

**FORM 5**  
[See rule 8(1) ]

**FORM OF APPLICATION FOR GRANT/RENEWAL OF REGISTRATION OF INDUSTRIAL UNITS POSSESSING ENVIRONMENTALLY SOUND MANAGEMENT FACILITIES FOR REPROCESSING/RECYCLING**

{To be submitted to the Central Pollution Control Board in triplicate by the Reprocessor / Recycler}

|    |                                                                                 |                                                                                                                                                                                                                                                           |                                   |                                 |
|----|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------|
| 1  | Name and Address of the unit :                                                  | <b>NTPC Tamilnadu Energy Company Limited</b>                                                                                                                                                                                                              |                                   |                                 |
| 2  | Name of the occupier or owner of the unit with designation, Tel / Fax:          | <b>Basuraj Goswami, CEO, NTECL, Vallur Thermal Power Project, Tel: 9650992094</b>                                                                                                                                                                         |                                   |                                 |
| 3  | Date of commissioning of the unit :                                             | <b>Unit 1: 29.11.2012, Unit 2: 25.08.2013, Unit 3: 26.02.2015</b>                                                                                                                                                                                         |                                   |                                 |
| 4. | No. of workers ( including contract labourers ) :                               | <b>2700</b>                                                                                                                                                                                                                                               |                                   |                                 |
| 5  | Consent Validity                                                                | a) Water (Prevention & Control of Pollution) Act, 1974 valid up to <b>30.6.2020</b><br>b) Air (Prevention & Control of Pollution) Act, 1981 valid up to <b>30.6.2020</b>                                                                                  |                                   |                                 |
| 6. | Product Manufactured during the last three years (Tonnes / Year )               | Year                                                                                                                                                                                                                                                      | Name of the Product               | Quantity in Metric Tonnes or KL |
|    |                                                                                 | <b>2017-18</b>                                                                                                                                                                                                                                            | <b>ELECTRIC POWER</b>             | <b>7167.74 MU</b>               |
|    |                                                                                 | <b>2018-19</b>                                                                                                                                                                                                                                            |                                   | <b>7706.87 MU</b>               |
|    |                                                                                 | <b>2019-20</b>                                                                                                                                                                                                                                            |                                   | <b>5674.72 MU</b>               |
| 7. | Raw material consumption during last three years (Tonnes/ year)                 | Year                                                                                                                                                                                                                                                      | Name of the Raw Material consumed | Quantity in Metric Tonnes or KL |
|    |                                                                                 | <b>2017-18</b>                                                                                                                                                                                                                                            | <b>COAL</b>                       | <b>5220796 MT</b>               |
|    |                                                                                 | <b>2018-19</b>                                                                                                                                                                                                                                            |                                   | <b>5604119 MT</b>               |
|    |                                                                                 | <b>2019-20</b>                                                                                                                                                                                                                                            |                                   | <b>4220729 MT</b>               |
| 8. | Manufacturing Process                                                           | Please attach manufacturing process flow diagram for each product (s) <b>Attached</b>                                                                                                                                                                     |                                   |                                 |
| 9. | Water Consumption                                                               | Industrial <b>1,30,717 m<sup>3</sup>/ day</b><br>Domestic <b>31,122 m<sup>3</sup>/day</b>                                                                                                                                                                 |                                   |                                 |
| 10 | Water Cess paid up to (date)                                                    | <b>30.06.2017 (Demand is not received from July 2017)</b>                                                                                                                                                                                                 |                                   |                                 |
| 11 | Waste water generation as per consent... <b>243000</b> .....m <sup>3</sup> /day | Industrial/Domestic<br>Actual... <b>86,894 m<sup>3</sup>/day</b> (avg. of last 3 months)                                                                                                                                                                  |                                   |                                 |
| 12 | Waste water treatment (provide flow diagram of the treatment scheme )           | Industrial <b>Attached</b><br>Domestic <b>Attached</b>                                                                                                                                                                                                    |                                   |                                 |
| 13 | Waste water discharge                                                           | Quantity <b>86,894 m<sup>3</sup>/day</b> (avg. of last 3 months)<br>Location <b>Marine Coastal Area</b><br><u>Analysis of treated waste water for parameters such as pH, BOD, COD, SS, O&amp;G and any other as stipulated by the SPCB/PCC (Attached)</u> |                                   |                                 |

### FORM 5

|     |                                                                                                                                              |                                                                                                                                                                                                                                                                                     |                                                                                                                         |                          |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 14. | <b>Air Pollution Control</b>                                                                                                                 |                                                                                                                                                                                                                                                                                     |                                                                                                                         |                          |
|     | a. Flow diagram for emission control system (s) installed for each process unit, utilities etc.                                              | <b>Attached</b>                                                                                                                                                                                                                                                                     |                                                                                                                         |                          |
|     | b. Details of facilities provided control of fugitive emission due to material handling, process, utilities etc.                             | <b>Dust Suppression, Dust Extraction</b>                                                                                                                                                                                                                                            |                                                                                                                         |                          |
|     | c. Fuel consumption                                                                                                                          | Name of fuel                                                                                                                                                                                                                                                                        | Quantity per Day/Month :                                                                                                |                          |
|     |                                                                                                                                              | <b>a) Coal</b>                                                                                                                                                                                                                                                                      | <b>3,51,727 Tonnes/Month</b>                                                                                            |                          |
|     | d. Stack emission monitoring results                                                                                                         | Stack attached to:                                                                                                                                                                                                                                                                  | Emissions (for SPM, SO <sub>2</sub> , NO <sub>x</sub> and Metals (like Pb etc.) in particulates in mg/Nm <sup>3</sup> ) |                          |
|     |                                                                                                                                              |                                                                                                                                                                                                                                                                                     | <b>Attached</b>                                                                                                         |                          |
|     | e. Ambient air quality                                                                                                                       | Ambient air quality location:                                                                                                                                                                                                                                                       | Parameters (SPM, SO <sub>2</sub> , NO <sub>x</sub> , Pb, any other ) in µg/ m <sup>3</sup>                              |                          |
|     |                                                                                                                                              |                                                                                                                                                                                                                                                                                     | <b>Attached</b>                                                                                                         |                          |
| 15. | <b>Hazardous waste management :</b>                                                                                                          |                                                                                                                                                                                                                                                                                     |                                                                                                                         |                          |
|     | a. Waste generation :                                                                                                                        | Sl. No.                                                                                                                                                                                                                                                                             | Name                                                                                                                    | Category                 |
|     |                                                                                                                                              |                                                                                                                                                                                                                                                                                     |                                                                                                                         | Quantity ( last 3 years) |
|     |                                                                                                                                              | <b>1</b>                                                                                                                                                                                                                                                                            | <b>Spent Oil</b>                                                                                                        | <b>Recyclable</b>        |
|     |                                                                                                                                              |                                                                                                                                                                                                                                                                                     |                                                                                                                         | <b>68,040 Litres</b>     |
|     | b. Details on collection , treatment and transport :                                                                                         | <b>Recovery and reuse by CPCB registered facility</b>                                                                                                                                                                                                                               |                                                                                                                         |                          |
|     | c. Disposal                                                                                                                                  | <b>Selling to CPCB registered facility</b>                                                                                                                                                                                                                                          |                                                                                                                         |                          |
|     | (i) Please attach Details of the disposal facilities                                                                                         | <b>Not Applicable</b>                                                                                                                                                                                                                                                               |                                                                                                                         |                          |
|     | (ii) Please attach analysis report of characterisation of hazardous waste generated (including leachate test if applicable)                  | <b>Not Applicable</b>                                                                                                                                                                                                                                                               |                                                                                                                         |                          |
| 16. | Details of hazardous wastes proposed to be acquired through sale/negotiation/ contract or import as the case may be for use as raw material. | 1. Name <b>Nil</b><br>2. Quantity required per year<br>3. Waste listing & No. in Annex VIII (List A)/ Annex IX (List B) of Basel Convention (BC)<br>4. Hazard Characteristic as per Annex III of BC                                                                                 |                                                                                                                         |                          |
| 17  | Occupational safety and Health aspects                                                                                                       | 1. Acoustic enclosures are provided for Turbo-generators and DG sets to reduce noise level.<br>2. Ear plugs and ear muffs are issued to people working in noise prone areas.<br>3. Medical examination is done for employees as well as contract workers working in hazardous area. |                                                                                                                         |                          |

**FORM 5**

|    |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                  |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                                               | <p>4. Water sprays and dry fog dust suppression system is used in coal conveyors to reduce dust</p> <p>5. Water monitors are provided at coal stack yard and water is regularly sprayed on coal stacks.</p>                                                                      |
| 18 | Remarks                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                  |
|    | (i) whether industry has provided adequate pollution control system/ equipment to meet the standards of emission/effluent.                                                                    | <b>Yes</b>                                                                                                                                                                                                                                                                       |
|    | (ii) whether HW collection and Treatment , Storage and Disposal Facility (TSDF) are operating satisfactorily.                                                                                 | <b>Yes</b>                                                                                                                                                                                                                                                                       |
|    | (iii) Whether conditions exists or likely to exists of the hazardous waste being handled /processed of posing immediate or delayed adverse impacts on the Environment.                        | --                                                                                                                                                                                                                                                                               |
|    | (iv) Whether conditions exists or is likely to exists of the wastes being handled / processed by any means capable of yielding another material eg , leachate which may possess eco-toxicity. | --                                                                                                                                                                                                                                                                               |
| 19 | Any other Information                                                                                                                                                                         |                                                                                                                                                                                                                                                                                  |
| 20 | List of enclosures as per rule                                                                                                                                                                | <p><b>1. Flow Diagram – Production</b></p> <p><b>2. Flow Diagram – Waste Water Treatment</b></p> <p><b>3. Effluent Analysis Report</b></p> <p><b>4. Flow Diagram – Emission Control</b></p> <p><b>5. Stack Monitoring Report</b></p> <p><b>6. Ambient Air Quality Report</b></p> |

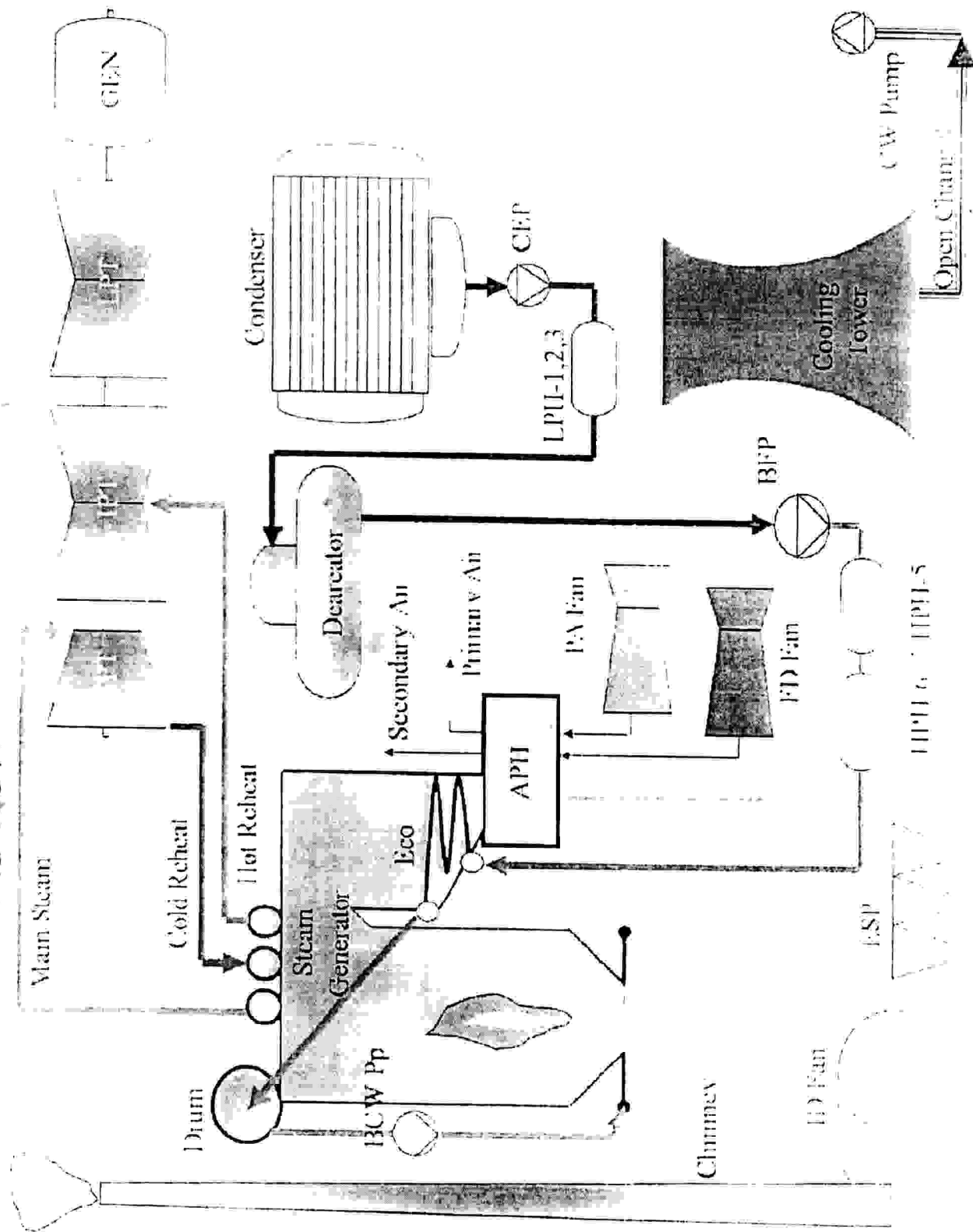
Signature :   
Designation : Additional General Manager (EMG)

**Date: 28.04.2020**  
**Place: NTECL Vallur**

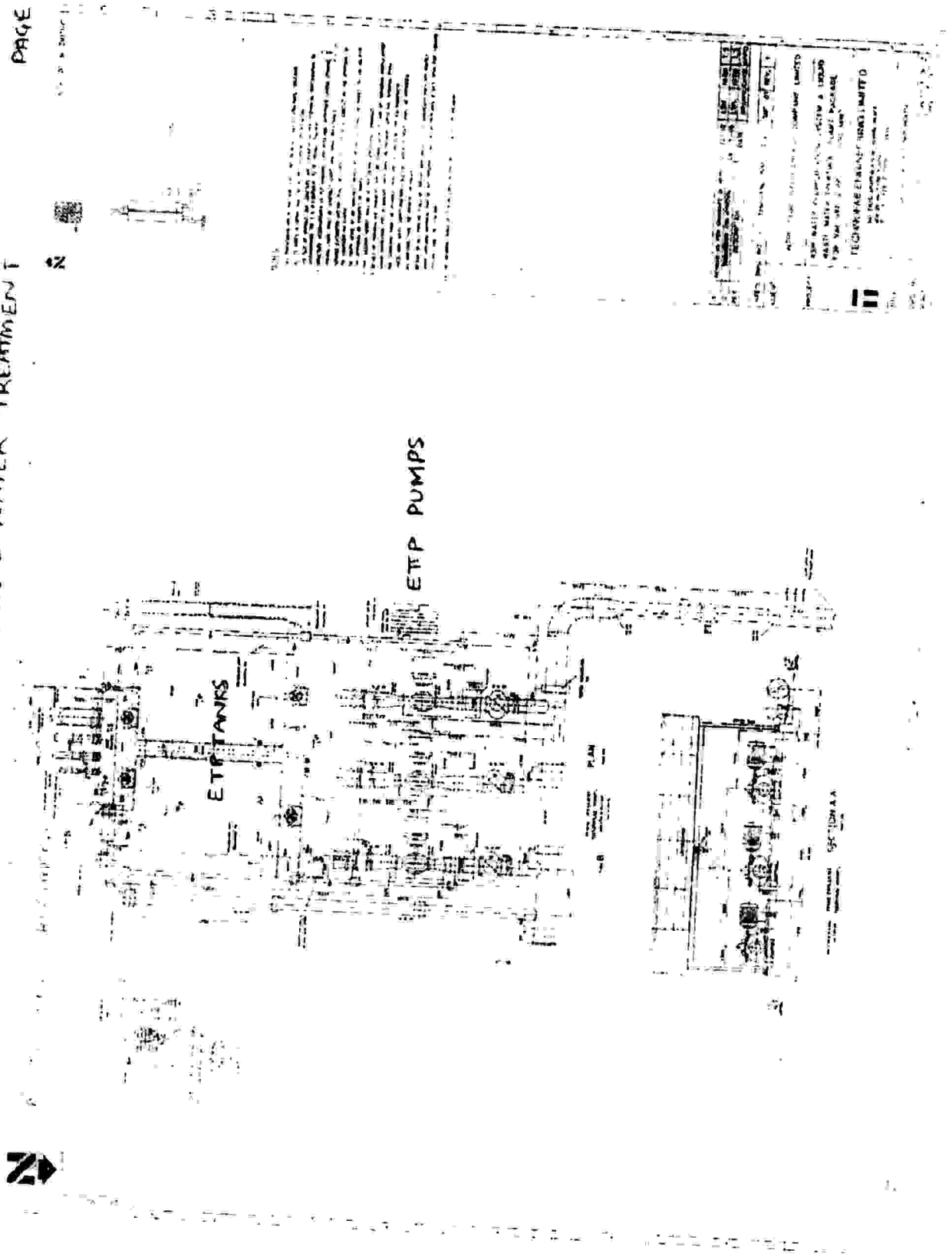
**P.S.U. NAIR**  
Addl. General Manager (EMG&AU)  
NTPC Tamilnadu Energy Company Ltd.  
Vallur Thermal Power Project,  
P.O.: Vellivoyal Chavadi, Chennai-600 103.

# ANNEXURE 1: PRODUCTION OF ELECTRIC POWER

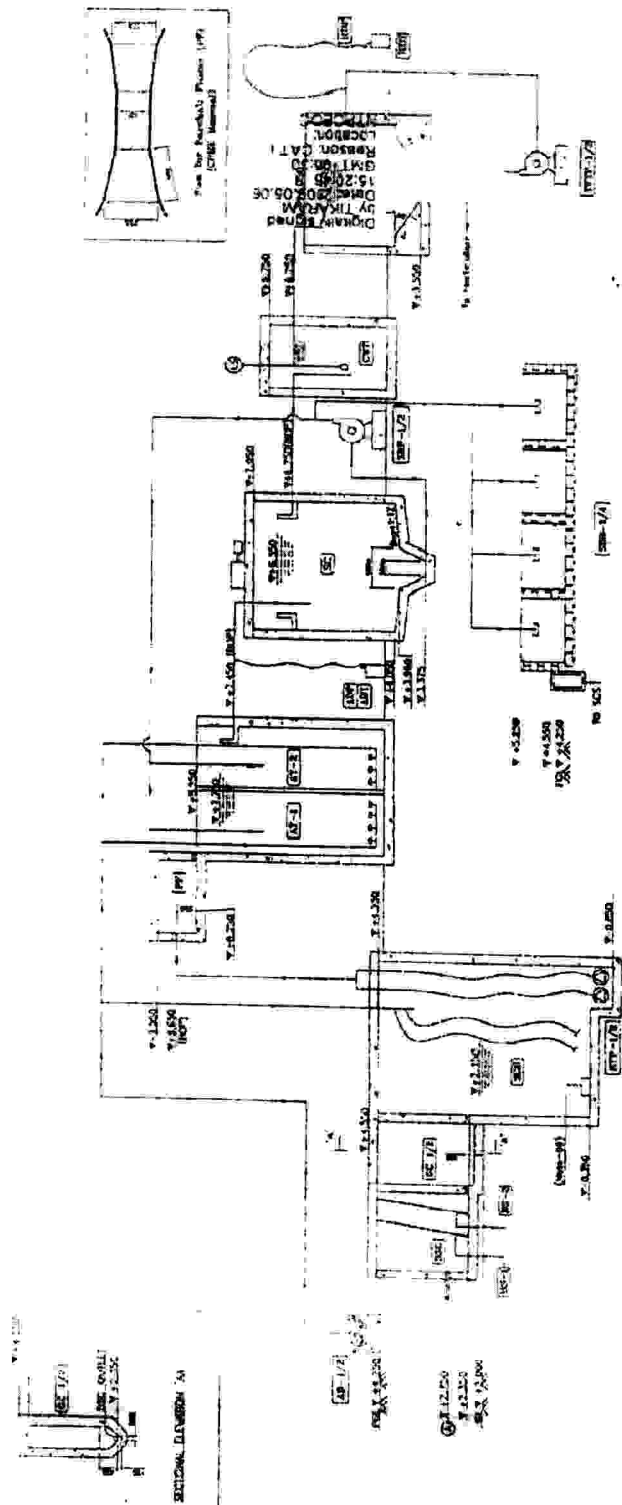
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# ANNEX II 75 KL/D SEWAGE TREATMENT PLANT PAGE 2 OF 3



NTPC DRG NO : 0260-003-PVC-C-107-SH-01.

## Legend:

A : Sewage Inlet

## List of Mechanical Equipment :-

| Tag     | Description                     | Size/Capacity                     | MOC    | QTY   | Remarks     |
|---------|---------------------------------|-----------------------------------|--------|-------|-------------|
| AB 1/2  | Air Blower 1/2                  | 95.0 M <sup>3</sup> /hr @ 4.5 mwc | CI     | 2 Nos |             |
| SRP 1/2 | Sludge Recirculation Pump 1/2   | 3.75 M <sup>3</sup> /hr @ 12 mwc  | CI     | 2 Nos |             |
| WTP 1/2 | Treated Water Transfer Pump 1/2 | 10.0 M <sup>3</sup> /hr @ 30 mwc  | CI     | 2 Nos |             |
| HDP     | Hypo Dosing Pump                | 0 - 2 Lph                         | PP     | 1 No  |             |
| HDT     | Hypo Dosing Tank                | 50 Ltrs                           | HDPE   | 1 No  |             |
| ADP     | Alum Dosing Pump                | 0 - 2 Lph                         | PP     | 1 No  |             |
| ADT     | Alum Dosing Tank                | 50 Ltrs                           | HDPE   | 1 No  |             |
| STP 1/2 | Sewage Transfer Pump 1/2        | 3.75 M <sup>3</sup> /hr @ 10 mwc  | SS 304 | 2 Nos | Submersible |
| BS - 2  | Bar Screen 2                    | 840 x 1800 H (10mm Spacing)       | MS/SP  | 1 No  |             |
| BS - 1  | Bar Screen -                    | 840 x 1800 H (20 mm Spacing)      | MS/SP  | 1 No  |             |

## List of Civil Equipment :-

| Tag     | Description            | Size/Capacity                      | MOC   | QTY   | Remarks |
|---------|------------------------|------------------------------------|-------|-------|---------|
| LAB     | Laboratory             | 5000 x 5000 x 3000 HL              | Brick | 1 No  |         |
| MCC     | Mcc Room               | 5000 x 3500 x 3000 HL              | Brick | 1 No  |         |
| SDB 1/4 | Sludge Drying Bed 1/4  | 4000 x 4000 x 1000 HL              | Brick | 4 Nos |         |
| FP      | Fish Pond Bottom Size  | 8500 x 2500                        | Earth | 1 No  |         |
| FP      | Fish Pond Top Size     | 16000 x 6400                       | Earth | 1 No  |         |
| CWT     | Clarified Water Tank   | 1500 x 1500 x (2000 SMD + 500 FB)  | RCC   | 1 No  |         |
| SC      | Secondary Clarifier    | 3000 Dia x (2500 SMD + 500 FB)     | RCC   | 1 No  |         |
| AT - 2  | Aeration Tank - 2      | 1900 x 3800 x (3500 SMD + 500 FB)  | RCC   | 1 No  |         |
| AT - 1  | Aeration Tank - 1      | 1900 x 3800 x (3500 SMD + 500 FB)  | RCC   | 1 No  |         |
| PF      | Poroshal Fume          | 1700 x 255 x (400 SMD + 200 FB)    | RCC   | 1 No  |         |
| SCS     | Sewage Collection Sump | 3800 x 3250 x (2500 SMD + 2250 FB) | RCC   | 1 No  |         |
| GC 1/2  | Gril Chamber 1/2       | 1500 x 600 x 2100 HL               | RCC   | 2 Nos |         |
| BSC     | Bar Screen Chamber     | 7000 x 600 x (400 SMD + 1500 FB)   | RCC   | 1 No  |         |



Annexure - III

EFFLUENT ANALYSIS REPORT



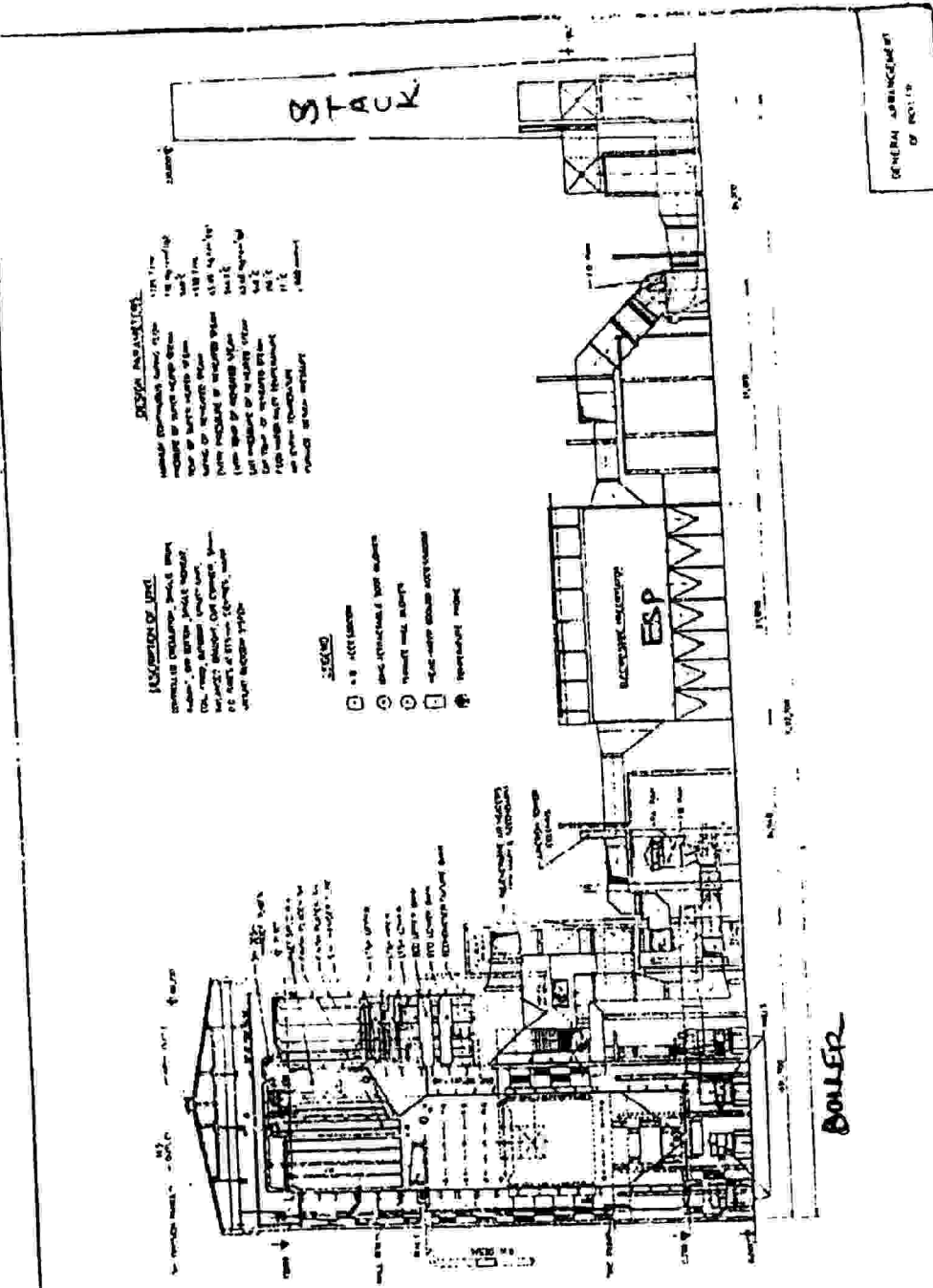
NTPC Tamilnadu Energy Company Ltd

| Water Analysis March-2020 |                                          |            |           |            |      |
|---------------------------|------------------------------------------|------------|-----------|------------|------|
| No                        | Parameters                               | Units      | Sea Water | Effluent   |      |
|                           |                                          |            |           | Main Plant | STP  |
| 1                         | pH at 25 Deg C                           |            | 8.0       | 8.1        | 7.6  |
| 2                         | Turbidity                                | NTU        | 2.9       | 6.0        | ---  |
| 3                         | Oil & Grease                             | mg/l       | BDL       | Nil        | ---  |
| 4                         | Total Suspended Solids                   | mg/l       | 20.2      | 33         | 22.1 |
| 5                         | Conductivity                             | $\mu$ S/cm | 53173     | 68015      | ---  |
| 6                         | Total Dissolved Solids                   | mg/l       | 38285     | 49046      | ---  |
| 7                         | Total Hardness, as CaCO <sub>3</sub>     | mg/l       | 6307      | 7860       | ---  |
| 8                         | Calcium Hardness, as CaCO <sub>3</sub>   | mg/l       | 1000      | 1250       | ---  |
| 9                         | Magnesium Hardness, as CaCO <sub>3</sub> | mg/l       | 5307      | 6693       | ---  |
| 10                        | Chlorides                                | mg/l       | 18816     | 23682      | ---  |
| 11                        | Total Alkalinity, as CaCO <sub>3</sub>   | mg/l       | 109       | 122        | ---  |
| 12                        | Chemical Oxygen Demand                   | mg/l       | 127       | 150        | ---  |
| 13                        | Biological Oxygen Demand                 | mg/l       | 3         | 5          | 7    |
| 14                        | Sulphate                                 | mg/l       | 2256      | 2791       | ---  |
| 15                        | Temperature                              | Deg C      | 29.9      | 31.9       | ---  |

B. Srinivasa Rao  
AGM (Chem)



# ANNEX IV FLOW DIAGRAM - EMISSION CONTROL



**NTPC Tamilnadu Energy Company Limited  
O&M Chemistry**

Date: 02.04.2020

**Stack Monitoring Report**

| Date of Sampling                                                                       | 11.03.2020 | 17.03.2020 | 17.03.2020 |
|----------------------------------------------------------------------------------------|------------|------------|------------|
| Unit                                                                                   | 1          | 1          | 2          |
| Load                                                                                   | 284        | 273        | 274        |
| ESP Fields in service                                                                  | 79         | 79         | 76         |
| <b>Flue Gas Composition</b>                                                            |            |            |            |
| CO <sub>2</sub> (%)                                                                    | 10.4       | 10.5       | 10.1       |
| O <sub>2</sub> (%)                                                                     | 7.0        | 8.5        | 9.3        |
| CO (%)                                                                                 | 0          | 0          | 0          |
| N <sub>2</sub> (%)                                                                     | 82.6       | 81         | 80.6       |
| Flue Gas Temperature (deg C)                                                           | 124        | 121        | 136        |
| Stack Gas Velocity (m/s)                                                               | 22.0       | 27.7       | 21.4       |
| <b>Suspended Particulate Matter, SPM (mg/nm<sup>3</sup>) on 6% O<sub>2</sub> basis</b> | 27.7       | 18.1       | 44.1       |
| <b>Sulphur Oxides, SOX (mg/Nm<sup>3</sup>) on 6% O<sub>2</sub> basis</b>               | 1154       | 1582       | 1784       |
| <b>Nitrogen Oxides, NOX (mg/Nm<sup>3</sup>) on 6% O<sub>2</sub> basis</b>              | 481        | 639        | 786        |

  
**B. Srinivasa Rao**  
**AGM (Chem)**

**Hubert Enviro Care Systems (P) Ltd.**

# 18, 92nd Street, Ashok Nagar,

Chennai - 600 083.

Ph: 42985555 Fax : 42985500

E-mail : labsales@hecs.in

**Laboratory Services Division**

(Chemical &amp; Biological Testing)

Recognized by MoEF, BIS

FSSAI Notified Laboratory

ISO 9001, 14001 &amp; OHSAS 18001 Certified.

**TEST REPORT**

Page: 1 of 1

Name of the Client : M/s. NTPC Tamilnadu Energy Company Ltd.,  
Address of the Client : Site Office, Vellivoyalchavadi Post, Ponneri Taluk,  
Chennai-600103.

Report No. : HECSL/AA/1/030320

Report Date : 10/03/2020

Sample Description : Ambient Air Quality  
Sampling Location : Near Vichoor  
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd  
Sampling/received Date : 02/03/2020 - 03/03/2020  
Analysis Commenced On : 03/03/2020

Completed On : 09/03/2020

| S.No. | Parameters                                          | Units                    | Results Obtained | Test Method                    | NAAQ Standards : 2009 |               |
|-------|-----------------------------------------------------|--------------------------|------------------|--------------------------------|-----------------------|---------------|
| 1     | Sulphur Dioxide                                     | $\mu\text{g}/\text{m}^3$ | 11.48            | CPCB guide lines Volume 1:2012 | 80 (24 hours)         | 50 (Annual)   |
| 2     | Nitrogen Dioxide                                    | $\mu\text{g}/\text{m}^3$ | 20.27            | IS: 5182 (P-6):2006            | 80 (24 hours)         | 40 (Annual)   |
| 3     | Particulate Matter Size Less than $10 \mu\text{m}$  | $\mu\text{g}/\text{m}^3$ | 52.57            | IS: 5182 (P-23):2006           | 100 (24 hours)        | 60 (Annual)   |
| 4     | Particulate Matter Size Less than $2.5 \mu\text{m}$ | $\mu\text{g}/\text{m}^3$ | 21.22            | HECS/AIR/SOP/003 : 2017        | 60 (24 hours)         | 40 (Annual)   |
| 5     | Carbon Monoxide                                     | $\text{mg}/\text{m}^3$   | BLQ(LOQ0.05)     | IS : 5182 (P-10) 1999          | 4 (1 hours)           | 2 (8 hours)   |
| 6     | Lead                                                | $\mu\text{g}/\text{m}^3$ | BLQ(LOQ0.05)     | IS. 5182 (P-22): 2004          | 1 (24 hours)          | 0.5 (Annual)  |
| 7     | Ozone                                               | $\mu\text{g}/\text{m}^3$ | 12.56            | HECS/AIR/AMBIENT/SOP/007 :2013 | 180 (1 hours)         | 100 (8 hours) |
| 8     | Ammonia                                             | $\mu\text{g}/\text{m}^3$ | 6.71             | HECS/AIR/AMBIENT/SOP/006 :2013 | 400 (24 hours)        | 100 (Annual)  |
| 9     | Benzene                                             | $\mu\text{g}/\text{m}^3$ | BLQ(LOQ1)        | IS. 5182 (P-11):2006           | 5 (Annual)            | 5 (Annual)    |
| 10    | Benzo(a)pyrene                                      | $\text{ng}/\text{m}^3$   | BLQ(LOQ1)        | IS: 5182 (P-12): 2004          | 1 (Annual)            | 1 (Annual)    |
| 11    | Arsenic                                             | $\text{ng}/\text{m}^3$   | BLQ(LOQ2)        | HECS/AIR/AMBIENT/009:2013      | 6 (Annual)            | 6 (Annual)    |
| 12    | Nickel                                              | $\text{ng}/\text{m}^3$   | BLQ(LOQ10)       | HECS/AIR/AMBIENT/009:2013      | 20 (Annual)           | 20 (Annual)   |

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification,  $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter,  $\text{mg}/\text{m}^3$ - Milligrams per cubic meter,  $\text{ng}/\text{m}^3$ - Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



Authorized Signatory

**Dr. P. ELAIYARAJU**  
Assistant Manager

1. The report in full or part shall not be used for any promotional or publicity purpose without written consent by HECS organization. 2. Samples are not drawn by HECS unless or otherwise mentioned. 3. Unless specifically requested by customer the test items will not be retained more than 15 days from the date of issue of test report. 4. Under no circumstances lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issue of test report. 5. The test results relate only to the test items. 6. # not under scope of accreditation.

HECS/Q/FMT/50

**Hubert Enviro Care Systems (P) Ltd.**

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**TEST REPORT**

Page : 1 of 1

Name of the Client : M/s. NTPC Tamilnadu Energy Company Ltd.,  
Address of the Client : Site Office, Vellivoyalchavadi Post, Ponneri Taluk,  
Chennai-600103.

Report No. : HECSL/AA/2/030320  
Report Date : 10/03/2020

Sample Description : Ambient Air Quality  
Sampling Location : Near Kondakkara  
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd  
Sampling/received Date : 02/03/2020 - 03/03/2020  
Analysis Commenced On : 03/03/2020

Completed On : 09/03/2020

| S.No. | Parameters                                          | Units                    | Results Obtained | Test Method                    | NAAQ Standards : 2009 |               |
|-------|-----------------------------------------------------|--------------------------|------------------|--------------------------------|-----------------------|---------------|
| 1     | Sulphur Dioxide                                     | $\mu\text{g}/\text{m}^3$ | 14.58            | CPCB guide lines Volume 1:2012 | 80 (24 hours)         | 50 (Annual)   |
| 2     | Nitrogen Dioxide                                    | $\mu\text{g}/\text{m}^3$ | 22.17            | IS: 5182 (P-6):2006            | 80 (24 hours)         | 40 (Annual)   |
| 3     | Particulate Matter Size Less than $10 \mu\text{m}$  | $\mu\text{g}/\text{m}^3$ | 51.31            | IS: 5182 (P-23):2006           | 100 (24 hours)        | 60 (Annual)   |
| 4     | Particulate Matter Size Less than $2.5 \mu\text{m}$ | $\mu\text{g}/\text{m}^3$ | 24.95            | HECS/AIR/SOP/003, 2017         | 60 (24 hours)         | 40 (Annual)   |
| 5     | Carbon Monoxide                                     | $\text{mg}/\text{m}^3$   | BLQ(LOQ0.05)     | IS : 5182 (P-10) 1999          | 4 (1 hours)           | 2 (8 hours)   |
| 6     | Lead                                                | $\mu\text{g}/\text{m}^3$ | BLQ(LOQ0.05)     | IS: 5182 (P-22): 2004          | 1 (24 hours)          | 0.5 (Annual)  |
| 7     | Ozone                                               | $\mu\text{g}/\text{m}^3$ | 10.32            | HECS/AIR/AMBIENT/SOP/007 :2013 | 180 (1 hours)         | 100 (8 hours) |
| 8     | Ammonia                                             | $\mu\text{g}/\text{m}^3$ | 7.63             | HECS/AIR/AMBIENT/SOP/006 :2013 | 400 (24 hours)        | 100 (Annual)  |
| 9     | Benzene                                             | $\mu\text{g}/\text{m}^3$ | BLQ(LOQ1)        | IS: 5182 (P-11):2006           | 5 (Annual)            | 5 (Annual)    |
| 10    | Benzo(a)pyrene                                      | $\text{ng}/\text{m}^3$   | BLQ(LOQ1)        | IS: 5182 (P-12): 2004          | 1 (Annual)            | 1 (Annual)    |
| 11    | Arsenic                                             | $\text{ng}/\text{m}^3$   | BLQ(LOQ2)        | HECS/AIR/AMBIENT/009:2013      | 6 (Annual)            | 6 (Annual)    |
| 12    | Nickel                                              | $\text{ng}/\text{m}^3$   | BLQ(LOQ10)       | HECS/AIR/AMBIENT/009:2013      | 20 (Annual)           | 20 (Annual)   |

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification,  $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter,  $\text{mg}/\text{m}^3$ - Milligrams per cubic meter,  $\text{ng}/\text{m}^3$ - Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



Authorized Signatory  
**Dr. P. ELAIYARAJU**  
Assistant Manager

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HECS/Q/FMT/50

**Hubert Enviro Care Systems (P) Ltd.**

# 18, 92nd Street, Ashok Nagar,  
Chennai - 600 083,  
Ph: 42985555 Fax : 42985500  
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**Laboratory Services Division**

(Chemical &amp; Biological Testing)

Recognized by MoEF, BIS

FSSAI Notified Laboratory

ISO 9001, 14001 &amp; OHSAS 18001 Certified.

**TEST REPORT**

Page: 1 of 1

Name of the Client : M/s. NTPC Tamilnadu Energy Company Ltd.,  
Address of the Client : Site Office, Vellivoyalchavadi Post, Ponneri Taluk,  
Chennai-600103,

Report No. : HECSL/AA/3/030320

Report Date : 10/03/2020

Sample Description : Ambient Air Quality  
Sampling Location : Near Athipattu  
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd  
Sampling/received Date : 02/03/2020 - 03/03/2020  
Analysis Commenced On : 03/03/2020

Completed On : 09/03/2020

| S.No. | Parameters                                          | Units                    | Results Obtained | Test Method                    | NAAQ Standards : 2009 |               |
|-------|-----------------------------------------------------|--------------------------|------------------|--------------------------------|-----------------------|---------------|
| 1     | Sulphur Dioxide                                     | $\mu\text{g}/\text{m}^3$ | 15.26            | CPCB guide lines Volume 1:2012 | 80 (24 hours)         | 50 (Annual)   |
| 2     | Nitrogen Dioxide                                    | $\mu\text{g}/\text{m}^3$ | 23.64            | IS: 5182 (P-6):2006            | 80 (24 hours)         | 40 (Annual)   |
| 3     | Particulate Matter Size Less than 10 $\mu\text{m}$  | $\mu\text{g}/\text{m}^3$ | 54.18            | IS: 5182 (P-23):2006           | 100 (24 hours)        | 60 (Annual)   |
| 4     | Particulate Matter Size Less than 2.5 $\mu\text{m}$ | $\mu\text{g}/\text{m}^3$ | 26.20            | HECS/AIR/SOP/003 : 2017        | 60 (24 hours)         | 40 (Annual)   |
| 5     | Carbon Monoxide                                     | $\text{mg}/\text{m}^3$   | BLQ(LOQ0.05)     | IS : 5182 (P-10) 1999          | 4 (1 hours)           | 2 (8 hours)   |
| 6     | Lead                                                | $\mu\text{g}/\text{m}^3$ | BLQ(LOQ0.05)     | IS: 5182 (P-22): 2004          | 1 (24 hours)          | 0.5 (Annual)  |
| 7     | Ozone                                               | $\mu\text{g}/\text{m}^3$ | 11.58            | HECS/AIR/AMBIENT/SOP/007 :2013 | 180 (1 hours)         | 100 (8 hours) |
| 8     | Ammonia                                             | $\mu\text{g}/\text{m}^3$ | 5.72             | HECS/AIR/AMBIENT/SOP/006 :2013 | 400 (24 hours)        | 100 (Annual)  |
| 9     | Benzene                                             | $\mu\text{g}/\text{m}^3$ | BLQ(LOQ1)        | IS: 5182 (P-11):2006           | 5 (Annual)            | 5 (Annual)    |
| 10    | Benzo(a)pyrene                                      | $\text{ng}/\text{m}^3$   | BLQ(LOQ1)        | IS: 5182 (P-12): 2004          | 1 (Annual)            | 1 (Annual)    |
| 11    | Arsenic                                             | $\text{ng}/\text{m}^3$   | BLQ(LOQ2)        | HECS/AIR/AMBIENT/009:2013      | 6 (Annual)            | 6 (Annual)    |
| 12    | Nickel                                              | $\text{ng}/\text{m}^3$   | BLQ(LOQ10)       | HECS/AIR/AMBIENT/009:2013      | 20 (Annual)           | 20 (Annual)   |

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification,  $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter,  $\text{mg}/\text{m}^3$ - Milligrams per cubic meter,  $\text{ng}/\text{m}^3$ - Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



Authorized Signatory  
**Dr. P. ELAIYARAJU**  
Assistant Manager

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**TEST REPORT**

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Name of the Client : M/s. NTPC Tamilnadu Energy Company Ltd.,  
Address of the Client : Site Office, Vellivoyalchavadi Post, Ponneri Taluk,  
Chennai-600103,

Report No. : HECSL/AA/4/030320

Report Date : 10/03/2020

Sample Description : Ambient Air Quality  
Sampling Location : Near Kathivakkam  
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd  
Sampling/received Date : 02/03/2020 - 03/03/2020  
Analysis Commenced On : 03/03/2020

Completed On : 09/03/2020

| S.No. | Parameters                               | Units | Results<br>Obtained | Test Method                    | NAAQ Standards : 2009 |               |
|-------|------------------------------------------|-------|---------------------|--------------------------------|-----------------------|---------------|
| 1     | Sulphur Dioxide                          | µg/m³ | 12.73               | CPCB guide lines Volume 1:2012 | 80 (24 hours)         | 50 (Annual)   |
| 2     | Nitrogen Dioxide                         | µg/m³ | 23.61               | IS: 5182 (P-6):2006            | 80 (24 hours)         | 40 (Annual)   |
| 3     | Particulate Matter Size Less than 10 µm  | µg/m³ | 53.45               | IS: 5182 (P-23):2006           | 100 (24 hours)        | 60 (Annual)   |
| 4     | Particulate Matter Size Less than 2.5 µm | µg/m³ | 22.46               | HECS/AIR/SOP/003 : 2017        | 60 (24 hours)         | 40 (Annual)   |
| 5     | Carbon Monoxide                          | mg/m³ | BLQ(LOQ0.05)        | IS : 5182 (P-10) 1999          | 4 (1 hours)           | 2 (8 hours)   |
| 6     | Lead                                     | µg/m³ | BLQ(LOQ0.05)        | IS: 5182 (P-22): 2004          | 1 (24 hours)          | 0.5 (Annual)  |
| 7     | Ozone                                    | µg/m³ | 12.53               | HECS/AIR/AMBIENT/SOP/007 :2013 | 180 (1 hours)         | 100 (8 hours) |
| 8     | Ammonia                                  | µg/m³ | 6.45                | HECS/AIR/AMBIENT/SOP/006 :2013 | 400 (24 hours)        | 100 (Annual)  |
| 9     | Benzene                                  | µg/m³ | BLQ(LOQ1)           | IS: 5182 (P-11):2006           | 5 (Annual)            | 5 (Annual)    |
| 10    | Benzo(a)pyrene                           | ng/m³ | BLQ(LOQ1)           | IS: 5182 (P-12): 2004          | 1 (Annual)            | 1 (Annual)    |
| 11    | Arsenic                                  | ng/m³ | BLQ(LOQ2)           | HECS/AIR/AMBIENT/009:2013      | 6 (Annual)            | 6 (Annual)    |
| 12    | Nickel                                   | ng/m³ | BLQ(LOQ10)          | HECS/AIR/AMBIENT/009:2013      | 20 (Annual)           | 20 (Annual)   |

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m³- Micrograms per cubic meter, mg/m³- Milligrams per cubic meter, ng/m³- Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



  
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