OM SAI RAM LAW FIRM LLP
Mobile No.9444027720
Counsel for the Respondent No.11

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Union of India and others : Respondents

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It is certified that the above documents are copies of the original

Dated at Chennai this the 27th day January 2023


Counsel for the Respondent No.11

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE, CHENNAI

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With

Union of India and others : Respondents

ACTION PLAN OF THE RESPONDENT NO.11 FOR AIR POLLUTION CONTROL MEASURES

I, G.Manimekalai, D/o.V.Gopal, aged about 57 years, having office at Chief Engineer, North Chennai Thermal Power Station -1, Chennai – 600 120, do hereby solemnly affirms and sincerely states as follows:-

1. I submit that I am the chief Engineer of Tamil Nadu Generation and Distribution Corporation (TANGEDCO), North Chennai Theraml Power Station -1, representing the 11th respondent herein and as such I am well acquainted with the facts fo the case from the records and I am authorized to file this action plan on behalf of the 11th respondent.

x G. Manimekalai

CHIEF ENGINEER
NORTH CHENNAI THERMAL POWER STATION
TNEB, CHENNAI-600 120.

2. I submit that in order control air pollution following measures taken by us.

Suspended Particulate Matter

1) The following maintenance works are being carried out in Electro static Precipitator during every annual overhaul to improve functioning of ESP and to maintain the particulate emission level within the norms.

i) Complete cleaning of fields by water washing.

ii) Inspection of collecting electrode and emitting electrodes, rectification of defects and alignment.

iii) Inspection of rapping mechanism CERM & EERM and renewal of worn out innerarm, outer

arm, pinwheel, shock bar pad, shock bar angle, shaft, etc.

iv) Renewal of damaged GD screen and deflector plates for proper distribution of gas.

In addition to the above , regular maintenance works are being carried out in ESP whenever unplanned shutdown of Units occur., failed fields are rectified for ensuring all fields are in service.

However, The Timeline has been arrived for Augmentation of ESPs and submitted before Hon'ble NGT on 05.05.2022 as below:

It is proposed for ESP augmentation and schedule has been arrived after Considering the time required for study ,design and Engineering of ESP augmentation, lead time for procurement of materials and obtaining planned shutdown by considering the power demand, gird position and execution time.

Description	Time Schedule		
	Unit -I	Unit-II	Unit-III
Engaging Consultant to study ESP performance. (involves Budgetary offer, estimation, tendering and fixing a consultant to study efficiency of ESP) (Under Progress)	2022-23		
Planning, getting budget allocation, estimation, Procurement and execution of augmentation of ESP in Units Overhaul.	2023-24	2024-25	2025-26

A. Manimol
CHIEF ENGINEER
NORTH CHENNAI THERMAL POWER STATION
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2) In Coal handling system, there are 42 Nos. of Conveyors to a length of 29 Kms and 26Nos. of Junction Towers available for conveying the coal from ship to Unit Bunkers. The entire Conveyors have been closed with ACC and Metal Sheets. Due to closed conveyor route , Coal dust does not get exposed to atmosphere. Accumulated Coal dust inside the conveyors are being cleaned regularly for upkeeping the system. Hence, no coal dust willbe exposed to atmosphere and no accumulation of coal dust in adjacent areas. Coal heapsare covered by tarpaulin during the rainy and windy season.

EXPENDITURE BEING INCURRED :. Rs.426.96 lakhs per annum

3) 16 Nos. of Dust Suppression (Water Sprinkling) have been installed to suppress the coal dust while transferring the coal through Conveyors from Shore Unloader to Unit Bunkers. Due to this dust suppression system, almost 70% coal dust is being controlled.

23 Nos. of Dust Extraction System are in service to extract the coal dust from the transfer Chutes with help of blowers and the same have been connected in the bag filters and then the collected coal dust will be mixed with water and dumped in a coal yard. Hence , no coal dust will be exposed to atmosphere.

EXPENDITURE BEING INCURRED :Rs.18.52 Lakhs per annum.

4) The crusher areas are in closed condition to avoid the air pollution. In Crusher area, 4 Nos. of Dust Extraction system and 4 Nos. of Dust suppression system have been provided to control the coal dust in the above area and the same is being collected in the bag filters then the collected coal dust will be mixed with water and dumped in a coal yard. Hence, no coal dust will be exposed to atmosphere.

EXPENDITURE BEING INCURRED : Rs.8.52 Lakhs per annum

5) In order to monitor the Ambient Air quality in and around NCTPS-I, it has been engaged a NABL accredited agency for conducting an Ambient air quality survey at various locations in and around NCTPS-I. The survey report shows that all the parameters are within norms (PM 2.5 (Limit-60 µg/m3), PM 10(Limit- 100 µg/m3) So2 (Limit- 80 µg/m3), No2 (Limit- 80 µg/m3)). In TNPCB's AAQ Survey report which was conducted on 21.12.2022 & 22.12.2022 in NCTPS-I Premises and surrounding area,all the parameters are within -norms (PM 2.5 (Limit-60 µg/m3), PM 10(Limit- 100 µg/m3) So2 (Limit- 80 µg/m3), No2 (Limit- 80 µg/m3)).

G. Narasimhan
 CHIEF ENGINEER
 NORTH CHENNAI THERMAL POWER STATION
 TNEB, CHENNAI-600 120.

- 6) As per TNPCB's Norms, 18,800 Nos. of trees should be planted for green belt development in respect of total power plant area of 549 Acre. It has been already planted 20,750 Nos Trees. Considering the survival no. of trees of 17640 at present, further 3,650 Nos tree sapling are planted during the Month of August-2022, September-2022 and October-2022 are being maintained.
- 7) 6,540 Nos tree saplings have been planted in ash dyke and being maintained.
- 8) In order to control dust pollution, all the roads in NCTPS-I premises are being maintained in Good condition as detailed below:

Total length of Road in NCTPS-I Premises is 13.60 KM

Black top (BT) Road = 6.50 KM

Water Bound Macadam (WBM) = 1.40 KM – (It has been proposed to replace it by concrete Road)

Cement concrete Road = 5.70 KM

Proposal for repair of existing damaged BT Road for 150 Mtr length is under process and will be completed within 2 Months.

Control Measures for Sulphur Oxides

In order to maintain the Sox level within the norms, Installation of FGD is proposed and tender was published on 23.02.2021 .

- Tender Value : Rs.328.44 Crores.
- Tender Published on : 23.02.2021
- Pre bid Meeting Conducted on : 12.03.2021
- Tender Opening date Extended Upto: 30.01.2023.

(As Clarification of pre bid queries is under process)

x *A. Manmohar*
 CHIEF ENGINEER
 NORTH CHENNAI THERMAL POWER STATION
 TNEB, CHENNAI-600 120.

Action Plan for Completion of PDFAC System and Ash Slurry Disposal System:-

Sl.No	Description	Present Status	Duration
1	Procurement of High capacity compressors for PDFAC System	Specification approved. Tender to be floated	6 Months
2	Repairing of old pipelines in the fly ash conveying system for all the three units	Under progress	As and when required
3	Renewal of worn out ASDL (Ash slurry Disposal Lines) 1,4 and 5	Administratively approved. Tender to be floated	6 Months

In view of above steps and expenses made towards controlling pollution, it is most humbly pray that this Hon'ble Tribunal may be pleased accept the action plan and pass such other or other orders as this Hon'ble Tribunal may be deem fit and proper in the circumstances of the case and thus render justice.

Solemnly affirmed at Chennai

This the 27 day of January 2023

And signed her name in my presence

A. Manoj Kumar

BEFORE ME
CHIEF ENGINEER
NORTH CHENNAI THERMAL POWER STATION
TNEB, CHENNAI-600 120. ✓

Advocate : Chennai

(6)



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

From

To

T. Thamarachelvi, M.Sc., B.Ed.,
Deputy Chief Scientific Officer,
District Environmental Laboratory, Manali
Tamil Nadu Pollution Control Board,
950/1, Poonamallee High Road,
Arumbakkam,
Chennai-106

M/s. NCTPS
Stage-I,
Athipattu,
Vallur Post,
Chennai – 600 120.

Lr.No.TNPC Bd/DEL-MNL/Air Survey/F. No. 58/2022-23, Dt. 06.01.2023

Sir,

Sub: Furnishing of Report of Analysis of Ambient Air Quality /
Stack Monitoring / Ambient Noise Level Survey – Reg.

- Ref:1. This office Lr.No. TNPCB/DEL/MNL/AAQS/SM/NLS/VOC/F.No.58/2022-23 dt. 19.07.2022
2. Your Lr. EE/E/Trg.&Res/NCTPS/F.EV5/D-194/22, dt:21.09.2022
3. Cash Receipt No. 153752 dt. 22.09.2022 Rs.1,17,573/-

I am herewith sending the Report of Analysis of Ambient Air Quality / Stack Monitoring / Ambient Noise Level Survey conducted in the vicinity of your industry on M/s. NCTPS Stage-I, Athipattu, Vallur Post, Chennai – 600 120 on 21.12.2022 with invoice for Rs.1,17,573 (Rupees One Lakh Seventeen Thousand Five Hundred and Seventy Three only) towards the above survey / analytical charges, and the same has been adjusted vide reference (3) cited.

Kindly acknowledge the receipt of the above without fail.

T. Thamarachelvi
Deputy Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali

06.01.23

Encl.: As above.

Copy submitted to:

1. The Joint Chief Environmental Engineer, TNPC Bd, Chennai for favour of kind information please.
2. The District Environmental Engineer, TNPC Bd, Ambattur for favour of kind information please.
3. Copy to file.

A. Manjula
CHIEF ENGINEER 27/1/23
NORTH CHENNAI THERMAL POWER STATION
TNEB, CHENNAI-600 120.

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TAMIL NADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

AMBIENT AIR QUALITY SURVEY – Report of Analysis

Report No. 29 / AAQS/2022-23

Date: 06.01.2023

- 1. Name of the Industry : M/s. NCTPS, Stage - I
- 2. Address of the Industry : Athipattu, Vallur Post, Chennai – 120.
- 3. Date of Survey : 21.12.2022
- 4. Duration of Survey : 8 Hours / 24 hours
- 5. Category : Red / Orange / Green – Large / Medium / Small
- 6. Land use classification : Industrial / Commercial / Residential / Sensitive

Meteorological Conditions

Ambient Temperature (°C)	Min	Max	Relative Humidity (%)	Min	Max
	25	29		70	89
Weather Condition	Partially cloudy		Rain Fall (mm)	Nil	
Predominant Wind Direction	NNE – SSW		Mean Wind Speed (km/hr)	16.9	

Ambient Air Quality Survey Results

Sl. No.	Location	Direction *	Distance (m) *	Height Form GL (m)	Pollutants Concentration (microgram / m ³)			
					PM 2.5	PM 10	SO ₂	NO ₂
1	On top of Platform Near Port Gate	N	1000	4.0	--	67	8	11
2	On top of Platform Adjacent to Coal Yard	E	300	3.0	33	91	12	16
3	On top of Platform Near Pump House	SE	600	3.0	--	72	9	13
4	On top of Platform near Main Gate Security Office	WSW	800	3.0	--	94	13	18
5	On top of Platform near Pump Room at Vallur Quarters	SW	2000	3.0	49	76	10	14
6	On top of Platform TNEB Pump House	NW	1500	3.0	--	88	11	15

Note: * With respect to major emission sources. The analytical results are restricted to the sampling period of 8 hrs/24hrs

ES 21/12/23

T. Jhamaraj 06.01.23
 Deputy Chief Scientific Officer,
 District Environmental Laboratory,
 Tamil Nadu Pollution Control Board
 Manali

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
PM2.5	IS 5182 : (Part 24) - 2019
SO ₂	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO ₂	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA:2012

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TAMILNADU POLLUTION CONTROL BOARD

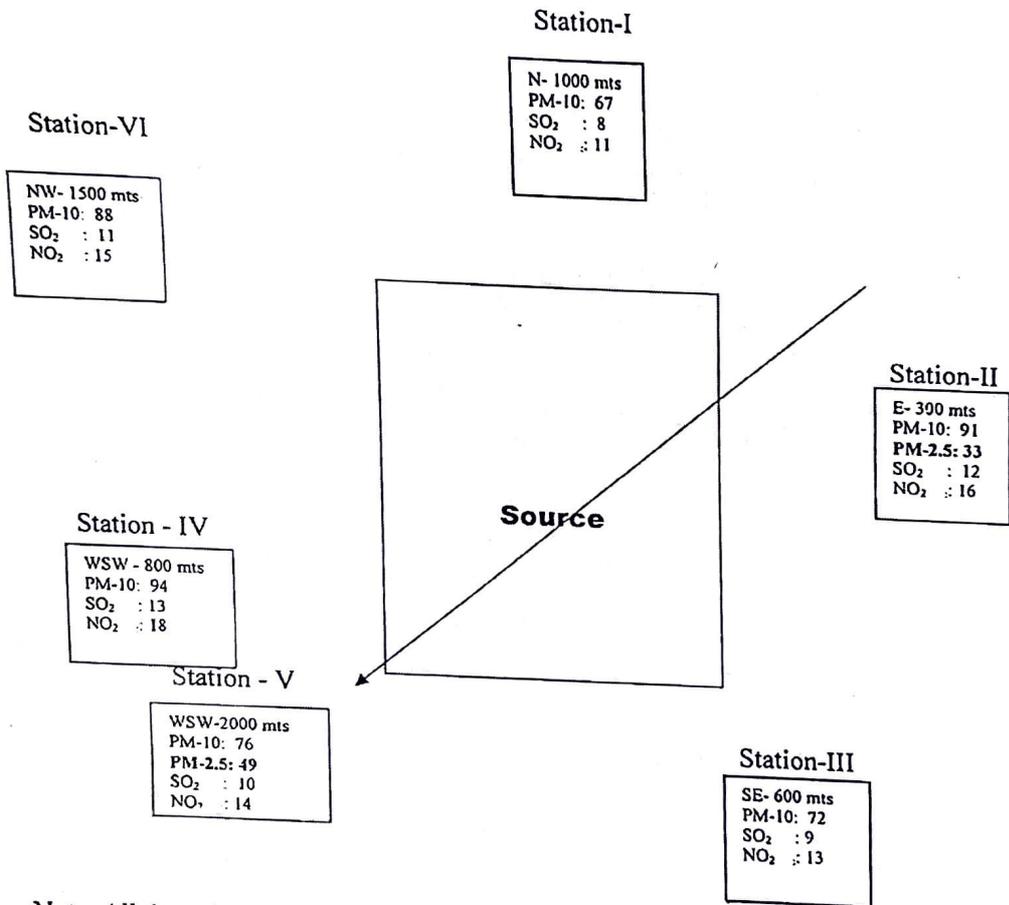
District Environmental Laboratory, Manali

AMBIENT AIR QUALITY SURVEY

Schematic Diagram Showing Location of Sampling

Report No. 29 /AAQ/SM/2022-213

- 1. Name and Address of the Industry : M/s. NCTPS, Stage - I
- 2. Date of Survey : 21.12.2012
- 3. Predominant Wind Direction : SSE to NNW
- 4. Weather condition : Clear sky



Note: All the values are expressed in $\mu\text{g}/\text{m}^3$ and restricted to sampling period of 8 hrs/24hrs

Meteorological Conditions:	
Predominant Wind Direction	NNE - SSW
Wind Speed (Km/hr)	16.9
Weather Condition	Partially Cloudy
Rainfall	Nil

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ES 6/1/23

T. Jhamarajee
Deputy Chief Scientific Officer, 06.01.23
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A. Mani Mohan
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NORTH CHENNAI THERMAL POWER STATION
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TAMIL NADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

STACK MONITORING SURVEY – Report of Analysis

Report No. 29/ SM/2022-23

Date: 06.01.2023

1. Name of the Industry : M/s. NCTPS, Stage – I,
2. Address of the Industry : Athipattu, Vallur Post, Chennai – 120.
3. Date of Survey : 21.12.2022
4. Type of Industry : Coal/Chemical/Sugar/Paper & Pulp/
Power plant / Textile Processing/Petroleum based products

Stack Monitoring Survey Results

Sl. No.	Stack attached to	Stack Temp °K	Velocity in (m/ sec)	Discharge rate In Nm ³ /hr	Pollutants (mg /Nm ³)					
					PM	SO ₂	NO _x	CO	O	CO ₂
1	UNIT – I APC-ESP	393	34	1363230	34	324	98	12.5	13.4	2.8
2	UNIT – II APC-ESP	392	33.2	1331154	46	780	256	289	12.4	10.7
3	UNIT – III APC-ESP	387	33	1340777	41	469	242	47	13.2	7.4

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
PM2.5	IS 5182 : (Part 24) - 2019
SO ₂	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO _x	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA: 2012

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TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

Stack Details

Report No. 29/AAQ/SM/2022-23

1. Name and Address of the Industry : M/s. NCTPS, Stage - I, Athipattu, Vallur Post, Chennai - 120.
2. Date of Survey : 21.12.2022

Sl. No.	Particulars	1	2	3	
1	Stack attached to	UNIT-I	UNIT-II	UNIT-II	
2	Details of Process stack	Boiler-I	Boiler-II	Boiler-III	
3	Height from Ground Level in (m)	275	275	275	
4	Diameter in (m)	4.35	4.35	4.35	
5	Port hole height from Ground Level or bends or ducts in (m)	77	77	77	
6	Fuel used (with % Sulphur content)	Coal	Coal	Coal	
7	Fuel Consumption rate per hr (mention units)	135MT	135MT	135MT	
8	Boiler type and capacity	210 MW	210MW	210MW	
9	APC measures provided	ESP	ESP	ESP	
10	APC functional status	Functional	--	Functional	
11	Composition of flue gas	CO (mg/m ³)	12.5	289	47
		CO ₂ %	2.8	10.7	7.4
		O ₂ %	13.4	12.4	13.2
12	Moisture Content in %	12	12	12	
13	Ambient temp in °K	302	303	303	
14	Temp. of flue gas in °K	393	392	387	
15	Velocity of flue gas in m/sec	34	33.2	33	
16	Volume of flue gas sampled in m ³	0.998	1.000	0.999	
17	Gaseous Discharge rate per Nm ³ /Hour	1363230	1331154	1340777	
18	Combustion efficiency %	--	--	--	

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ES 1/12/23

T. Jhamaraj
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Deputy Chief Scientific Officer,
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CHIEF ENGINEER
29/11/23
NORTH CHENNAI THERMAL POWER STATION
TNEB, CHENNAI-600 120.



TAMIL NADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

STACK MONITORING SURVEY – Additional details

Report No. 29/ SM/2022-23 Date: 06.01.2023

1. Name of the Industry : M/s. NCTPS, Stage – I
2. Address of the Industry : Athipattu, Vallur Post, Chennai – 120.
3. Date of Survey : 21.12.2022
4. Type of Industry : Coal/Chemical/Sugar/Paper & Pulp/
Power plant / Textile Processing/ Petroleum based products

Stack Monitoring Additional details

Sl. No.	Details of stack mentioned in the Air Consent order	Details of stack available and in working condition	Details of stack for which stack Emission sampling have been done	Justification for the left out of stack Emission Sampling
1.	UNIT – I APC-ESP	Working	Sampling Done	--
2.	UNIT – II APC-ESP	Working	Sampling Done	--
3.	UNIT – III APC-ESP	Working	Sampling Done	--

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ES 6/1/23

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Deputy Chief Scientific Officer,
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CHIEF ENGINEER 22/1/23
NORTH CHENNAI THERMAL POWER STATION
TNEB, CHENNAI-600 120.

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TAMIL NADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

AMBIENT/SOURCE NOISE LEVEL SURVEY - Report of Analysis

Report No. 29 / N.I.S/2022-23

Date: 06.01.2023

1.	Name of the Industry	M/s. NCTPS, Stage - I		
2.	Address of the Industry	Athipattu, Vallur Post, Chennai - 120.		
3.	Date of Survey	21.12.2022		
Category	RL	Land use Classification	Industrial	
Type of Survey	Ambient/Source	Time of Survey	Day	
Metcorological conditions		Calm/Windy/Rainy	Windy	

Logging Parameters

Instrument Used	CESVA Model SC310	Serial No	T243103	
Logging Interval	10 Minutes each point	Measuring Range	50-110 dB(A)	
Weighting	"A"	Peak Weighting	"C"	Time Weighting
				FAST
Sound Incidence	RANDOM		Time in hrs	14.00 - 15.00

Report of Noise Level Monitoring

Sl No	Location	Duration (min)	Distance (M)	Direction	Sound Level - dB (A)		
					L _{eq}	Min	Max
1	Near Silo	10	100	N	64.9	61.5	72.4
2	Near Coal Yard Sub Station	10	300	SE	59.8	54.5	67.3
3	Near Coal Yard	10	500	SE	55.6	50.4	63.5
4	Near Canteen	10	100	SE	62.5	58.3	69.8
5	Near Pump House Cooling Tower	10	200	SW	63.6	59.4	71.8
6	Near Central Admin	10	250	SSW	65.8	61.9	73.7
7	Near Main Gate	10	500	W	54.3	50.7	61.9
8	Near Car Park	10	50	NW	66.5	60.6	74.1

Note: Leq value is the average energy for the measured period.

S. Jey
ES 6/1/23

T. Jhamarajee
Deputy Chief Scientific Officer, 06.01.23
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Tamil Nadu Pollution Control Board
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A. Anandavelu
CHIEF ENGINEER
NORTH CHENNAI THERMAL POWER STATION
TNEB, CHENNAI-600 120.



TAMIL NADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

INFERENCE REPORT ON A.A.Q.S./ S.M.

- 1. Name of Industry : M/s. NCTPS, Stage – I,
Athipattu, Vallur Post, Chennai – 120.
- 2. Pollution Category : Red Large
- 3. Date of A.A.Q. Survey : 21.12.2022
- 4. Predominant Wind Direction : NNE to SSWs
- 5. Weather condition : Partially Cloudy

STATUS OF POLLUTANTS LEVEL

I. AMBIENT AIR QUALITY :-

- 1. Total No. of A.A.Q. stations monitored : 6
- 2. No. of A.A.Q. stations in which Pollutants Level exceeded the Boards standards : Nil

Maximum and Minimum values of Pollutants Level observed:

Sl. No.	POLLUTANT	Values in microgram/m ³		BOARD'S STANDARD (As per consent order)
		Maximum	Minimum	
1.	PM ₁₀	94	67	100
2.	PM _{2.5}	49	33	60
	<u>GASEOUS POLLUTANTS:-</u>			
	(i) SO ₂	13	8	80
	(ii) NO ₂	18	11	80

II. STACK MONITORING:-

- 1. Total No. of Stacks Monitored : 3
- 2. No. of Stacks in which Pollutants level Exceeded the Boards standards : Nil

S. Thy
ES 6/1/23

T. Jhamarajee
Deputy Chief Scientific Officer, 06.01.23
District Environmental Laboratory
Tamil Nadu Pollution Control Board
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C. Manivelolai
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NORTH CHENNAI THERMAL POWER STATION
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TAMIL NADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

BILL

Report No. 29/AAQ/SM/2022-23

Bill No.	29/2022-23
Date	06.01.2023

To
M/s. NCTPS, Stage - I,
Athipattu, Vallur Post, Chennai - 120.

- Ref: 1. B.PMs.No.6 Dt.31.03.2009.
 2. This office Lr.No. TNPCB/DEL/MNL/AAQS/SM/NLS /F.No.58/2022-23 dt. 19.07.2022
 3. Your Lr. EE/E/Trg.&Res/NCTPS/F.EV5/D-194/22, dt:21.09.2022
 4. Cash Receipt No. 153752 dt. 22.09.2022 Rs.1,17,573/-

Sl. No.	Description	Rate (Rs.)	No. of Stations/ Stacks	Amount (Rs.)
1.	SAMPLING CHARGES:			
	(i) Ambient Air Quality monitoring PM ₁₀	3500	6	21,000
	(ii) Source Emission Monitoring (PM, SO ₂ , NO _x etc.,)	13125	3	39,375
	(iii) Ambient Air Quality monitoring PM _{2.5}	3500	2	7,000
2.	ANALYTICAL CHARGES:			
	(i) Ambient Air Samples PM ₁₀ , SO ₂ , NO ₂ . (each Rs. 1050/-)	3150	6	18,900
	(ii) Ambient Air Samples PM _{2.5}	1800	2	3,600
	(iii) Source Emission Samples PM, SO ₂ , NO _x (each Rs.1050/-)	3150	3	9,450
3.	AMBIENT NOISE MONITORING CHARGES:			
	(i) For first 5 stations	1400	5	7,000
	(ii) For additional 3 stations	3500	3	10,500
	Transportation Charges			748
Total				1,17,573
Received Vide Std. Chartered Bank Cheque No.717338 dated 20.09.2022				1,17,573
Our CR.No. 153752 dated 22.09.2022				1,17,573
Balance				Nil

S. Ty
ES 01/1/23

T. Jhamaaice
Deputy Chief Scientific Officer, 06.01.23
District Environmental Laboratory
Tamil Nadu Pollution Control Board
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a. Manmole
CHIEF ENGINEER 27/1/23
NORTH CHENNAI THERMAL POWER STATION
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