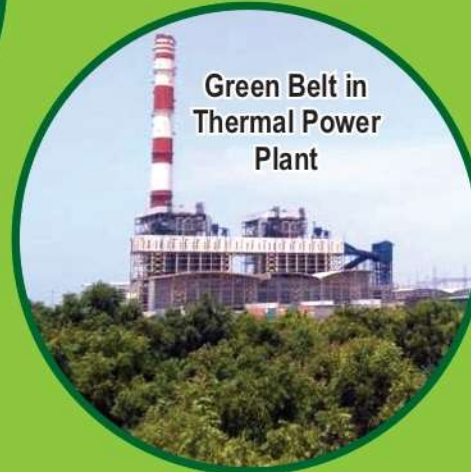
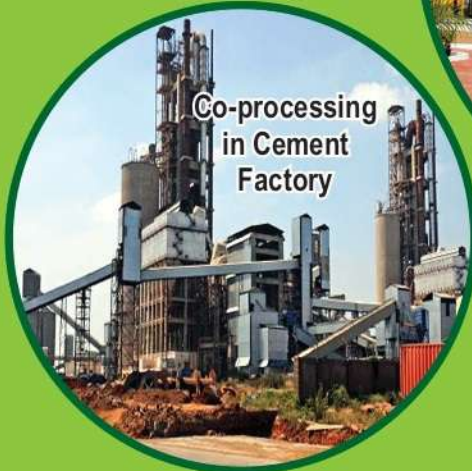


# ANNUAL REPORT & ANNUAL ACCOUNTS 2015 - 2016



தமிழ்நாடு மாசு கட்டுப்பாடு வாரியம்  
TAMILNADU POLLUTION CONTROL BOARD

# **ANNUAL REPORT & ANNUAL ACCOUNTS**

## **2015 - 2016**



**TAMILNADU POLLUTION CONTROL BOARD**

**76, Mount Salai, Guindy, Chennai - 32**



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### 1.1 INTRODUCTION

The Tamilnadu Prevention and Control of Water Pollution Board was constituted by the Government of Tamilnadu on twenty seventh day of February, Nineteen eighty two (27-2-1982) in pursuance of the Water (Prevention and Control of Pollution) Act, 1974 (Central Act 6 of 1974). The Board was later renamed as Tamilnadu Pollution Control Board (TNPCCB) in the year 1983. It enforces the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Water (Prevention and Control of Pollution) Cess Act, 1977, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the rules made under these Acts, which includes.

- The Water (Prevention and Control of Pollution) Act, 1974
- The Tamilnadu Water (Prevention and Control of Pollution) Rules, 1983
- The Water (Prevention and Control of Pollution) Cess Act, 1977
- The Water (Prevention and Control of Pollution) Cess Rules, 1978
- The Air (Prevention and Control of Pollution) Act, 1981
- The Tamilnadu Air (Prevention and Control of Pollution) Rules, 1983
- The Environment (Protection) Act, 1986
- The Environment (Protection) Rules, 1986
- Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
- Fly Ash Utilization Notification, 1999
- The Batteries (Management and Handling) Rules, 2001
- The Environment Impact Assessment Notification, 2006
- The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
- The Bio-Medical Waste Management Rules, 2016
- The Solid Waste Management Rules, 2016
- The Plastic Waste Management Rules, 2016
- The E-Waste Management Rules, 2016
- The Construction and Demolition Waste Management Rules, 2016

## 1.2 FUNCTIONS

The main functions of the TNPCB under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 are as follows:

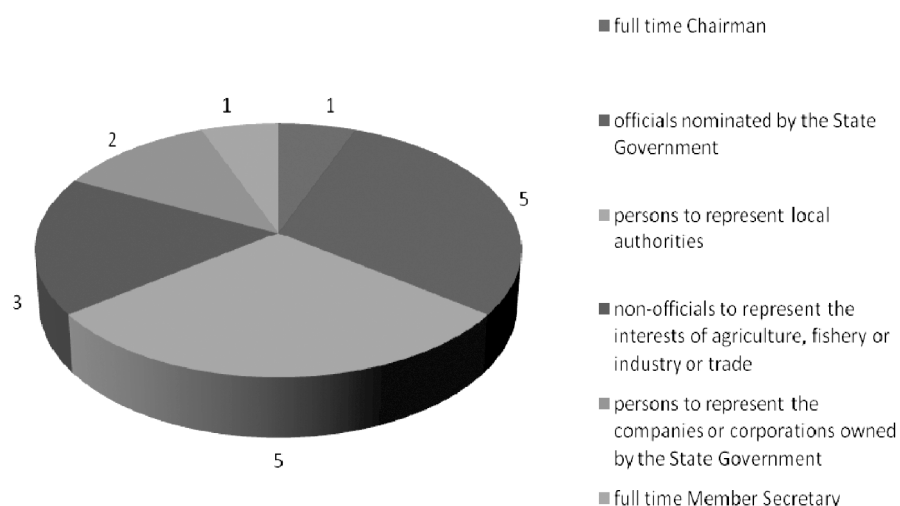
- To plan a comprehensive programme for the prevention, control and abatement of water and air pollution.
- To advise the State Government on any matter concerning the prevention, control or abatement of water and air pollution.
- To collect and disseminate information relating to water and air pollution and the prevention, control or abatement thereof.
- To inspect sewage and trade effluent treatment plants for their effectiveness and review plans, specifications for corrective measures.
- To inspect industrial plants or manufacturing process, any control equipment and to give directions to take steps for the prevention, control or abatement of air pollution.
- To inspect air pollution control areas for the purpose of assessment of quality of air therein and to take steps for the prevention, control or abatement of air pollution in such areas.
- To lay down, modify or annul effluent standards for the sewage and trade effluents and for the emission of air pollutants into the atmosphere from industrial plants and automobiles or for the discharge of any air pollutant into the atmosphere from any other source.
- To evolve best economically viable treatment technology for sewage and trade effluents.
- To collect samples of sewage, trade effluent and emission of air pollutants and to analyze the same for specific parameters.
- To collaborate with Central Pollution Control Board in organizing the training of persons engaged or to be engaged in programme relating to prevention, control or abatement of water and air pollution and to organise mass education programme relating thereto.
- To perform such other functions as may be prescribed by the State Government or Central Pollution Control Board.



### 2.1 CONSTITUTION OF TNPCB

The TNPCB is constituted by the State Government. It comprises of a full time Chairman, 5 officials nominated by the State Government, 5 persons to represent local authorities, 3 non-officials to represent the interests of agriculture, fishery or industry or trade, 2 persons to represent the companies or corporations owned by the State Government and a full time Member Secretary. The list of Board Members from 1<sup>st</sup> April 2015 to 31<sup>st</sup> March 2016 is given in Annexure – 1.

#### CONSTITUTION OF TNPCB



### 2.2 ORGANISATIONAL SET UP

The organization structure of TNPCB is a three-tier system consisting of an Head-office at Chennai, Zonal offices and District offices with a total staff strength of 714. Besides, which a separate wing of laboratories are linked to the offices at three levels. The Board has 5 Regional Offices headed by Joint Chief Environmental Engineers. Further there are 36 district offices headed by District Environmental Engineers. Two flying squads are also functioning at Erode and Tiruppur. To assist the Board in monitoring the industries, 5 Advanced Environmental Laboratories, 10 District Environmental Laboratories are functioning. These laboratories carry out analysis of samples of Water, sewage, trade effluent, emission and hazardous waste. The locations of zonal offices, district offices and laboratories are given in Annexure – 2.

In order to dispose off, the applications made by industries for the issue of Consent / Authorizations / Registration expeditiously, Board has revised the delegation of powers in respect of issue of consent orders under the Water (P&CP) Act, 1974, as amended, the Air (P&CP) Act, 1981, as amended, issue of authorization, registration vide B.P. Ms No. 38 dated

1.6.2013. The organization chart of the Board, staff details, year wise staff strength of the Board, year wise industries come under the purview of the Board, district wise number of industries are given in Annexure - 3,4A,4B,5A,5B.

**Power Delegation for the issue of Consent Orders,  
Renewal of Consent Orders, issue of Authorization and Registration**

S. No.	Particulars	17 - Category	Red - Large	Red – Medium	Red - Small	Orange - Large	Orange - Medium	Orange - Small & All Green
1	Consent to Establish, Extension & Expansion	TSC	TSC	CCC	ZLCCC	ZLCCC	ZLCCC	DLCCC
2	Consent to Operate & Expansion	CCC	CCC	CCC	ZLCCC	ZLCCC	ZLCCC	DLCCC
3	EIA & CRZ attracted Projects, CTE, Extension & Expansion	TSC	TSC	CCC	CCC	TSC	CCC	CCC
4	EIA & CRZ attracted Projects CTO & Expansion	CCC	CCC	CCC	CCC	CCC	CCC	CCC
5	CRZ alone attracting Projects CTE, Extension & Expansion	TSC	TSC	CCC	ZLCCC	ZLCCC	ZLCCC	DLCCC
6	CRZ alone attracting Projects CTO & Expansion	CCC	CCC	CCC	ZLCCC	ZLCCC	ZLCCC	DO
7	Consent Renewal	Chair man	Chairman	M.S	DO	DO	DO	DO
8	Hazardous / BMW/ MSW Authorization	M.S	M.S	M.S	JCEE (M)	JCEE (M)	JCEE (M)	DO
9	Plastic Registration, E-Waste Authorization / Registration of recyclers	M.S	M.S	M.S	M.S	M.S	M.S	M.S
10	Issue of Amendments (Name change, change in stack details etc.,)	Chairman	Chairman	M.S	ZLCCC	ZLCCC	ZLCCC	DO
11	For any expansion projects of highly polluting industries those are attracting the G.Os 213 & 127, the Issue of Consent will be considered by placing it in TSC in the case of RL, CCC in the Case of RM and ZLCCC in the case of RS followed by recommending the project in Board meeting for obtaining G.O relaxation from Government. After getting the G. O relaxation, CTE will be issued by Chairman in the case of RL, MS in the Case of RM and JCEE (M) of Zonal office in the case of RS.							

- TSC : Technical Sub Committee  
 CCC : Consent Clearance Committee  
 ZLCCC : Zonal Level Consent Clearance Committee  
 DLCCC : District Level Consent Clearance Committee  
 MS : Member Secretary  
 JCEE (M) : Joint Chief Environmental Engineer (Monitoring)  
 DO : District Officer



## CHAPTER – 3

### 3.0 CONSTITUTION OF COMMITTEES BY THE BOARD

With a view to have smooth functioning of the Board as provided under section 9 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 11 of the Air (Prevention and Control of Pollution) Act, 1981, the Board has constituted various committees for efficient and effective implementation of Acts and Rules. During the year under report, the following committees were in existence

#### 3.1 TECHNICAL SUB-COMMITTEE

The Board constituted a Technical Sub-Committee for grant of consent to establish to the Red-Large and all EIA & CRZ attracting projects. The composition of the committee is

1	Chairman, TNPCB	Chairman
2	Member Secretary	Member
3	Director of Industrial Safety and Health	Member
4	Director of Environment	Member
5	Additional Chief Environmental Engineers	Special Invitees
6	Director (Lab)	Special Invitees
7	Deputy Directors (Lab)	Special Invitees
8	All Joint Chief Environmental Engineers (Sector HODs in Board Office)	Convener

During the year 2015-16, thirteen meetings were convened. Totally 231 subjects were placed. Out which, the Committee granted CTE to 156 projects, CTO to 58 projects and the remaining projects were not approved and additional details were called by the Committee.

#### 3.2 CONSENT CLEARANCE COMMITTEE

The Board constituted a Consent Clearance Committee to recommend the for grant of consent to establish to the Red-Medium and Consent to Operate to all Red Large and Red Medium units and all EIA & CRZ attracting projects. The composition of the committee is as follows:

1	Chairman, TNPCB	Chairman
2	Member Secretary	Member
3	Additional Chief Environmental Engineers	Special Invitees
4	Director (Lab)	Special Invitees
5	Deputy Directors (Lab)	Special Invitees
6	Joint Chief Environmental Engineer (Sector HODs in Board Office)	Convener

During the year 2015-16, fifteen CCC meetings were convened. Totally 241 subjects were placed. Out which the Committee granted CTO to 226 projects and CTE to 12 projects and 3 projects were not approved and additional details were called for.

## CHAPTER – 4

### 4.1 MEETING OF THE BOARD

During the year 2015-16, six Board Meetings were organised by the Borad. The details are as follows:

Sl.No.	Board meeting number	No. of subject placed	Date of meeting
1	257	23	19.05.2015
2	258	24	25.06.2015
3	259	27	06.10.2015
4	260	30	30.11.2015
5	261	20	22.01.2016
6	262	7	30.03.2016

#### Major decisions taken by the Board

1. The Board took note of the report furnished by the Multi Disciplinary Group constituted by the Government of Tamil Nadu vide G.O. (D) No.37 Environment and Forests (EC.1) Department dated 4.2.2015 in connection with the accident occurred on 31.01.2015 in M/s. Ranipet SIDCO Finished Leather Effluent Treatment Company Limited, Phase I, Ranipet, Vellore District and decided to take follow-up after obtaining orders from the Government. (Resolution No. 257-1-7, dated. 19.5.2015).
2. The Board resolved to approve the proposal for purchase of 203 computers and 180 UPS through ELCOT to all the Engineers for processing of applications in Online Consent Management and Monitoring System (OCMMS) developed by NIC, New Delhi at a cost of Rs. 1,23,43,342/- (Rupees One crore twenty three lakhs forty three thousand three hundred and forty two only). (Resolution No. 257-3-6, dated. 19.5.2015).
3. The Board resolved to approve the procurement of 203 Nos. of 10 GB usage on 7.2 Mbps data card followed by unlimited usage on 256 Kbps for all the Engineers of the Board through ELCOT for processing of applications through Online Consent Management and Monitoring System (OCMMS) at a cost of Rs. 22,81,517/- (Rupees Twenty two lakhs eighty one thousand five hundred and seventeen only). (Resolution No. 257-3-1, dated. 19.5.2015).
4. The Board resolved to approve the proposal of purchase of 216 laptops through ELCOT for all the Engineers and senior officers of TNPCB as per the list in the annexure to the agenda for Rs.1,41,72,238/- (Rupees one crore forty one lakhs seventy two thousand two hundred and thirty eight only) for speedy disposal of applications received through OCMMS. (Resolution No. 259-3-6, dated. 06.10.2015).

5. The Board resolved to approve the proposal of development of new software through NIC, MoEF Cell, New Delhi at a cost of Rs. 23,68,315 (Rupees Twenty Three Lakhs Sixty Eight thousand Three hundred and Fifteen only) for online receipt, processing and for issue of registration/authorization under Plastic Waste Rules, e-Waste Rules and also GIS based waste tracking system and generation of various reports for TNPCB. (Resolution No. 261-3-2 dated. 22.01.2016).
6. The Board resolved to give administrative and technical approval to the proposal for the construction of office building of District Office cum Laboratory in SIPCOT Industrial Growth Centre, at Perundurai through Public Works Department at a total cost of Rs.316.00 lakhs. (Resolution No. 258-3-2, dated. 25.06.2015).
7. The Board resolved to approve the proposal for purchase of land with dilapidated building measuring an extent of 1470 Sq.m. or 15823 Sq.ft. in Dhalavaipatty TNUDP Scheme, Salem at a total cost of Rs.1,97,64,000/- from TNHB for the construction of District Environmental Engineer office and Advanced Environmental Laboratory for Salem District. (Resolution No. 259-3-2, dated. 06.10.2015).
8. The Board resolved to approve the proposal for providing hand held instruments to all the District Offices and the Zonal Offices to use them during inspection and complaint investigation during the financial year 2015-2016, at a cost not exceeding Rs.1,68,10,000/- (Rupees One crore sixty eight lakhs and ten thousand only). (Resolution No. 259-3-7, dated. 06.10.2015).
9. The Board resolved to approve the proposal for formation of two District Offices for Dharmapuri and Ramanathapuram Districts during the financial year 2015-2016 and to send the proposal to Government for issuing GO for formation of above two District Offices and creation of relevant posts thereon. (Resolution No. 259-3-8 dated. 06.10.2015)
10. The Board resolved to approve the proposal for upgradation of O/o. Assistant Environmental Engineer functioning at Theni and Ooty as O/o. District Environmental Engineer during the financial year 2015-2016 and to send the proposal to Government for issuing G.O for up gradation of two offices and for creation of two District Environmental Engineer posts. (Resolution No. 259-3-9 dated. 06.10.2015).
11. The Board resolved to approve the proposal for upgradation of District Environmental Laboratory, Trichy, Tirunelveli, Vellore as Advanced Environmental Laboratory, Trichy, Tirunelveli, Vellore and for purchasing of scientific equipments to an amount of Rs.1.5 crores to Advanced Environmental Laboratory, Trichy, Tirunelveli, Vellore. (Resolution No. 260-2-2, dated. 30.11.2015).
12. The Board resolved to approve the proposal for the establishment of one Stationery Real Time Continuous Ambient Air Quality Monitoring Station (CAAQM) in the Perundurai Industrial Estate with O&M costs for first 5 years to an amount of Rs.1.71 crores (approximate) from Board's fund. (Resolution No. 260-3-2, dated. 30.11.2015).

13. The Board resolved to approve the proposal for the establishment of twenty five Stationary Real Time Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in Tamil Nadu at a total estimated cost of Rs.45 crores from Board funds. (Resolution No. 260-3-3, dated. 30.11.2015).
14. The Board resolved to approve the proposal for the establishment of two Stationary Real Time Continuous Ambient Air Quality Monitoring Stations (CAAQM) one each at Manali (Chennai) and Coimbatore with operation and maintenance contract at a total cost of Rs. 336 lakhs. (Resolution No. 260-3-4, dated. 30.11.2015).
15. The Board resolved to approve the proposal for installation of Solar Panel at 18 offices of TNPCB through TEDA at a cost of Rs. 550 Lakhs. (Resolution No. 260-3-8, dated. 30.11.2015).
16. The Board resolved to approve in-principle the proposal for setting up of TNPCB's Environmental Research & Technology Centre at IIT Madras Research Park, Taramani, Chennai by acquiring a space of Total area 8595 sq.ft with carpet area of 6498.5 sq.ft on 20 year lease basis at a cost not exceeding Rs. 2.80 crores. (Resolution No. 260-3-9, dated. 30.11.2015).
17. The Board resolved to approve the proposal for recruitment of Assistant Engineers and Environmental Scientists by developing software for receiving online application, conducting online examination through Indian Institute of Technology (I.I.T), Madras and Centre for Environmental Studies, Anna University, Chennai respectively and providing necessary in-house training to the selected candidates by the above institutions. (Resolution No. 261-2-6, dated. 22.01.2016).
18. The Board resolved to approve for grant of Rs.55.00 lakhs to the Director of Environment for creating environmental awareness in the 11 pilgrimage centres of Tamil Nadu to benefit the pilgrims to perform, safe and healthy yatra. (Resolution No. 261-3-1, dated. 22.01.2016).
19. The Board resolved to approve for the already released amount of Rs.25,00,000/- (Rupees twenty five lakhs) to Society for Wild Life Interface, Forestry and Training (SWIFT) as per the G.O.Ms.No. 22, E&F Department dt.18.2.2016, for the establishment of the Centre of Excellence in Tamil Nadu Forest Academy, Coimbatore. (Resolution No. 262-1-6, dated. 30.03.2016).
20. The Board resolved to approve the enhancement of legal fees from Rs. 3500/- to Rs. 7500/- per case per day to the advocate on Record for the State of Tamil Nadu for appearance on behalf of the TNPC Board before the Hon'ble Supreme Court of India/ Hon'ble National Green Tribunal (Principal Bench) New Delhi. Also, in respect of Batch cases (more than 3 cases) the legal fees will be Rs. 7500/- for the first case and Rs. 3750/- for each of the other cases in the batch subject to a ceiling of Rs. 30,000/- per day. (Resolution No. 257-3-2, dated. 19.05.2015).

### 5. ACTIVITIES OF THE BOARD

#### 5.1 ENVIRONMENTAL LEGISLATIONS

The various environmental legislations concerning TNPCB are given below.

1. The Water (Prevention and Control of Pollution) Act, 1974
2. The Tamilnadu Water (Prevention and Control of Pollution) Rules, 1983
3. The Water (Prevention and Control of Pollution) Cess Act, 1977
4. The Water (Prevention and Control of Pollution) Cess Rules, 1978
5. The Air (Prevention and Control of Pollution) Act, 1981
6. The Tamilnadu Air (Prevention and Control of Pollution) Rules, 1983
7. The Environment (Protection) Act, 1986
8. The Environment (Protection) Rules, 1986
9. Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
10. Fly Ash Utilization Notification, 1999
11. The Batteries (Management and Handling) Rules, 2001
12. The Environment Impact Assessment Notification, 2006
13. The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
14. The Bio-Medical Waste Management Rules, 2016
15. The Solid Waste Management Rules, 2016
16. The Plastic Waste Management Rules, 2016
17. The E-Waste Management Rules, 2016
18. The Construction and Demolition Waste Management Rules, 2016

#### 5.2 MONITORING OF INDUSTRIES

With increasing pace of industrialization in Tamilnadu, the need for continuous monitoring of pollution due to industrial sources has become mandatory. Industries need to provide pollution control measures to meet the standards prescribed by the Board. The field officers of the Board inspect the industries under their jurisdiction periodically to assess the adequacy of pollution control measures provided by the industries to treat sewage, trade effluent and emissions and to monitor their performance. They also investigate complaints related to environmental pollution received from the public, organizations and the Government. For effective monitoring, industries are categorized as Red, Orange, Green and White according to their pollution potential. The industries have also been classified in scale of

size with Gross Fixed Assets(GFA) more than Rs. 10 crores as Large, GFA more than Rs. 5 crores and upto Rs. 10 crores as Medium and GFA less than Rs. 5 crore as Small scale.

### 5.3 PROCEDURE FOR ISSUE OF CONSENT

Industries have to obtain consent for discharge of sewage / trade effluent into any stream or well or into sewer or land under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and to operate them in air pollution control area of entire State of Tamilnadu under section 21 of the Air (Prevention and Control of Pollution) Act, 1981. The consent is issued to the industries in two stages. 1<sup>st</sup> stage, 'Consent to Establish' is issued depending upon the suitability of the site before the industry takes up the construction activity. 2<sup>nd</sup> stage, 'Consent to Operate' is issued before commissioning the industrial unit after the compliance of conditions of 'Consent to Establish' issued. During the year 2015-16, the Board has issued 1297 CTE (Consent to Establish) orders and 2086 CTO (Consent to Operate) orders under both the Acts. Consolidated statistics on issue of consent is given below:

Period	Consent to Establish		Consent to Operate	
	Water Act	Air Act	Water Act	Air Act
Cumulative (Upto 31.3.2015)	18476	18405	37879	34967
During the Year 2015-2016	1297	1297	2086	2086
Total	19773	19702	39965	37053

**Note:** Issue of CTE to the industries was started in year 1995

### 5.4 ONLINE CONSENT MANAGEMENT AND MONITORING SYSTEM (OCMMS)

TNPCB has provided the facility of Online Consent Management and Monitoring System (OCMMS) from 19.01.2015. OCMMS is a web based generic application software package for automating the workflow associated with consent management and monitoring which is one of the basic functions of the Board. This system allows the industries for online submission of application for Consent to Establish / Consent to Operate / Renewal of Consent, uploading of documents, online payment of consent fees, online submission of clarification and for knowing the status of application. This system allows to carry out the consent management processes such as application scrutiny, raise inspection, raise clarification,



submit inspection report, prepare consent order and forward consent order through online. It helps for online monitoring of the processing of application. From 20.1.2015 onwards, the applications are accepted only through OCMMS. In order to facilitate the industries to apply online through OCMMS, Care Centre has been established in all the 36 district offices. Web portal for online consent application is **tnocmms.nic.in**

## **5.5 WATER POLLUTION CONTROL**

The Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 is enacted to prevent and control water pollution and to preserve or maintain or restore the wholesomeness of water quality. As per the provisions of this Act, the local bodies and industries, which discharge sewage / trade effluent, are required to apply and obtain the consent from the Board. The industries generating trade effluent are required to provide effluent treatment plant to treat their trade effluent to satisfy the standards prescribed by the Board. Industries are constantly monitored regarding the functioning of their effluent treatment plants and samples of treated sewage/trade effluent are collected regularly to assess the quality of effluent discharged and also to assess the efficiency of the effluent treatment plants installed. During the year 2015-16, 26171 samples of water, sewage and trade effluents were collected and analysed.

The Water (Prevention and Control of Pollution) Cess Act, 1977, provides for the levy and collection of Cess on water consumed by any industry and by local authorities with a view to augment the resources of State Board and for the prevention and control of water pollution. The Board collects Cess from the specified industries and local bodies every month and remits to the Ministry of Environment, Forest and Climate Change, Government of India, New Delhi.

## **5.6 AIR POLLUTION CONTROL**

The Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 is enacted to prevent and control air pollution and to preserve the air quality. As per the provisions of this Act, the entire State of Tamilnadu has been declared as an 'Air Pollution Control Area' by the Government of Tamil Nadu vide G.O. Ms. No. 4 Environment Control Department dated 28.09.1983. Industries, which let out process emissions, are regularly monitored through inspections of the air pollution control measures provided by the units. Stack emission and ambient air quality survey are conducted regularly in the industries to assess the quality of the emissions let out and the quality of ambient air in the vicinity. The industries are instructed to carry out necessary corrective measures if required. During the year 2015-16 SM & AAQ survey was conducted in 1213 units.



## **5.7 INSPECTIONS OF INDUSTRIAL UNITS AND SAMPLE COLLECTION PERIODICITY**

The Engineers in the district office inspect the large scale red category units once in three months. The medium scale red category units are inspected once in four months and the small scale red category units once in a year. Similarly the large and medium scale orange category units are inspected once in six months and the small scale orange category units once in two years. The less polluting green category units are inspected once in two years. Sewage/Trade effluent samples are collected once in a month in red-large industries, once in three months in red-medium industries, once in four months in orange-large industries, once in six months in red-small, orange-medium and orange-small industries. The 17 category highly polluting industries are inspected once in a month and the samples are also collected once in a month. Based on the compliance of consent conditions, the consent to operate are renewed to the units.

## **5.8 AUTO RENEWAL OF CONSENT**

TNPCB introduced a concept of 'Auto Renewal' of Consent to the Red-Small and all Orange and Green category Industries. Accordingly consent will be renewed to these units without prior inspection for which the unit has to furnish self certification. This will ensure grant of renewal consent within 7 days on receipt of application.

## **5.9 COMMON EFFLUENT TREATMENT PLANTS**

Keeping in view the key role played by SSI units and the constraints in complying with pollution control norms individually by these units, the Ministry of Environment, Forest and Climate Change initiated an innovative technical and financial support scheme to ensure their growth in an environmentally compatible manner. The scheme promotes common facilities for treatment of effluents from SSI units located in clusters through financial assistance. TNPCB plays a supportive role towards the establishment of Common Effluent Treatment Plants (CETPs) for clusters of small-scale industries in various parts of the State. The Board assists in the technical scrutiny of the proposal plans for the CETPs.

### **5.9.1 CETP SCHEMES IN THE STATE**

In Tamil Nadu, CETPs schemes are formulated in the following sectors:

Tanneries	13 Schemes
Textile Bleaching & Dyeing Units	30 Schemes
Hotels & Lodges	1 Scheme

Among 13 CETP schemes established for tanneries, 11 CETPs are in operation with Zero Liquid Discharge (ZLD) system. In the remaining two CETPs, one CETP (Madhavaram) has provided primary and secondary treatment system and opted for dilution of treated effluent with treated sewage to meet the standards prescribed by the Board. In the other one CETP (Dindigul), the installation of ZLD system is under progress.

### ZLD STATUS IN TANNERY CETPs

Sector	Total No. of CETPs	Location	ZLD Status			
			Implemented	Nearing Completion	Under Progress	Works to be commenced
Tannery	13	Vellore	8	-	-	-
		Erode	1	-	-	-
		Pallavaram	1	-	-	-
		Dindigul	-	-	1	-
		Trichy	1	-	-	-
		Madhavaram	-	-	-	1
		Total (13)	11	-	1	1

### ZLD STATUS IN TEXTILE BLEACHING AND DYEING INDUSTRIES's CETPs

Sector	Total No. of CETPs	Location	ZLD Status			
			Implemented	Nearing Completion	Under Progress	Works to be commenced
Textile	30	Tiruppur	18	-	-	2
		Karur	-	-	-	8
		Perundurai	1	-	-	-
		Ayyampettai	-	-	1	-
		Total (30)	19	-	1	10

Among 30 CETPs established for textile dyeing processing units, 19 CETPs have implemented the ZLD system. The remaining 11 CETPs are closed in view of orders of Hon'ble High Court due to their inability to achieve ZLD standards. For the 18 CETP schemes for textile dyeing processing units in Tiruppur, the State Government has announced interest free loan of Rs.203.29 crores for modernization / improvement of ZLD system. The sanctioned amounts were released to the respective 18 CETPs by the Director of Handlooms and Textiles. So far Rs. 118.58 Crores was released to 18 CETPs.

The one CTEP at Kodaikanal collects and treats the wastewater arising from the hotels and lodges located around the Kodai Lake.

### List of CETPs in Tannery Sector operating with ZLD system

Sl.No.	Name and address of CETP	No. of member units	Capacity of the Plant in KLD
1	M/s. Ranipet Sidco Finished Leather Effluent Treatment Company Ltd.,Ranipet, Vellore District.	79	2500
2	M/s SIPCOT SIDCO Phase II Entrepreneur Finished Leather Effluent Treatment Company Ltd., Vellore District.	18	1560
3	M/s Visharam Tanners Enviro Control Systems Pvt Ltd., Melvisharam, Vellore District.	26	3400
4	M/s Ranipet Tannery Effluent Treatment Company Ltd., (RANITEC), Ranipet, Vellore District.	81	4500
5	M/s. Vaniyambadi Tanners Enviro Control System Ltd., (VANITEC), Vaniyambadi, Vellore District.	120	3122
6	M/s. Ambur Tannery Effluent Treatment Co,Ltd., Thuthipet Sector, Ambur, Vellore District.	46	2219
7	M/s. Ambur Tannery Effluent Treatment Co. Ltd., Maligaihope Sector, Ambur, Vellore District.	12	1100
8	M/s. TALCO Pernambut Tannery Effluent Treatment Co. Ltd., Pernambut, Vellore District.	35	891
9	M/s. Perundurai Leather Industries Eco-Securities (P) Ltd, Perundurai, Erode District.	14	1000
10	M/s. Pallavaram Tanners Industrial Effluent Treatment Company Limited, Pammal-Pallavaram, Kanchepuram Distirct.	122	3000
11	M/s. TALCO Trichy Tannery Effluent Treatment Company Ltd, Trichy, Trichy District.	7	420
	<b>Total</b>	<b>560</b>	<b>23,712</b>

### List of CETPs in Textile Bleaching & Dyeing Sector operating with ZLD system

Sl.No.	Name and address of CETP	No. of member units	Capacity of the Plant in KLD
1	M/s.Arulpuram Common Effluent Treatment Company Pvt.Ltd., S.F.No. 133, Kiran Garden, Arulpuram, Tiruppur – 641605.	19	5500

Sl.No.	Name and address of CETP	No. of member units	Capacity of the Plant in KLD
2	M/s. Eastern Common Effluent Treatment Company Pvt.Ltd., S.F.No. 3/1,4/2, Kasipalayam, Nallur village, Vijayapuram Post, Tiruppur – 641606.	25	6000
3	M/s.Kallikadu Common Effluent Treatment Company Pvt.Ltd., No. 158/5, Kallikadu Thottam, K.V.R.Ngara, Karuvampalayam Post, Tiruppur – 641604.	12	3000
4	M/s.Tiruppur Murugamapalayam Common Effluent Treatment Company Pvt.Ltd., S.F.No. 214/2, Erankattu Thottam, Murugamapalayam, Iduvampalayam Post, Tiruppur – 641687.	65	11000
5	M/s.Managalam Common Effluent Recycling Technologies India Pvt.Ltd., S.F.No. 507, Vayakadu Thottam, Sultanpet, Mangalam, Tiruppur – 641663.	16	4000
6	M/s.Rayapuram Common Effluent Treatment Company Pvt.Ltd., T.S.No.642 etc, Tiruppur Town, Tiruppur Taluk, Tiruppur District.	25	5500
7	M/s. Veerapandi Common Effluent Treatment Plant Private Limited, 548/1, Karuppagoundam Palayam, Cotton Market Post, Tiruppur, Tiruppur District – 641604.	69	12000
8	M/s.Angeripalayam Common Effluent Treatment Plant Limited, S. F.No.89, CETP Garden, Kanjampalayam, Pitchampalayam Post, Tiruppur, Tiruppur District – 641603.	74	10000
9	M/s. Chinnakarai Common Effluent Treatment Plant Private Limited, S.F.No.275/2, Kuppandampalayam,Veerapandi Post, Tiruppur, Tiruppur District – 641 605.	29	8000
10	M/s Karaipudur Common Effluent Treatment Plant Private Limited, 10/1,13/1, Moolakkattu Thottam, Karaipudur Village, Arulpuram Post, Tiruppur – 641605.	21	4500
11	M/s.Kasipalayam Common Effluent Treatment Plant Private Limited, S.F.No.250/1, S.Periyapalayam Post, Tiruppur -641 607.	13	4400
12	M/s.Kunnangalpalayam Common Effluent Treatment Plant Limited, S.F.No.260/3, Veerapandi Post, Tiruppur, Tiruppur District-641 605.	19	5500
13	M/s. Mannarai Common Effluent Treatment Plant Private Limited, S.F. No.209/2A, 2B1, 2B2, Mannarai Village, S.Periyapalayam, Tiruppur, Tiruppur District-641 607	23	4200

14	M/s.Sirupooluvapatti Common Effluent Treatment Plant Private Limited, S.F.No.632, Aathuvazhi Thottam, Sirupooluvapatti Post, Tiruppur , Tiruppur District – 641 603	24	5000
15	M/s. Vettuvapalayam Common Effluent Treatment and Recycling Plant Private Limited, 7/110, S.F.No.40, Sambavayal Thottam, Vettuvapalayam, Mangalam Village,Tiruppur Taluk, Tiruppur District – 641 663.	9	1500
16	M/s.Andipalayam Common Effluent Treatment Plant Private Limited, R.S. No.96/1 & 97/3, Mangalam Road, Andipalayam Village, Tiruppur,Tiruppur District-641 687.	9	4500
17	M/s. S. Periyapalayam Common Effluent Treatment Plant Private Limited, R.S.No.224/2, Agrahara Periyapalayam, S. Periyapalayam,Perundurai Taluk, Tiruppur District – 641607.	6	1500
18	M/s. Park CETP (P) Limited,S.F.No.327, (opp. to Anburam Knit Process),Poyampalayam Privu (West), Pitchampalayam Pudhur (PO), P.N. Road, Tiruppur, Tiruppur District – 641603.	4	2000
19	M/s. Perundurai CETP, Textile Sector, P.No:R-22, 6 <sup>th</sup> Cross Road, SIGC, SIPCOT Perundurai – 638 052, Erode District.	6	4000
	<b>Total</b>	<b>468</b>	<b>1,02,100</b>

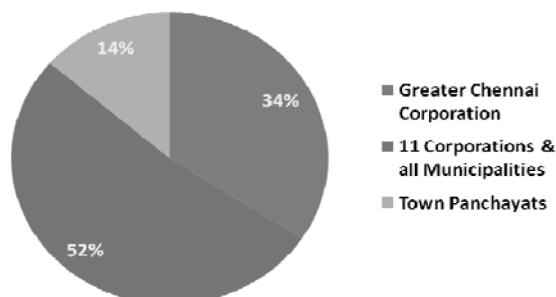
## 5.10 SOLID WASTE MANAGEMENT

The Ministry of Environment, Forest and Climate Change, Government of India has notified the Solid Waste Management Rules, 2016. As per the rules, solid waste means solid or semi solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non-residential wastes, street sweepings, silt removed or collected from surface drains, horticulture waste, agriculture and dairy waste, treated bio-medical waste excluding industrial waste, bio-medical waste and e-waste, battery waste, radio-active waste generated in the area under the local authorities. As per the rules, the local bodies are responsible for the collection, treatment and disposal of solid wastes. The Board is the monitoring authority under the said rules and is responsible for granting authorization to local bodies for processing and disposal of solid waste.

In Tamil Nadu there are 12 Corporations, 124 Municipalities and 528 Town Panchayats. In total the solid waste generation is 14,600 Tonnes per day. The Greater Chennai Corporation generates 5000 TPD, 11 Corporation and all Municipalities generates about 7600 TPD and all the town panchayat generates 2000 TPD. The Board has issued direction to all the Local Bodies to establish waste processing facilities. So far, the Board has issued authorization to 5 Corporations, 48 Municipalities and 73 Town Panchayats for composting of municipal solid

waste and setting up of waste processing facility. The Board is advocating the concept of waste segregation at source, waste reduction, recycle and reuse to avoid any environmental issues during handling.

**Solid Waste Generation**



TNPCB has imposed conditions to big shopping malls, fish markets, restaurants, residential townships who has obtained consent, to provide decentralized facility to produce compost from food waste. Training programmes on source segregation and energy from solid waste were conducted on various time in all the Districts. Every year TNPCB prepares and submits the consolidated annual report in Form-V to the Central Pollution Control Board.

### **5.11 PLASTIC WASTE MANAGEMENT**

The Ministry of Environment, Forest and Climate Change, Government of India has notified the Plastic Waste Management Rules, 2016. As per the rules, plastic waste means any plastic discarded after use or after its intended use is over. The local body shall be responsible for the development and setting up of infrastructure for segregation, collection, storage, transportation, processing and disposal of the plastic waste.

As per the rules, carry bag made of virgin or recycled plastic, shall not be less than 50 micron in thickness. The persons engaged in manufacture or import of carry bags or multilayered packaging or plastic sheets or like shall obtain registration certificate from the State Pollution Control Board. The role of State Pollution Control Board is to enforce the provisions of these rules relating to registration, for the manufacture of plastic products and multilayered packaging and disposal of plastic wastes. So far, TNPCB has identified 471 plastic carry bags manufacturing units and 140 plastic recycling units. Among these, TNPCB registration is issued to 219 units. In order to create awareness to the public, TNPCB provides a fund of Rs. 50,000/- (Rupees Fifty Thousand Only) every year to each District Collectors since 2015. TNPCB addressed all the local bodies to effectively comply with the provisions of the said rules.

TNPCB is taking many initiatives to deal with the plastic wastes. Many awareness programmes were conducted by TNPCB to the general public and the Government bodies on the ill effects of plastics and the need to use alternatives to the “use and throw plastic” items. The Board is conducting plastic waste awareness programme in all districts periodically and meetings with local bodies, Plastic Manufacturer's Association to establish plastic waste collection centres. Greater Chennai Corporation, Madurai Corporation and Dindigul municipalities have established plastic waste collection centres with shredders and these wastes are used for making plastic roads in Corporation maintained roads and local body roads. TNPCB encourages the units that come up with proposal to establish energy oriented units converting plastic waste to oils. The plastic waste collected are being utilised in cement kilns for co-processing, as energy resource.

## **5.12 HAZARDOUS WASTE MANAGEMENT**

The Ministry of Environment, Forest and Climate Change, Government of India has notified the Hazardous and Other Waste (Management and Transboundary) Rules, 2016. As per the rules, hazardous waste means any waste which by reason of characteristics such as physical, chemical, biological, reactive, toxic, flammable, explosive or corrosive, causes danger or is likely to cause danger to health or environment. The hazardous waste generator shall follow the steps namely prevention, minimization, reuse, recycling, recovery, utilization including co-processing and safe disposal of hazardous waste. SPCB shall grant authorization for handling the hazardous wastes.

TNPCB has identified 3,545 units generating hazardous wastes and issued authorization under the rules. In Tamil Nadu about 6.91 lakhs tons of hazardous waste is annually generated in which 2.97 lakhs tones is landfillable, 3.42 lakhs tones is recyclable and 0.52 lakhs tones is incinerable. The Board is taking effective steps in handling and management of hazardous wastes, its treatment and disposal in an environmentally safe manner. One common hazardous waste Treatment Storage and Disposal Facility (TSDF) has been established at SIPCOT Industrial Estate, Gummidipoondi and it is in operation. Another TSDF at Unduorumikidakulam village in Virudhunagar district is under establishment.

TNPCB has taken pioneering efforts to utilize the hazardous waste generated from Common Effluent Treatment Plants (CETPs) of textile processing units as fuel/raw material for co-processing in the cement factories. So far, about 50,000 Tonnes of ETP sludge have been disposed to various Cement industries for co-processing. Similar trails are being taken-up for using hazardous waste generated from tannery CETPs in co-processing in the cement factories. A common facility for pre-processing of hazardous waste has been established in Ranipet by M/s. Gujarat Enviro Protection and Infrastructure Limited. The facility pre-processes the hazardous waste so as to use the same for co-incineration in cement kiln.



## List of authorized non-ferrous waste, zinc, copper scrap recyclers

S.No.	Name and addrees of the unit
1	M/s. Emaar Lead Company Pvt. Ltd., SF No 47 Part, Selakarachal Village, Sulur Taluk, Coimbatore District.
2	M/s. Roshan Metals, S.F. No 863/2, Sirupuzhalpettai Village, Gummudipoondi Tk, Thiruvallur District.
3	M/s. Universal Iron Traders, No.45, Subagnesh Industrial Estate, Kuppaipalayam P.O., S.S. Kulam (Via) Coimbatore District.
4	M/s. Trichy Metal Stores, No. 319, 4B-5B, Itchikamalaipatti – 622515, Kulathur Taluk, Pudukkottai District.
5	M/s. Valarmathi Alloys, No 9 & 10, SIDCO Indl. Estate, Ariyanur Post, Veerapandy, Salem – 636 308.
6	M/s. Krishna Kumar Metal Refineries, Plot No.10 & 19,SIDCO Industrial Estate, Nanjai Uthukuli Village, Erode Taluk & District.
7	M/s. Trichy Metals and Alloys, S.F. No. 536/2A, Kariamanickam Road, Thathamangalam Village, Samayapuram – 621112, Trichy District.
8	M/s. GMT Alloys, Shed No. B-25, SIPCOT Industrial Complex, S.F.No.351, Pappankuppam Village, Gummudipoondi Taluk, Thiruvallur District.
9	M/s. M.R. Metal, No. 405, Perundurai Road, Erode – 638 011.
10	M/s. Jain Metal Rolling Mills, S.F.,No.1073/4,24/2,4 1/2,41/2A Madhavaram Village, Madhavaram Taluk, Tiruvallur District.
11	M/s. Jayachandran Alloys Private Limited, S.F. No. 20/1, Masagoundenchettipalyam, Ganeshapuram, Coimbatore – 641 107.
12	M/s. Sri Venkateswara Metal Industries, Idamalaipatty Post, Kuniaramayalam, Kulathur Taluk, Pudukkottai District.
13	M/s. Sither Metal Industry, S.F.No.386,Saminatham Village, Ottapidaram, Thoothukudi District.
14	M/s. Sree Sumanala Metals and Industries (P) Ltd., 79, Chamiers Road, Chennai-600 028.

15	M/s. Jain Metal Rolling Mills, R1 & R2 SIPCOT Industrial Complex, Papankuppam Village, Gummidipoondi, Tiruvallur District.
16	M/s. Quality Zinc Chem., S.F.No.231/4, Vichoor Village, Ponneri Taluk, Chennai-103, Tiruvallur District.
17	M/s. Southern Power Industries, Plot No.3, Electrical Industrial Estate, Kakkalur, Tiruvallur District.
18	M/s. Ayisha Saw Mill, S.F.No.7, Part, Shed No.A 64, Madurai Automobiles Co-op., Industrial Estate, Kappalur, Madurai.
19	M/s. Global Lead Alloys, Shed No 89 & 90, SIDCO Industrial Estate, Achamayalam, Bargur, Krishnagiri District.
20	M/s. POCL Enterprises Limited, B.19 & 20, SIDCO Industrial Estate, M.M.Nagar, Kancheepuram District.
21	M/s. Sri Sabari Smelters Pvt., Ltd., Plot No.84-85 SIDCO Industrial Estate, Vicktor, Ponneri, Tiruvallur District.
22	M/s. Mega Petro Products Ltd., No. 60, SIDCO Industrial Estate, Tiruvallur District.
23	M/s. Trigel Petro Chem (P) Ltd., S- 72, Phase – II, SIDCO Industrial Estate, Kakkalur, Tiruvallur District.
24	M/s. Vaishnavi Metals, No. 34, SIDCO Indl. Estate, Gummidipoondi, Chennai – 601 201.
25	M/s. Krishna Kumar Metal Refineries, Plot No. 10 & 19, SIDCO Indl. Estate, Nanjaiuthukuli Village, Erode Taluk & District.
26	M/s. Universal Iron Traders, S.F.No.223/1B, 2BKuppaipalayam Village, Annur Tk, Coimbatore District.

### **List of authorized used oil recyclers**

<b>Sl . No</b>	<b>Name and address of the unit</b>
1	M/s. Priya Petro Products, DP 123. SIDCO Industrial Estate, Vichoor, Ponneri Taluk, Tiruvallur District.

2	M/s. K.F. Lubes, B4/30, CMDA Industrial Complex, Chengalpattu Taluk,Kancheepuram District.
3	M/s. M.R. Industries, Plot No. 3, Ammanur Village, Arakonam Taluk, Vellore District.
4	M/s. Lakshmi & Co( Used Oil Recycling), Plot No.99, SIDCO Industrial Estate, Ammanur Village, Arakonam Taluk, Vellore District.
5	M/s. ARPE Lubricants, S.F. No. 406, Malumichampatti Village, Pollachi Main Road, Coimbatore -641 021.
6	M/s. Sai Ram Industries, Plot No. F 10, SIPCOT Industrial Growth Centre , Perundurai Taluk, Erode District.
7	M/s. Trigel Petrochem Pvt. Ltd.,, S.F. No. 72, Phasew – II, SIDCO Industrial Estate, Kakkalur, Putlur, Thiruvallur District.
8	M/s. Shree Durgai Lubes, Plot No.123 SIPCOT Barugur Industrial complex, Parandapalli (PO), Pochampalli Taluk, Krishnagiri District.
9	M/s. Saizrol Industries, 64,Thannerpanthal palayam Road, Erode – 638 003.
10	M/s. Shri Sathya Sai Lubricants, 86/1F, Manickampalayam, Kunnathur, S.S. Kulam Post, Coimbatore – 641 107.
11	M/s. Mega Petro Products, Plot No 60 , SIDCO Industrial Estate, Kakkalur, Tiruvallur District.
12	M/s. Atlas Corporation, Plot No.27-29,41-43, Rasathe Village, Kangayam Taluk, Tiruppur District.
13	M/s. Supreme Petro Products, S.F.225/1A2J,225/1A2K, Eguvarpalayam Village Gummidipoondi Taluk, Tiruvallur District.
14	M/s. King Industry, S.F.No.,Vittankulam Village, Sivagangai Road Madurai East Taluk, Madurai District.

## List of authorized waste oil recyclers

Sl. No.	Name and address of the unit
1	M/s. Priya Petro Products, Plot No. 123. SIDCO Indl Estate, Vichoor, Ponneri Taluk, Tiruvallur District.
2	M/s. Sun Reclaimery, Plot No. A-25-27 & A 49-51, Madurai Automobile Co-op Indl Estate Kappalur Village, Madurai District.
3	M/s. Trigel Petrochem (P) Ltd., Plot No. DPS – 72, SIDCO Indl. Estate, Putlur Village, Kakkalur, Thiruvallur District.
4	M/s. Sasi Industries, Plot No 12, New No 41A, SIDCO Industrial Estate, Dindigul.
5	M/s. Vinayaga Lubricants, S.F.No. No. 67, SIDCO Industrial Estate, Athur Village, Karur District.
6	M/s. Lakshmi & Co., Plot No.99, SIDCO Industrial Estate, Ammanur Village, Arakonam Taluk, Vellore District.
7	M/s. Thirupathy Oil Company ( Unit-1), S.F.No. 129/2, Plot No-7 SIDCO Industrial Estate, Venmaniyathur Village, Tindivanam Taluk, Villupuram District
8	M/s. Southern Petro Coal, No. 1/120, Katrampatti, T. Pudupatti Post, Thirumangalam Taluk, Madurai – 625 704.
9	M/s. Lakshmi Lubricants., No.117, New Road, Kovilpatti, Thoothukudi District.
10	M/s. Nagalakshmi Agencies Unit-II, SF No 540/1B2B, Saravanampatti Road, Vellakinar Village, Coimbatore – 641 029.
11	M/s. Jaya Traders, S-.F No: 36, Seerampalayam, Madhukkarai, Coimbatore District.
12	M/s. Supreme Petro Products, S.F. No. 225/1A2J,225/1A2K,Eguvarpalayam Village, Gummidipoondi Taluk, Tiruvallur District.

## List of Common TSDF in Tamil Nadu

Sl.No.	Name and address of the facility	Capacity
1	M/s. Tamilnadu Waste Management Limited, SIPCOT Industrail Complex, Gummidipoondi, Tiruvallur District.	Authorized to handle 1,00,000 TPA for landfill, 1T/Hr for incineration. Total land area 67 acres.
2	M/s. Tamilnadu Waste Management Limited, Unduorumikidakulam village, Tiruchuli Taluk, Virudhunagar District.	Authorized to handle 1,50,000 TPA for landfill, Total land area 80 acres.

### 5.12.1 ONLINE HAZARDOUS WASTE MANAGEMENT AUTHORIZATION

TNPCB has launched online hazardous waste application receipt and processing module on 1.3.2016. The industries can apply for authorization for handling their hazardous waste through online. The application will be processed and the authorization will be issued through online. This system allows the industry to track the status of their application. Upto 31<sup>st</sup> March 2016, 37 units have applied for authorization through online. These applications were processed and authorizations were issued.

### 5.13 BIOMEDICAL WASTE MANAGEMENT

The Ministry of Environment, Forest and Climate Change, Government of India has notified the Bio-Medical Waste Management Rules, 2016. As per the rules, bio-medical waste means any waste, which is generated during diagnosis, treatment or immunization of human beings or animals or research activities pertaining thereto or in the production or testing of biological or in health camps. The bio-medical waste generator and the operator of the common bio-medical waste treatment and disposal facility (CBMWTF) shall be responsible for safe handling and disposal of the bio-medical waste. The State Government of Health shall ensure for implementation of the rule in all health care facilities.

SPCB shall issue authorization to the health care facilities and CBMWTF. It shall monitor the compliance of various provisions of the rules. TNPCB has so far authorized 6261 Private and Government hospitals in the State under the rules. All these hospitals have made agreement with the CBMWTF for the collection, transport, treatment and scientific disposal of the biomedical waste. The CBMWTF consists of autoclave, shredder, incinerator and secured land fill facilities. In Tamil Nadu, 11 CBMWTF are under operation. On an average, daily 43 Tonnes of bio-medical waste is handled by these facilities. There are 3 such facilities in the districts of Tiruvallur, Cuddalore and Tiruppur are under establishment.

**List of common bio-medical waste treatment facility  
under operation in Tamil Nadu**

<b>Sl. No.</b>	<b>Name and address of the facility</b>	<b>Regions covered</b>	<b>Capacity kg/day</b>
1	M/s. G. J. Multiclave (India) Pvt Ltd., Thenmelpakkam, Chengalpattu Taluk, Kancheepuram District.	Part of Chennai, Kancheepuram and Tiruvallur Dt.	6160
2	M/s. Tamilnadu Waste Management Ltd., Kinnar village, Maduranthakam Taluk, Kancheepuram District.	Chennai (North), Part of Kancheepuram Dt, Tiruvallur Dt, Cuddalore Dt, Villupuram Dt.	6660
3	M/s. Medicare Enviro Systems, Sengipatti, Thanjavur Taluk, Thanjavur District.	Thanjavur Dt, Thiruvarur Dt, Trichy Dt, Nagapattinam Dt, Karaikal, Pudukottai Dt, Perambalur Dt, Ariyalur Dt, Sivagangai Dt.	1800
4	M/s. Ken Bio Links Private Limited, Kandipedu, Katpadi Taluk, Vellore District.	Vellore Dt, Vaniyambadi, Thiruvannamalai Dt.	7660
5	M/s. Society for Bio Medical Waste Management, Coonoor , The Nilgiris District.	Nilgiris Dt.	766
6	M/s. Neat and Clean Service Squad, Muthuvayal, Ramanathapuram District.	Ramanathapuram Dt.	21
7	M/s. Ramkey Energy and Environment Ltd, Thangayur, Salem District.	Salem, Namakkal, Erode, Dharmapurai, Krishnagiri, Karur	1500
8	M/s. Techno Therm Industries, Orattukuppai, Coimbatore District.	Coimbatore, Pollachi, Udumalpet, Mettupalayam, Tiruppur, Sathyamangalam.	2500
9	M/s. Kovai Bio Waste Management Pvt Ltd., Orattukuppai, Coimbatore District.	Coimbatore, Nilgiris.	1450
10	M/s. Ramkey Energy and Environment Ltd., Undurmikidakulam, Virudhunagar District.	Madurai Dt, Virudunagar Dt, Dindigul Dt, Theni Dt & Ramanathapuram Dt.	4000
11	M/s. Aseptic System Bio Medical Waste Management Co., Pappankulam, Tirunelveli District.	Tirunelveli Dt, Thoothukudi Dt, Kanniyakumari Dt.	1640
12	<b><u>Service Provider for soiled bio-medical waste</u></b> M/s. B.J. Expo Private Limited, Vellanur village, Ambattur Taluk, Tiruvallur District.	Chennai, Kancheepuram and Tiruvallur Districts.	

## 5.14 E WASTE MANAGEMENT

The Ministry of Environment, Forest and Climate Change, Government of India notified the E-Waste Management Rules, 2016. This rule will come into force from the 1<sup>st</sup> day of October, 2016. Electronic waste or e-waste comprises old, end of life electrical and electronic appliances such as telephones, cellular telephones, computers, laptops, television sets, refrigerators, washing machine, air-conditioners, fluorescent and other mercury containing lamps etc., The rules apply to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment.

As per the rules, the producer of the electrical and electronic equipment shall be responsible for collection and channelization of e-waste generated from the 'end-of-life' of their products under Extended Producers Responsibility. State Pollution Control Board shall grant and renew authorization to the manufacturers, dismantlers, recyclers and refurbishers. SPCB shall monitor on the compliance of Extended Producer Responsibility by the producer of electrical or electronic equipment for channelization of e-waste to ensure environmentally sound management of such waste. SPCB shall conduct random inspection of dismantler or recycler or refurbisher, maintain online information regarding authorization granted, implementation of programmes to encourage environmentally sound recycling, and action against violations of the rules. TNPCB has issued authorization for 35 units (Collection centres 16, Dismantlers 14, recyclers 5) under the e-Waste (Management & Handling) Rules.

### List of authorized E-waste Collection Centres in Tamil Nadu

S.No	Name and address of the unit
1	M/s.Kalyani Enterprises, No.73, Konnur High Road, Ayanavaram, Chennai -600 023.
2	M/s.Daiken Air Conditioning India (P) Ltd., Chindatripet, Mylapore – Triplicane, Chennai.
3	M/s.Canon India (P) Ltd., No.23, Sivaganga Road, Nungambakkam, Chennai-34
4	M/s.Toshiba India Pvt. Ltd., No.323, 324, Arcot Road, Saligramam, Chennai -600 093.
5	M/s.Apple India Private Ltd., C/o.Kuehne Nagel India, 41&42, Koduvalli Karani Village, Redhills to Thiruvallur High Road, Chennai – 600 055.
6	M/s. Schenker India Private Limited, C/o. Lenova India Private Ltd No.426/3A-3D, Killi Road Manjampakkam, Near Agarsen College, Madhavaram P.O, Chennai - 600 060.



7	M/s. E Parisaraa Private Limited, Plot No.150 (Part), Perunkudi Industrial Estate, Perungudi, Chennai.
8	M/s. Param Enterprises, Plot No3, Periyar Salai, Kovilambakkam, Chennai – 600117.
9	M/s. Sathyam Computers, S.F. No.602/3, Sholinganallur, Sholinganalluru Taluk, Kancheepuram District
10	M/s. Ensure Support Services India Ltd., No.7, North Phase, Guindy Industrial Estate, Chennai – 600 032.
11	M/s. Best IT World India Private Ltd., New No. 68, Swamy Pandaram Street, Leader Palace 3 <sup>rd</sup> Floor, Chinthadripet, Chennai.
12	M/s. ETA General Private Ltd, No.1, Victor Road, Madhavaram, Chennai.
13	M/s. Zebronics India Private Limited, No.31, Wallers Road, 2 <sup>nd</sup> Floor, Mount Road, Chennai.
14	M/s. Netsys IT Solutions, TS No. 125 Block No 26, Ayanavaram village, Ayanavaram Taluk, Chennai District.
15	M/s. Attero recycling Pvt. Ltd., Door No.2, Alapakkam village, Madhuravoyal Taluk, Tiruvallur District.
16	M/s Quality Business Systems, SF. No. 505, Ambattur Industrial Estate (South), Mogappair village, Ambattur Taluk, Thiruvallur District.

#### List of authorized E-waste dismantling units in Tamil Nadu

Sl. No.	Name and address of the unit
1	M/s. Shri Raam Recycler, DP-29, SIDCO Industrial Estate, SIPCOT Complex, Gummidipoondi, Tiruvallur District.
2	M/s Abisek Enterprises, Ambattur village, Ambattur Taluk, Tiruvallur District.
3	M/S .Tritech Systems, No 165/3 , Porur, Chennai – 600 116.
4	M/s Genbruge Solutions Pvt Ltd., 40/9, 3 <sup>rd</sup> Main Road, Industrial Estate,Ambattur, Chennai – 600 098.
5	M/s. Ecosible Recyclers Pvt Ltd., No 19, Bhansali Chemical Avenue, Tass Industrial Estate, Chennai – 600 098.
6	M/s AER World wide India Pvt Ltd, SF No 2B,2C ,2D & 2E, No 774,Elanthanjeri Village, Madhavaram Taluk, Tiruvallur District.
7	Ms/. INAA Enterprises, Plot no.ac-31/24, SIDCO Industrial Estate, Thirumudivakkam, Kancheepuram District.
8	M/s. World Scrap Recycling Solution, S.FNO.351/7, Beemanthangal Village, Sriperumbadur Tk, Kancheepuram District.

9	M/s. K.S.Traders, Thiruneermalai Village, Alandur Taluk, Kancheepuram District.
10	M/s. Leela Traders, Plot No. C – 15/1, CMDA Industrial Complex, Maraimalai Nagar, Kancheepuram District.
11	M/s. Trishyiraya Recycling India Private Limited, Plot No.A-7, Phase –I, MEPZ-SEZ,Kadaperi, Tambaram Taluk, Kancheepuram District.
12	M/s. Green E waste Pvt Ltd., Kilayanambakkam Village, Ambattur Taluk, Tiruvallur District.
13	M/s. Southern Alloys, DP.No.S-105 & 106, SIDCO Industrial Estate, Kakkalur, Tiruvallur Taluk, Tiruvallur District.
14	A.K Enterprises, T.S No. 10 Block 3, Velacheri Part I Village, Velacheri Taluk, Chennai District.

### **List of authorized E-waste recyclers in Tamil Nadu**

<b>Sl.No.</b>	<b>Name and address of the unit</b>
1	M/s. Ultrust Solutions (India) Pvt Ltd, SF.No:297/1b-2,No.49, Pappankuppam Village, Gummidipoondi Taluk, Tiruvallur District.
2	M/s.Victory Recovery & Recycle Technologies India Private Limited, 672/2, Double Dragon Industrial Park,Kannur Village & Post, Kottaiyur Taluk, Tiruvallur District.
3	TESAMM India Pvt Ltd., A-18, SIPCOT Industrial Growth centre, Panrutti 'A' Village, Oragadam, Sriperumbudur Taluk, Kancheepuram District
4	M/s. Environmetals Waste Management India (P) Ltd, S. No. 1049/06, Ezhichur Village, Sriperumbudur Taluk, Kancheepuram District.
5	M/s. SEZ Recycling, TP-7, IVth Avenue, Mahindra World City Developers Limited, Industrial Estate, SEZ Area, Thenmelpakkam Village, Chengalpattu Taluk, Kancheepuram District

## **5.15 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT**

The Ministry of Environment Forest and Climate Change, Government of India has notified the Construction and Demolition Waste Management Rules, 2016. These rules are newly notified exclusively to manage waste from construction activities. These rules apply to every waste resulting from construction, re-modeling, repair and demolition of any civil structure of individual or organization or authority who generates construction and demolition waste such as building materials, debris and rubble. The local bodies shall ensure proper management of construction and demolition waste. SPCB shall grant authorization for the waste processing facility and monitor the implementation of these rules. TNPCB has addressed all the local bodies to identify sites for collection and processing facility for the C&D wastes.

**6.0 AIR, WATER AND NOISE MONITORING NETWORK**

**6.1 AIR QUALITY MONITORING**

With the increased industrial and commercial activities in the vicinity of major cities, the quality of the ambient air is being affected by emissions from the industries and from the ever increasing vehicular population. As per the provision of Air (Prevention and Control of Pollution) Act, 1981, the entire state of Tamil Nadu has been declared as an air pollution control area.

**6.1.1 AMBIENT AIR QUALITY MONITORING IN CHENNAI**

Tamil Nadu Pollution Control Board is operating eight ambient air quality monitoring stations in Chennai under National Air Quality Monitoring Programme (NAMP) funded by Central Pollution Control Board.

The eight ambient air quality monitoring stations in Chennai are:-

S.No.	Station location	Land use zone / area
1	Kathivakkam	Industrial area
2	Manali	Industrial area
3	Thiruvottiyur	Industrial area
4	Kilpauk	Commerical area (Traffic intersection)
5	T.Nagar	Commerical area (Traffic intersection)
6	Nungambakkam	Commerical area (Traffic intersection)
7	Anna Nagar	Residential area
8	Adyar	Residential area

All the above stations are functioning on 24 hours basis, twice a week. The samples collected from NAMP stations are analysed for the Respirable Suspended Particulate Matter (RSPM) (RSPM is particulate matter less than 10 microns) and gaseous pollutants such as Sulphur di oxide (SO<sub>2</sub>) and Nitrogen di Oxides (NO<sub>2</sub>).

The National Ambient Air Quality Standards prescribed is given below:

Area	Annual average concentration of pollutants in $\mu\text{g}/\text{m}^3$		
	SO <sub>2</sub>	NO <sub>2</sub>	RSPM
Industrial, Residential, Rural & other areas	50	40	60

The ambient air quality data collected from the above mentioned air quality monitoring stations (NAMP) indicate that the parameters such as sulphur dioxide, nitrogen dioxide are found to be well controlled in Chennai including the industrial area. The average values of Respirable Suspended Particulates levels exceeded the standard in Chennai at Kilpauk, T.Nagar, Nungambakkam and Anna Nagar Monitoring stations (NAMP).

The exceedance of RSPM levels at few stations in Chennai city are mainly due to the Metro Rail work, dust contributed by pipe line, telephone/electrical cable laying activities on the road and also due to the re-suspension of traffic dust generated from automobile emissions and heavy vehicular traffic and pedestrian movement. The average values of pollutants recorded at the above monitoring stations under NAMP programme during the period 2015-2016 are in Annexure – 6 . TNPCB displays the daily monitoring data through electronic display board at the Head Office, Guindy to create awareness to the general public.

#### 6.1.2 AMBIENT AIR QUALITY MONITORING IN OTHER CITIES AND MAJOR TOWNS IN TAMIL NADU

Under NAMP, TNPCB monitors the ambient air quality in other cities and major towns in Tamil Nadu. The location of stations is given below.

S.No.	Station location	Land use zone
<b>Thoothukudi (Since 1988)</b>		
1	Raja Agencies	Industrial zone
2	SIPCOT	Industrial area
3	A.V.M. Building	Mixed zone
<b>Coimbatore (Since 1991)</b>		
4	District Collector's Office	Mixed zone
5	Ponniyarajapuram	Residential zone
6	SIDCO Building	Industrsil zone
<b>Salem (Since 1996)</b>		
7	Sowdeswari College	Mixed zone

<b>Madurai (Since 1996)</b>		
8	Highways Project Building	Residential zone
9	M/s.Susee Cars and trucks Co., Ltd.	Industrial zone
10	Madurai Corporation Office (SZ)	Mixed zone
<b>Trichy (Since 2012)</b>		
11	Gandhi Market	Commercial zone
12	Main Guard Gate	Traffic intersection
13	Bishop Heber College	Mixed zone
14	Golden rock	Residential zone
15	Central bus stand	Traffic intersection
<b>Cuddalore (Since 2013)</b>		
16	Echankadu Village	Residential zone
17	DEE Office	Commercial zone
18	SIPCOT	Industrial zone
<b>Mettur (Since 2013)</b>		
19	Raman Nagar	Residential zone
20	SIDCO	Industrial zone

All the above monitoring stations under NAMP, functions on a 24 hour basis, twice a week. The samples collected from NAMP stations are analysed for the RSPM and gaseous pollutants sulphur dioxide and nitrogen dioxide. The ambient air quality data recorded during 2015-2016 indicate that the parameters sulphur dioxide and nitrogen dioxide are found to be well within the standards at Thoothukudi, Madurai, Coimbatore, Salem, Trichy, Cuddalore and Mettur.

The annual average values of PM<sub>10</sub> were found to exceed the standards at all monitoring stations in Thoothukudi, at M/s. Susee Cars and Highways Project buildings in Madurai, Gandhi market, Main Guard Gate and Central bus stand in Trichy. The exceedance of PM<sub>10</sub> at the above monitoring stations is mainly due to the increase in number of vehicles and the surface dust generated by vehicular movement but also due to the digging and laying activities for pipe lines, electrical and telephone cables and due to heavy commercial and industrial activities. The annual average values of pollutants recorded at the above monitoring stations during the period 2015-2016 are given in Annexure – 6.

### **6.1.3 FESTIVAL MONITORING**

Every year the people of Tamil Nadu celebrate various festivals like Pongal (Boghi), Vinayagar Chathurthi and Deepavali and during the year. While celebrating the festivals there is a possibility of Environment Impact on nearby water body or ambient air quality. CPCB has developed specific guidelines for the monitoring purpose during the festival celebrations. TNPCB is monitoring ambient air quality at various locations in the state during Pongal (Bhogi) festival, ambient air quality and noise during Deepavali. While celebration of Vinayar Chathurthi, TNPCB is monitoring water quality of nearby water body to know the environment impact.

### **6.1.4 CONTINUOUS AMBIENT AIR QUALITY MONITORING STATIONS**

In order to monitor the ambient air quality on continuous basis, the Board installed six Continuous Ambient Air Quality Monitoring (CAAQM) stations. Four stations are installed at Chennai (viz) Koyambedu, Royapuram, Perungudi (Sai Nagar), Kodungaiyur, and one station at SIPCOT Gummidipoondi and one station at SIPCOT Thoothukudi. The CAAQM stations at Royapuram, Perungudi (Sai Nagar), Kodungaiyur and SIPCOT Thoothukudi monitors PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, NH<sub>3</sub>, O<sub>3</sub>, CO and BTX, whereas the CAAQM stations at Koyambedu and SIPCOT Gummidipoondi monitors PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and NO<sub>2</sub> on continuous basis.

In addition to the above, the TNPCB in collaboration with CPCB is operating one CAAQMS at Manali and one station is under establishment in Coimbatore on 50:50 cost sharing basis under the programme of CAAQMS – Network in Critically Polluted Areas.

### **6.1.5 MOBILE CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION**

In March 2016, TNPCB has commissioned one mobile continuous ambient air quality monitoring station to monitor the ambient air quality on real time basis. The Mobile station has the facility to monitor sulphur di oxide (SO<sub>2</sub>), nitrogen di oxides (NO<sub>2</sub>), ammonia (NH<sub>3</sub>), ozone (O<sub>3</sub>), carbon monoxide (CO), benzene, toluene, ethylbenzene, xylene (BTEX), particulate matter size less than 10 micron (PM<sub>10</sub>) and particulate matter size less than 2.5 micron (PM<sub>2.5</sub>). The station also have weather monitoring station to measure wind direction, wind speed, ambient temperature, relative humidity, solar radiation, rainfall, barometric pressure etc. This mobile station is used to monitor the air quality in hotspots of Chennai city and other places.

### **6.1.6 CARE AIR CENTRE**

In order to monitor both source emissions and ambient air quality on a real time basis of the industries located in the State, TNPCB has established Care Air Centre at the Corporate office, Chennai. This is a continuous real time emission monitoring system of connected industries belonging to red category and especially for 17 category of highly polluting units. It

functions on 24 X 7 basis. When the emission levels exceed the norms, the inbuilt system will inform the concerned industry and the District Environmental Engineer, Member Secretary through an automated short messaging dystem (SMS) and electronic mail (e.mail) to take immediate remedial action. Upto 31<sup>st</sup> March, 2016, 351 units are connected to Care Air Centre for online monitoring. Of these, 334 units are connected for stack emission monitoring and 90 units for ambient air quality monitoring

### **6.1.7 VEHICULAR EMISSION MONITORING**

In Tamil Nadu, Emission Under Control Certificate (EUCC) is issued to all kind of vehicles by the private emissions testing centers authorized by Transport Department under rule 116(B) of Tamil Nadu Motor Vehicles Rules 1989. TNPCB is not operating any vehicle emission checking centers from 01.11.2010 onwards. The Board conducts training programme on operation of emission checking instruments for the persons to be engaged in emission checking centers. The Board also issue working performance certificate for the new emission monitoring instruments to be used in the private emission testing centers. During the year 2015-16, two training programme were conducted and 46 persons were trained. Working performance certificate was issued to 10 new instruments.

### **6.1.8 NATIONAL AMBIENT NOISE MONITORING NETWORK PROGRAMME**

Noise is generated from a variety of indoor and outdoor sources such as industries, transport vehicles, construction activities, generator sets, fire crackers. The Noise Pollution (Regulation and Control) Rules, 2000 were notified by MoEF & CC under the Environment (Protection) Act 1986 and amended in January 2010. Database on noise level is required for policy formulation, setting standards and ensuring compliance of the existing rules.

TNPCB in association with CPCB has established 10 Real Time Ambient Noise Monitoring Stations in Chennai City under National Ambient Noise Monitoring Network Programme. The locations are 1).Egmore, 2).T.Nagar, 3).Perambur, 4).Guindy, 5).Triplicane, 6).Pallikaranai, 7).Vellachery, 8).Washermanpet, 9).Anna Nagar, 10).Sowcarpet. The monitoring data reveals that the ambient noise level in Chennai city is exceeding the prescribed standards which is due to vehicular movement and construction activities. The annual average noise level for year 2015 is given in Annexure- 7 .

## **6.2 LABORATORIES**

TNPCB has established 5 Advanced Environmental Laboratories, 10 District Environmental Laboratories under section 17 (2) of the Water (Prevention and Control of Pollution) Act, 1974 amended in 1978 and 1988, so as to enable the Board to perform its functions efficiently and to cover the industries located in various districts. Samples of



effluents are collected periodically and analysed. The statistics of samples analysed in each laboratory during the year 2015-2016 are given in Annexure – 8.

### **6.3 WATER QUALITY MONITORING**

#### **6.3.1. MONITORING OF INDIAN NATIONAL AQUATIC RESOURCES (MINARS) AND GLOBAL ENVIRONMENTAL MONITORING SYSTEM (GEMS)**

TNPCB is monitoring the inland water quality under two major programmes namely Global Environmental Monitoring System (GEMS) from 1984 and Monitoring of Indian National Aquatic Resources (MINARS) from 1988 at 32 stations along the four major rivers i.e. Cauvery, Tamiraparani, Palar and Vaigai and three lakes i.e. Ooty, Kodaikanal and Yercaud in Tamil Nadu. Subsequently, CPCB has sanctioned 23 additional water quality monitoring stations under the 11<sup>th</sup> plan period during November 2010 and the monitoring was started from December 2010. At present 55 stations are being monitored by TNPCB. The programmes are funded by the CPCB, Delhi.

Under MINARS programme, the rivers Tamiraparani, Palar and Vaigai and the lakes Udhamandalam, Kodaikanal, Yercaud, Veeranam, Porur, Poondi, Pulicat and Redhills are being monitored. Under GEMS and MINARS programmes the river Cauvery is being monitored. Generally the water quality criteria for CPCB – GEMS / MINARS Programme of the river is categorized under Class A, B, C, D, E and below E based on its Designated Best Use (DBU).

As per IS 2296-1982 **Class A:** Drinking Water Source without conventional treatment but after disinfection **Class B:** Outdoor bathing (organized) **Class C:** Drinking water source after conventional treatment and disinfection, **Class D:** Propagation of Wild life and fisheries, **Class E:** Irrigation, Industrial Cooling, Controlled Waste Disposal. **Below E** refers to the quality of water is not meeting A, B, C, D and E Criteria.

#### **6.3.2 River Cauvery and its Tributaries**

The Cauvery river is a major river in the State which drain more than one third of the State. This river has been identified as a major river for studying the impact of pollution caused by various activities of the domestic and industrial sectors. The quality of Cauvery river water is being monitored at 33 stations along the river under GEMS (4 stations) and MINARS (29 stations). These stations were selected on the basis of the location of outfalls of industrial effluents, municipal domestic sewage and other outfalls.

The physico-chemical and biological parameters are analysed for all the monitoring stations. Sampling is carried out based on the frequency prescribed by Central Pollution Control Board, Delhi and analysis is done at the Advanced Environmental Laboratory, Salem. The mean values of water quality at various sampling stations are enclosed, in Annexure – 9A,

9B, 9C. The overall analysis of the data reveals contamination of surface water of the river due to the unhygienic anthropogenic activities and disposal of either untreated or partially treated municipal and domestic waste into the river systems directly or indirectly. Generally, the water quality of river Cauvery falls under Class C excepting Kalingarayan Canal (B5), Vairayapalayam, R.N.Pudur which fall under E and Thirumanimuthar, Vasista and Sarabanga fall under Below Class E.

### **6.3.3 River Tamiraparani**

The water quality of the Thamiraparani river is being monitored on a frequency prescribed by CPCB, Delhi at 12 places. The physico-chemical parameters and biological parameters are analysed in the District Environmental Laboratory at Tirunelveli and the details are furnished in Annexure – 10. The water quality study conducted during the year 2015-2016 shows that the average level of pH values varied between 6.2 & 7.7 and the average values of the Bio-chemical oxygen demand (BOD) ranged between 2.0 & 5.0 mg/L as against the standards prescribed for pH (6.5 - 8.5) and BOD 3mg/L respectively. The parameters analysed, meet the standards prescribed for surface water quality under the class B.

### **6.3.4 River Palar**

The water quality of river Palar is being monitored every month with one monitoring station at Vaniyambadi municipal head works. The analysis of water samples is done in the AEL at Chennai, for physico-chemical and biological parameters. The mean values of water quality are furnished in Annexure -11. The analysed data reveals that the water quality of the river at the sampling point meet the standards prescribed for surface water quality under Class C – Drinking water source after conventional treatment and disinfection.

### **6.3.5 River Vaigai**

The water quality of the Vaigai river is being monitored by collecting the samples once in six months from the collection well of Thirubuvanam head works and analysed in the AEL at Madurai for physico-chemical and bacteriological parameters. The water quality of the Vaigai river (collected from infiltration well) meets the standards prescribed for surface water quality under class 'D' and the details are furnished in the Annexure – 11.

### **6.3.6 Lakes**

Under MINARS programme, 8 important lakes of Tamil Nadu at Udhagamandalam, Kodaikanal, Yercaud, Veeranam, Porur, Poondi, Pulicat and Redhills have been identified and monitored by collecting samples on monthly basis. The mean values of water quality are furnished in Annexure -12. The Coliform values in Udhagamandalam lake are found to exceed the standards prescribed due to the surface run off and sullage discharge into lake either

directly or indirectly. The water quality of the Udhgamandalam lake does not meet the water quality criteria (DBU Class) and the water quality is 'E'. The water quality of the Pulicat lake also does not meet the water quality criteria (DBU Class) and this may be due to back water intrusion in that particular sampling point. The water quality of Kodaikanal Lake meets the standards prescribed for surface water quality under class 'E'. The water quality of Yercaud, Poondi and Redhills lakes meet Class 'C' standards, whereas Porur Lake meets Class 'E' standard.

#### 6.4 CHENNAI CITY WATERWAYS MONITORING PROGRAMME

TNPCB is monitoring the water quality of four city water ways in Chennai city (i.e) Adyar River, Buckingham Canal, Cooum River and Otteri Nallah to assess the pollution level by collecting monthly water samples from April 2003 both in water bodies and sewage / industrial outlets into the said water bodies. Totally 30 monitoring locations. The sampling locations are given as follows:

Sl.No.	Name of water body	Sampling location in water body	Sampling location of sewage / Industrial outfall
1	Adyar river	i. Manapakkam bridge, ii. Thiru Vi Ka bridge iii. Alandur Abraham bride	i. Slaughter house ii. Nesapakkam STP outlet iii. Nesapakkam STP outlet Extn
2	Buckingham canal	i. Kathivakkam bridge ii. Manali road bridge iii. Wallaja road bridge iv. Lattice road bridge	i. Ennore Thermal Power Station ii. CPCL-I outlet iii. CPCL-II outlet iv. Madras Fertilizer Ltd outlet v. Kodungaiyur STP outlet-I vi. Kodungaiyur STP outlet-II vii. Kodungaiyur 110 MLD STP outlet
3	Cooum river	i. Thiumangalam cause way ii. Chitra Talkies bridge iii. Napier bridge	i. Koyambedu STP Outlet ii. Kyambedu STP Outlet Extn. iii. Alandur STP Outlet iv. Perungudi STP Outlet
4	Otteri Nallah	i. Block 'L' East Road bridge ii. Asprin Garden Bridge iii. Vyasarpadi Road bridge	i. Slaughter House ii. ICF Shell iii. Villivakkam STP Outlet
	<b>Total Stations</b>	<b>13</b>	<b>17</b>

The Report of analysis of the above stations are given in Annexure – 13A, 13B, 13C, 13D. The report reveals that the BOD, TDS and Chlorides are exceeded the standards when compared with the IS 2296-1982 Class A Standard prescribed for inland surface waters subject to pollution. This is due to mixing of sewage into the water bodies.

#### **6.5 CONTINUOUS WATER QUALITY MONITORING STATIONS**

In order to monitor the water quality of river Noyyal and Kalingarayan canal on continuous basis in the textile industrial belt of Tiruppur and Erode districts, TNPCB installed online continuous water quality monitors at three locations each in Noyyal river and Kalingarayan canal. These stations monitors pH, total dissolved solids, dissolved oxygen on continuous basis. Similarly TNPCB installed three stations in river Thamirabarai. These stations are functioning from October, 2014.

#### **6.6 WATER QUALITY WATCH CENTRE**

TNPCB has established a Water Quality Watch Centre at the Corporate Office, Chennai. It is functioning since July 2015. This centre monitors the quality of treated effluent at the outlet of the treatment plant on continuous (24x7) basis through online. Upto 31<sup>th</sup> march 2016, 82 units are connected to this centre; of which 44 units are connected for zero liquid discharge monitoring and 38 units for treated effluent discharge monitoring. This type of monitoring system will leads to self monitoring and improve the environmental water quality.

### 7.1 ENVIRONMENTAL STANDARDS

One of the functions of the TNPCB is to lay down, modify or annul effluent standards with the approval of Government of Tamil Nadu, for the sewage and trade effluents and for the emission of air pollutants into the atmosphere from industrial plants and automobiles or for the discharge of any air pollutant into the atmosphere from any other source. TNPCB adopts the standards notified by the Minisrty of Environment, Foresets and Climate Change under the Environment (Proctection) Act, 1986. The Board has also prescribed standards for the discharge of treated sewage / trade effluents depending upon the mode of disposal either into inland surface water, sewer and marine coastal areas or on land. Treated effluent from the industries must satisfy the respective standards before its disposal. Ambient Air Quality Standards and Emission Standards have been fixed for polluting industries. The Board monitors the quality of effluent, stack emission and ambient air quality in the vicinity of industries and ensures that they adhere to the prescribed effluent / emission standards.

### 8.1 LEGAL ACTION

The TNPCB is taking legal action against the defaulting industries. During the year 2015-2016, 3481 show cause notices were issued and 65 industries were closed for non complying with the consent order conditions.

### 8.2 GREEN BENCH

The Hon'ble High Court has constituted a 'Green Bench' during the year 1996 as per the direction of Hon'ble Supreme Court of India dated 28.8.1996 in W.P.( c) No.914/1991. The Green Bench deals with cases pertaining to Environment related matters. The cases pending as on 31.3.2016 is 180, which are under trial.

### 8.3 APPELLATE AUTHORITY

Hon'ble Appellate Authority has been constituted under the chairmanship of a Hon'ble Justice (Retd), High Court of Madras with two technical members as per the G.O.Ms.No.66, Environment and Forests Departments, dated 7.5.2013. It is functioning at No.51, Gangadeeswarar koil street, Purasaivakkam, Chennai-86. The Authority entertains and disposes of the appeals preferred by the industries against the order of the TNPCB issued under Section 25/26 and 27 of Water (Prevention and Control of Pollution) Act, 1974, as amended in 1988 and any orders issued under Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987. During the year 2015-2016, 82 appeals have been filed, out of which 26 cases were disposed off and the remaining 56 cases are under trail.

### 8.4 NATIONAL GREEN TRIBUNAL

The National Green Tribunal (NGT) was established at New Delhi on 18.10.2010, for effective and expeditious disposal of cases relating to environmental protection and forest conservation. Any person aggrieved by an order or decision of the SPCB and /Appellate Authority order issued under Section 28, 29 and 33A of the Water (Prevention and Control of Pollution) Act, 1974, under Section 13 of Water (Prevention and Control of Pollution) Cess Act, 1977, under Section 31 of the Air (Prevention and Control of Pollution) Act, 1981 and under Section 5 of the Environmental (Protection) Act, 1986 may apply to NGT within 30 days of the order issued by the Board /Appellate Authority .

NGT for southern zone was constituted and functioning at Chennai. TNPCB has facilitated for the establishment of first bench of NGT southern zone. The Board has also facilitated the establishment of the second bench of the NGT southern zone at Chennai. The second bench is functioning from 23.3.2015 onwards. The NGT is functioning at TNPCB Building, Arumbakkam, Chennai-106. So far 563 cases involving TNPCB were filed. Among these, 300 cases were disposed off and 263 cases are under trial.

### 9.1 ENVIRONMENTAL TRAINING INSTITUTE (ETI)

ETI is an organizational wing of TNPCB, which was established in 1994 with Danish assistance. It is functioning in the 3<sup>rd</sup> floor of TNPCB Corporate office. ETI is guided by a steering committee, chaired by Chairman, TNPCB and its Members are from Government, PCB and CEOs of Industry. An Advisory Council comprising of members from Industries, Non Governmental Organizations (NGOs), academic and government institutions, provide technical support to the ETI.

The main objective of the Training institute is to impart training to staffs of the Pollution Control Board, Industrial representatives, Executives of Municipalities and Corporations, Line agencies and NGOs on the following aspects.

- (i) Improve awareness at all levels.
- (ii) Introduce the holistic approach to environment & sustainable development
- (iii) Introduce the basic theories, concepts and methodologies of integrated environmental planning and management aiming a sustainable development
- (iv) Promote public awareness and motivation to preserve and protect the environment through NGOs.
- (v) Create cross-media awareness in industries, urban sectors and among the public on environmental hazards and adverse impacts on the quality of life.
- (vi) Pollution control at source by cleaner technology and improved processes of materials and products. This includes conservation of non-renewable resources, resource recovery, refuse recycling and disposal of minimum waste to the environment.
- (vii) Improve environment management capacity in the sector of industry and urban development.
- (viii) Develop the ability among professionals to communicate effectively.

During the year 2015-2016, ETI has conducted 28 programmes and trained 1746 persons. The details are given in table.



### Training programme conducted from April 2015 to March 2016

S. No.	Date	Programme	Industry	TNPCB	Govt.	Others	Total
1	09.05.2015	Role of TNPCB Engineers to scrutiny of EIA reports	-	103	-	-	103
2	29.05.2015	Identification and quantification of hazardous waste generation from Industry	128	5	-	-	133
3	03.06.2015	Activities of TNPCB – A programme for the I.A.S probationers	-	-	7	-	07
4	04.07.2015	Pollution control laws and rules for Ministerial staffs of TNPCB at The Tamilnadu Dr. Ambedkar Law University	-	250	-	-	250
5	08.07.2015	Knowledge sharing session – Presentation by Dr. Jayaraman, Former Member Secretary, Loss of Ecology	-	25	-	-	25
6	31.07.2015	Integrated coastal zone regulation management	-	5	47	-	52
7	11.08.15 to 14.08.15	Environmental economics for TNPCB officials at Madras School of Economics	-	25	-	-	25
8	25.08.15 to 27.08.15	Hazardous Waste Management for TNPCB officials in collaboration of CSE, New Delhi.	-	40	-	-	40
9	22.09.15	Training programme for Deputy Collectors – Direct Recruitment for the year of 2011 – 2013	-	-	5	-	5
10	02.11.2015 to 06.11.2015	Environmental economics for TNPCB officials at Madras School of Economics	-	25	-	-	25
11	05.11.2015	Interactive session on 'Air Quality and Health Issues with Dr. Rashid Shakih, Director, Health Effects Institute, New York at Corporate Office with stakeholders and TNPCB officials	10	15	-	-	25
12	23.11.2015 to 27.11.2015	Environmental economics for TNPCB officials at MSE, Chennai	-	15	-	-	15

13	05.01.2016 & 06.01.2016	OCMMS training for Small scale Industries in Trichy Zone	60	-	-	-	60
14	11.01.2016 & 12.01.2016	OCMMS training for Small scale Industries in Vellore Zone	65	-	-	-	65
15	18.01.2016 to 22.01.2016	Environmental economics for TNPCB officials at Madras School of Economics	-	28	-	-	28
16	23.01.2016	Technical session at Auditorium for Engineering officials of TNPC Board	-	230	-	-	230
17	27.01.2016 & 29.01.2016	OCMMS training for Small scale Industries in Madurai Zone	169	-	-	-	169
18	29.01.2016	Training for Kilpauk Medical College Students on Bio-medical waste management.	-	-	-	34	34
19	05.02.2016	Presentation on Plastic Waste Management by CIPET	-	8	-	4	12
20	11.02.2016 & 12.02.2016	OCMMS training for Small scale Industries in Coimbatore Zone	114	-	-	-	114
21	15.02.2016 to 19.02.2016	Environmental economics for TNPCB officials at Madras School of Economics	-	31	-	-	31
22	24.02.2016	Presentation on Ozo Nono Advanced Treatment – by NOXXLL	-	11	3	3	17
23	25.02.2016 & 26.02.2016	RTI Act 2005 Training programme for TNPCB officials at Anna Institute of Management	-	22	-	-	22
24	08.03.2016	Training programme on bio-medical waste management for Kilpauk Medical College students	-	-	-	52	52
25	10.03.2016 & 11.03.2016	RTI Act 2005 Training programme for TNPCB officials at Anna Institute of Mangement	-	25	-	-	25
26	16.08.2016 to 18.03.2016	Training programme on TNPCB activities for Pro-Deputy Collectors	-	-	1	-	1
27	18.03.2016	OCMMS training for Small scale Industries in Chennai Zone	151	151			
28	30.03.2016	Training programme on bio-medical waste mangement for Kilpauk Medical College students	-	-	-	30	30
<b>Total</b>			<b>697</b>	<b>863</b>	<b>63</b>	<b>123</b>	<b>1746</b>

### 10.1 ENVIRONMENTAL AWARENESS AND PUBLIC PARTICIPATION

Environmental awareness is to understand the fragility of environment and the importance of its protection. Promoting environmental awareness is an easy way to become an environmental steward and participate in creating a brighter future for coming generations. Environmental campaign has become an important tool to achieve effective compliance of various pollution control norms. Large scale public involvement can strengthen environment movements for the sake of implementation of environment-friendly rules and regulations by the government machinery in much better way to have the most desired results. Considering the above, the TNPCB has conducted various types of environmental awareness programmes every year on the following occasions. During the year 2015-2016, the following programmes were conducted.

#### 10.1.1 Vinayagar Chathurthi Festival

Awareness programmes are conducted through the Collectors in all the district headquarters and towns not to use plaster of paris and paints to make the Vinayagar idols. The Board also monitors water quality of the identified water bodies before and after immersion of idols in specified locations.

#### 10.1.2 Deepavali Festival

As a part of the awareness campaign to inform the public about the health effects caused by air and noise pollution, due to bursting of crackers continuously, special awareness and monitoring programmes were conducted by TNPCB during Deepavali in November 2015 along with monitoring of noise level and air quality in cities and major towns in Tamil Nadu. Awareness programmes are conducted not to burst crackers from 10 PM to 6 AM and also not to burst crackers creating sound more than 125 decibel (average). The noise level and the ambient air quality surveys were conducted during Pre-Deepavali and Deepavali days in Chennai, Trichy, Coimbatore, Madurai, Tirunelveli, Vellore, Salem, Hosur, Tiruppur, Dindigul and Cuddalore. The results were published in the TNPCB website. Report of analysis of ambient air quality and ambient noise level survey conducted in Chennai city is given in Annexure-14.

#### 10.1.3 Bhogi Festival

Board conducted awareness programmes during Bhogi Festival January 2016 not to burn the waste materials such waste tyres, tubes, plastic materials, cloths etc in open places. A special ambient air quality survey on pre-bhogi and bhogi days were conducted in Chennai at 15 places viz., Kathiwakkam, Manali, Thillai Nagar (Kollathur), Tondiarpet, Royapuram, Thiru Vi.Ka. Nagar, Ambattur, Anna Nagar, Besant Nagar, Thiyagaraya Nagar, Perungudi, Karambakkam, Meenambakkam, Kodambakkam and Shozinganallur. Report of analysis is given in Annexure-15.

#### **10.1.4 Karthigai Mahadeepam Festival**

The Plastic Awareness campaign was conducted every year in Thiruvannamalai Town during the Karthigai Mahadeepam Festival held in November 2015. In order to encourage the people to avoid plastic carry bags and use alternate like cloth bag, paper bags, jute bags, TNPCB conducted a programme by giving coupons to the people who brings cloth bag, jute bags and select the winners by lucky draw and give gold and silver coins. This has created huge awareness among the people.

#### **10.1.5 Mahamaham Festival**

TNPCB has conducted extensive awareness programme during the Mahamaham Festival in January 2016. "Maasilla Mahamaham" rally was conducted on 7.1.2016 in Kumbakonam in which more than 1000 school students participated. Workshop on "Clean Kumbakonam" was conducted on 22.1.2016 in which more than 500 school students participated. On 2.2.2016, plastic awareness rally was conducted in which more than 1000 college students participated. On 3.2.2016, human chain was conducted with a theme of "Clean Kumbakonam", in which more than 1500 school students participated. The Board has also participated in the Special Exhibition conducted for Mahamaham Festival.

#### **10.1.6 Government Exhibitions**

TNPCB actively participates in the Government Exhibitions conducted every year at Island Grounds in Chennai and in the District Head Quarters by providing stall and exhibits models on Effluent Treatment Plant, Air Pollution Control Measures, Solid Waste Management and other information on Environmental Protection. In 2015-16, TNPCB participated in the Government Exhibitions held in Island Grounds and in Tiruvannamalai, Trichy, Thanjavur, Nagercoil. Large number of Students and People have visited the stalls and benefited. In Theni District, TNPCB installed a stall in the Vaigai Peruvizha festival for creation of environmental awareness to the people.

#### **10.1.7 Environmental Awareness Programme in Erode**

In order to create environmental awareness among public, a State level Environmental Awareness Programme was conducted by the Board on 16.10.2015 and 17.10.2015 at Erode. In the programme, the public representative, the representatives of Local Bodies, Officials from the various Departments, Environmentalists, NGOs, Students of various Colleges and Schools and Pubic have participated. In the programme, environmental awareness rally was conducted with the participatin of students of various Colleges and Schools on 16.10.2015. Environmental Awareness Exhibition was held on 16.10.2015 and 17.10.2015 and display arrangement was made by various departments and NGOs and Association of various industries. Further, Environmental Awareness cultural programmes were conducted by the students of various colleges.

## **CHAPTER – 11**

### **11.0 VISITS TO THE BOARD BY EXPERTS, IMPORTANT PERSONS**

Delegates from the People's Republic of Bangladesh have visited the TNPCB during the third week of August 2015 on the study tour on “Promotion of Resources Efficient Brick and Textile Manufacturing in Bangladesh”. A seven member team headed by Director (Joint Secretary), Department of Environment, Dhaka have visited the TNPCB, Head office and the Zero Liquid Discharge plant in Textile Processing units' CETPs at Tiruppur on 18.8.2015.

## CHAPTER – 12

### 12. OTHER IMPORTANT MATTERS DEALT WITH BY THE BOARD

#### 12.1 PUBLIC HEARING

As per the Environmental Impact Assessment Notification, 2006, certain categories of industrial projects require prior environmental clearance from the Ministry of Environment, Forests and Climate Change, Government of India or State Environmental Impact Assessment Authority (SEIAA) which depends on the size of the project. As per the notification, TNPCB conducts public hearing headed by the District Collector. After conducting public hearing, inviting opinions from the public, the details of the minutes are sent to the MOEF, Government of India or SEIAA. During the period April 2015 to March 2016, public hearings were conducted for 20 projects.

Sl.No.	Name and Address of the Promoters	Details of the project	Date of Public Hearing
1	M/s. ONGC Ltd., Block-III in Ramanathapuram District.	Proposed drilling of 22 Exploratory well (Natural Gas) in Block-III in Ramanathapuram District.	14.05.2015
2	M/s. Oren Hydrocarbons Pvt Ltd., S.F.No.377/1-A, 378/1, 383/1A,1B,1C,1D1, 1E,1F, 1G1,384/1A at Getnamallee Village, Gummidipoondi Taluk, Thiruvallur District.	Proposed Beneficiation Plant of barite Ore (Throughput Capacity 96900 TPA) at Getnamalle Village, Gummidipoondi Taluk, Thiruvallur District.	15.05.2015
3	M/s. MRF Limited., Naranamangalam Village, Alathur Taluk, Perambalur District	Proposed 50 MW (2x25 MW) Coal based Captive power plant, Naranamangalam Village, Alathur Taluk, Perambalur District	20.05.2015
4	M/s. Oil and Natural Gas Corporation Ltd., (Exploratory Drilling of 14 Well) Cuddalore District.	Kattumannarkoil Taluk 1. 53/6 -Omampuliyur 2. 76/5 – Meiyathur 3. 22/1C2 – Kalikadanthan 4. 31/1A – Purathangudi, 5. 59/5 – Nandeeswaramangalam 6. 221 Road – Perur 7. 357/13 – Palayankottai Keelpathi Chidambaram Taluk 1. 13/5 – Kilavandinatham 2. 68/2 – Erumbur 3. 215/3 – Adhivaraganatham 4. 93/4 – Suthukuzhi 5. 55/1 – K.Adur 6. 92/3B – Kiliyanur Kurinjipadi Taluk 1. 293/15 – Pachar Palayam, Cuddalore District, Tamilnadu.	08.07.2015

5	M/s. Kamatchi Sponge & Power Corporation Limited., Pappankuppam Village, Gummidipoondi Taluk, Tiruvallur District.	Proposed Expansion of existing Steel Plant by Installation of Electric Arc Furnace, Concast billet&Rolling mill with Captive Power plant of 1x120 MW by M/s. Kamatchi Sponge & Power Corporation Limited, Pappankuppam Village, Gummidipoondi Taluk, Tiruvallur District.	13.08.2015
6	M/s. Bharat Petroleum Corporation Ltd., (A Government of India Enterprises, Southern Region) S.No.1556B of Vallur Village and S.No.354/1 of Athipattu Village, Ponneri Taluk, Tiruvallur District	Proposed project of construction the new Ennore Installation for storing and transportation of petroleum products of total storage capacity of 1,17,035 KL by M/s. Bharat Petroleum Corporation Ltd at S.No.1556B of Vallur Village and S.No.354/1 of Athipattu Village, Ponneri Taluk, Tiruvallur District.	10.09.2015
7	M/s. Perarignar Anna Handloom Silk Park,S.F No 3/3B, Kilkathirpur Village, Kancheepuram Taluk, Kancheepuram District.	Proposed Silk Park by M/s. Perarignar Anna Handloom Silk Park Ltd., Kancheepuram District, Tamilnadu.	09.10.2015
8	M/s. The Ramco Cements Ltd., Alathiyur Village, Sendurai Taluk, Ariyalur District.	Proposed addition of 6 MW Turbine to the existing 2x18 MW Captive Power Plant in Alathiyur Cement Plant, Alathiyur Village, Sendurai Taluk, Ariyalur District.	14.10.2015
9	M/s. The Ramco Cements Ltd., Alathiyur Village, Sendurai Taluk, Ariyalur District.	Proposed expansion of South of South Limestone mine from 0.105 MTPA to 1.0 MTPA ROM/0.65 MTPA Clean limestone over an extent of 44.805 Hect. Manakudayan Village, Sendurai Taluk, Ariyalur Distirct.	15.10.2015
10	M/s. Tamilnadu Cements Corporation Ltd., Kairulabad Village, Ariyalur Taluk, Ariyalur District.	Proposed expansion of M/s. Tamilnadu Cements Corporation Ltd., Kairulabad Village, Ariyalur Taluk, Ariyalur District by setting up a new production line with a capacity of 1.0 MTPA Clinker and 1.13 MTPA Cement plant	04.11.2015



11	M/s. Cheyyar SIPCOT Industrial Park (Expansion), Vembakkam and Cheyyar Taluk, Tiruvannamalai District	Proposed expansion of M/s. Cheyyar SIPCOT Industrial Park in the following revenue limits: Vembakkam Panchayat Union 1.Mathur 2.Mangal 3.Ukkampermbakkam 4.Alinjapattu 5.Chellaperupulimedu 6.Perumpulimedu 7.Chozhavaram (of Vembakkam Taluk, Tiruvannamalai District). Anakavoor Panchayat Union 1.Mahajanambakkam 2.Kunnavakkam 3.Karanai (of Cheyyar Taluk, Tiruvannamalai District).	05.11.2015
12	M/s. UGSS Nagercoil Municipality, (Construction of Sewage Treatment Plant at SF.No.M7/9-2, Vadiveeswaram Village,(Now Vadiveeswaram South Town) and Sewage Pumping Station) Nagercoil, Agastheeswaram Taluk, Kanyakumari District.	Proposed (Construction of Sewage Treatment Plant at SF.No.M7/9-2, Vadiveeswaram Village,(Now Vadiveeswaram South Town) and Sewage Pumping Station) Nagercoil, Agastheeswaram Taluk, Kanyakumari District.	19.11.2015
13	M/s. Krishna Mines., S.F.No.767 to 790 & 791/2, Ramaiyanpatti Village, Tirunelveli Taluk, Tirunelveli District	Proposed ML.Area-31.092 HA, Limestone Production Capacity 4.55 Lakh TPA, Ramaiyanpatti Village, Tirunelveli Taluk, Tirunelveli District.	20.11.2015
14	M/s. Ponni Sugars Erode Ltd., (Co Generation Power Plant), Odapalli, Pallipalayam, Tiruchengode Taluk, Namakkal District	Proposed expansion of power generation capacity from 15 MW to 19 MW in the Existing Co Generation plant.	25.11.2015
15	M/s. EID Parry (INDIA) Limited., (Co-Generation Power Plant), S.F.Nos. 147/3A/23, 147/3A/34, 147/3A/32B, 147/8,147/9, 147/10, 147/11,147/16A, 147/16B, 147/12, 147/13A,152/2A,2D, 152/12&152/3A, Pettavaithalai Village, Srirangam Taluk, Trichy District.	Proposed Expansion of the Co-Generation Power Plant generation capacity from 18 MW to 20 MW.	04.12.2015
16	M/s. Subramaniya Siva Co-operative Sugar Mills Limited., S.F.No.10,12,14 Gopalapuram Village, Alapuram( Post), Pappireddipatti Taluk, Dharmapuri District-636 904.	Proposed 45 KLPD Molasses based Distillery cum Ethanol plant.	15.02.2016

17	M/s. Kallakurichi-II Cooperative Sugar Mills Ltd, Kachirayapalayam - Village, Vadakkanandal (Post), Chinnasalem Taluk, Villupuram District, Pincode – 606 207.	Setting up of Proposed 45 KLPD Molasses based Distillery cum Ethanol plant at Survey Nos. 292/1A etc., of Kachirayapalayam Village, Chinnasalem Taluk, Villupuram District within the premises of M/s. Kallakurichi-II Cooperative Sugar Mills Ltd, Kachirayapalayam Village, Chinnasalem Taluk.	18.02.2016
18	M/s. Everest Industries Ltd., (Podanur Works), Kurichy Village, Madukkarai Taluk, Coimbatore District.	Proposed enhancement of Production capacity (from 14,500 T/M to 30,000 T/M ) of Asbestos Cement Sheet of Chrysolite Asbestos cement fibre products (Roofing sheets and accessories).	24.02.2016
19	M/s. The Ramco Cements Limited., Pudur, Sennaiyampatti and Nadukattur Villages, Vilathikulam Taluk, Thoothukudi District.	Proposed to increase the Limestone mining from 0.101 Million TPA to 0.50 Million TPA (0.72 Million TPA (ROM)) in the mines located in Pudur, Sennaiyampatti and Nadukattur Villages (98.62 hectares), Vilathikulam Taluk, Thoothukudi District.	25.02.2016
20	M/s. The Ramco Cements Ltd., Manakudayan Village, Sendurai Taluk, Ariyalur District.	Proposed Expansion of South of South Limestone mine for production enhancement from 0.105 MTPA to 1.0 MTPA ROM/0.65 MTPA Clean limestone over an extent of 44.805 Ha at S.F.Nos parts of 83,84,91-94,110-112&115-118 of Manakudayan Village, Sendurai Taluk, Ariyalur District.	15.03.2016

## 12.2 WATER CONSERVATION

As a water conservation measure, three major industries in Manali and Basin Bridge area are utilising about 25 MLD (million liters per day) of city sewage for cooling purposes in their plants after tertiary treatment. The textile processing dyeing units in the State including units at Tiruppur have provided reverse osmosis plants for recovering the process water from the effluent. The recovered water is reused in the process. In sugar industries, water condensate from evaporators is reused. As a condition for issue of consent, industries have been instructed to provide rainwater harvesting arrangements. All the industries have set up rain water harvesting systems. The roof top rainwater harvesting system has also been provided in the offices of the Tamilnadu Pollution Control Board.

## 12.3 CLEANER TECHNOLOGIES

TNPCB has been concerned in promoting a holistic approach to environment protection by enforcing adoption of cleaner technology rather than mere end-of-pipe treatment. Several industrial units in Tamil Nadu have switched over to cleaner technologies such as;

- Adoption of membrane cell process replacing mercury cell process in caustic soda manufacturing.
- Adoption of dry process instead of wet process to reduce air pollution in cement factories.
- Utilization of 25 to 30% of fly ash in Portland Pozzolana Cement manufacturing.
- Adoption of double conversion and double absorption technology in sulphuric acid manufacturing.
- Gas carburizing instead of cyanide salt in heat treatment and cyanide free electroplating.
- Pulp and paper industries are encouraged to go in for elemental chlorine free bleaching to reduce the formation of organo-chlorides including dioxins.
- Industries consuming ozone depleting substances are systematically changing to environment friendly compounds.

#### **12.4 WASTE MINIMISATION**

With the adoption of cleaner technologies there has been progress in waste recovery and waste minimization. Examples include recovery of materials such as chrome from tannery effluent and ammonia from fertilizers. Distilleries have been insisted to provide zero liquid discharge system and 7 distilleries have gone for bio-composting of their effluents with press mud of sugar factories for achieving zero liquid discharge of trade effluent and 5 distilleries have established concentration cum incineration system to dispose spent wash effluent and has achieved zero liquid discharge of trade effluent.

#### **12.5 ENERGY CONSERVATION**

As a measure for fuel conservation and recovery, all the distilleries are recovering methane gas from their spent wash through anaerobic digestion. Major sugar factories have installed co-generation power plants. The sago units recover methane gas from their trade effluent through anaerobic digestion. Activated carbon manufacturing units have gone for waste heat recovery boiler and eliminated the dedicated boiler to produce steam for the activation purpose. This system eliminated the consumption of coal / wood as fuel for the boiler and thus avoided greenhouse gaseous emission. Other industrial units are encouraged to use less energy and it is being audited through the environmental statements of the unit. TNPCB has installed solar panels for all its 18 own office buildings to get solar energy. The new buildings which are under construction will be provided with solar panels.

## **12.6 ENVIRONMENTAL STATEMENT**

Under the rule 14 of the Environment (Protection) Rules 1986, submission of Environmental Statement is made compulsory for every industry covered under the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981 or the Hazardous and Other Wastes (Management, Transboundary) Rules, 1989. Industries are required to submit Environmental Statement for the financial year ending 31<sup>st</sup> March every year in the prescribed Form-V before 30<sup>th</sup> September every year to the State Pollution Control Board. Environmental Statements have been obtained from all the 17 category of highly polluting industries in order to assess their water & energy consumption and their efforts in reducing the pollution levels.

## **12.7 ENVIRONMENTAL AUDIT**

For self auditing of the environmental management systems, all major industrial units have been asked to get the ISO 14001 certifications which are awarded by an external agency after auditing the environmental management systems.

## **12.8 GREEN AWARDS**

As per the announcement made in the Legislative Assembly during the year 2011-12, Green awards are given every year to Industries who have adopted best practices in achieving best environmental quality in emission, discharge of waste water, solid and hazardous waste management and green belt development. Similarly Green Awards are also given to the District Collectors who have taken action for the betterment of environment in their districts. For year 2014-15, 4 proposals were received from District Collectors and 18 proposals were received from the industries. The proposals were evaluated through the Expert Committee.

## **12.9 TECHNOLOGY DEMONSTRATION CENTRE**

TNPCB on enforcement and its monitoring encourages Cleaner Technology, Waste Minimization Technology, Hazardous substance elimination by alternate process, reuse, and recycle systems, zero liquid discharge and best available technology to promote industrial development within the sustainable development in the State of Tamilnadu. As the number of industries in Tamil Nadu is increasing at a rapid rate, crossing over 46000, the enforcement authorities and industries find it challenging to attain sustainable development and to derive suitable solution to address the environmental issues. In order to find a solution, TNPCB has established a Technology Demonstration Centre at Indian Institute of Technology Madras and have entered into a Memorandum of Understanding (MoU). A sum of Rs.5 crores has been allocated for this purpose. The Technology Demonstration Centre has conducted treatability studies for rice mills, sago and small scale textile processing units. The Centre has conducted

awareness programme on fire management on waste landfill site for the Municipal Authorities, Fire Department and TNPCB officials. The Centre has also conducted technical workshop for sago industries for better understanding of the characteristics of sago waste water, anaerobic treatment, biogas generation, optimizing the process parameters to enhance the composition and quantity of biogas generated. This Centre designed and fabricated the Upflow Anaerobic Sludge Blanket Reactor (UASB) to demonstrate best available technology for anaerobic treatment of sago waste water and energy generation. Further work in this regard is continuing.

## **12.10 OFFICE BUILDING CONSTRUCTION**

TNPCB head office at Guindy, Chennai is functioning in own building. Among the 36 District Offices, the Board has its own building for 17 offices. For the remaining 19 District offices, buildings are nearing completion in 6 districts namely Coimbatore North, Coimbatore South, Oragadam, Erode, Perundurai and Vaniyambadi. For 3 Districts namely Tiruvallur, Nagapattinum and Salem, land has been acquired and Detailed Project Report is under preparation by Public Works Department. For 9 Districts namely Tiruppur North, Tiruppur South, Thiruvannamalai, Theni, Nagarcoil, Ooty, Ariyalur, Dharmapuri and Ramanathapuram lands are yet to be acquired. For one District (i.e) Karur, land was allotted in the Master Plan complex and work order was issued to PWD. Latter the construction work was stopped in view of a litigation in the Hon'ble Superem Court on land compensation issue.

## **12.11 GREEN COVER PROGRAMME**

As a measure of pollution check, industries have been directed to utilize 25% of their land area for developing green belt with trees having a thick canopy cover. Accordingly, industries have taken action to plant adequate number of trees in and around the industrial premises.

### **12.11.1 MASSIVE TREE PLANTING PROGRAMME**

To commemorate the 64<sup>th</sup>, 65<sup>th</sup>, 66<sup>th</sup> and 67<sup>th</sup> Birth Anniversaries of the Hon'ble Chief Minister of Tamil Nadu, Tamil Nadu Government has launched the Massive Tree Planting Programme (MTPP), aimed at planting 64 lakh, 65 lakh, 66 lakh and 67 lakh seedlings respectively. TNPCB has supported the Forests Department for the above Massive Tree Planting Programme during the year 2012, 2013, 2014 and 2015 respectively. The Board has released a fund of Rs.28.84 crores, Rs.20 crores, Rs.17.99 crores and Rs.16.832 crores for the tree planting programme during the year 2012, 2013, 2014 and 2015 respectively.

## **12.12 APPLIED RESEARCH AND DEVELOPMENT**

As per Section 17 of the Water (Prevention and Control of Pollution Act), 1974, promotion of research and development activities are one of the functions of the SPCB.

Accordingly, TNPCB provides financial supports for research projects relating to environmental protection from Cess Funds.

In 1996, the Board established an Applied Research and Development Wing and constituted an AR&D Evaluation Council, to assist the Board in R&D activities. The Board vide proceedings No.22, dated 04.07.2008 issued revised guidelines for funding of R&D Projects. In 2010, the Board reconstituted the AR&D Council with expert members from the renowned State/Central Government Departments, Research Institutions, Reputed Universities and Industries. The Board also constituted a sub-committee to evaluate the research proposals and recommend to AR&D Council. The AR&D Council makes recommendation to the Board for sanction of financial assistance. During the year 2015-2016, the AR&D Council has recommended the following four projects.

Sl No	Title of the Project	Name of the Principal Investigator	Name of the University Department/ Institution	Amount sanctioned in Rs.
1.	Assessment of road traffic noise and auditory health among traffic police in Chennai city.	Dr. S.Sankar Associate Professor & Head	Department of Environmental Health & Engg., Sri Ramachandra University, Porur Chennai – 600 116.	9,85,950/-
2.	Regional Impact of Climate Change due to atmospheric fine particulate matter and Black Carbon for Chennai city.	Dr.K. Palanivelu Director	Centre for Climate Change and Adaptation Research (CCCAR), Anna University	9,98,200/-
3.	Tertiary treatment of domestic wastewater for the destruction of antibiotic resistant bacterial pathogen using bio molecule derived from leather industry solid waste.	Dr. K. Ramani Assistant Professor	Department of Bio Technology, SRM University, Kattankulathur – 603 203	10,00,000/-
4.	Treatability Studies for Recycling of Trade Effluents from Waste Paper Recycling Units, India	Dr. S. Kanmani Professor & Director	Centre for Environmental Studies, Anna university	4,99,905/-
<b>Total</b>				<b>34,84,055/-</b>

### **12.13 COMPLAINT CELL**

Due to increased Environmental awareness and awareness on Pollution Control Legislation several complaints are being received from various individuals / Organisation/ NGOs etc. regarding water, air and noise pollution. To take appropriate action against these complaints, an active 'Complaint Cell' is functioning in the head office, Chennai on all working days. For easy access of the Public and others, separate telephone number, 044-22353153, fax 044-22353153 and e-mail- [tnpcbcomplaint@gmail.com](mailto:tnpcbcomplaint@gmail.com) is allotted for receiving complaints and guidance. The complaints are attended by calling reports along with the recommendations from the field officers of the Board. Action required based on the reports are taken then and there. During the year 2015-16 526 No.of CM Cell petitions and 558 No. of Amma Call Centre petitions were received and they have been investigated and disposed off. As a part of e-governance, TNPCB has introduced online grievance petition redressal system ([www.pcbolgprs.in](http://www.pcbolgprs.in)) from 1<sup>st</sup> March 2016 onwards. Complaints on environmental pollution due to industries can be registered through online. The complaint status can be tracked through online. The complaint will be investigated and replied to the petitioner through SMS and e.mail.

### **12.14 RIGHT TO INFORMATION ACT**

In pursuance to the directions of Government of Tamil Nadu, TNPCB designated the Additional Chief Environmental Engineer as State Information Officer (Appellate Authority) and Joint Chief Environmental Engineer in the Corporate Office and 36 District Officers are designated as Public Information Officers to provide information to the persons requesting information under the Right to Information Act, 2005. From 1<sup>st</sup> April 2015 to 31<sup>st</sup> March 2016, the Board has received 2118 applications seeking information and provided the information. In the same period 107 Nos. for first appeal petitions and 14 Nos. of second appeal petitions were disposed and disposed off.

### **12.15 TNPCB AND YOU**

To guide the new entrepreneurs in understanding the various Environmental Legislations and the procedure for obtaining consent of TNPCB, the Board has published a book on 'TNPCB and You' during the World Environment Day, 2013 function. The soft copy of the book is also available in Tamil Nadu Pollution Control Board website. [www.tnpcb.gov.in](http://www.tnpcb.gov.in)

### **12.16 LIBRARY**

The TNPCB Library was established in November 1989. At present the library has a collection of above 11,988 Books and Reports. The Collections are classified under Dewey decimal classification. The collection comprises of documents related to the field of Environmental Protection, Air Pollution, Vehicular Pollution, Water Pollution, Noise Pollution,



Wastewater Treatment, Municipal Waste Management, Hazardous Waste Management, Bio Medical Waste, Environmental Engineering, Industrial Pollution, Chemical Technology, Disasters, Soil, Energy, Pesticides, Biotechnology, Environmental Health, Environmental Economics, Environmental Chemistry, Environmental Impact Assessment, Environmental Education, Sustainable Development, Women and Environment, Environmental Law and Forestry.

Library subscribes for 51 Journals, 9 Newspapers, 10 Magazines. Besides this, Annual Reports, Newsletters, Bulletins and Reports are received from different Institutions (Indian & foreign). Back volumes of the journals are bound and kept for reference in the Periodical Section. Library is administrated by the Library Committee and Library Purchase Committee chaired by the Member Secretary. The committee consists of the Senior Officers of the Board and experts from Anna University and IIT, Madras. Membership is opened to all those who involve in Environmental aspects. Readers are provided photocopying facilities.

**MEMBERSHIP FEE**

Student:	Monthly	-	Rs. 30.00
	Annual	-	Rs. 75.00
Individual	Annual	-	Rs. 100.00

School and College Students, Research Scholars, Lectures & Professors, Professionals, NGOs, Industrialists and other Government Department officials and people involved in environmental protection field used to refer the Library. Readers are not only from Chennai but also from all over Tamil Nadu and from neighbouring States visit the library.

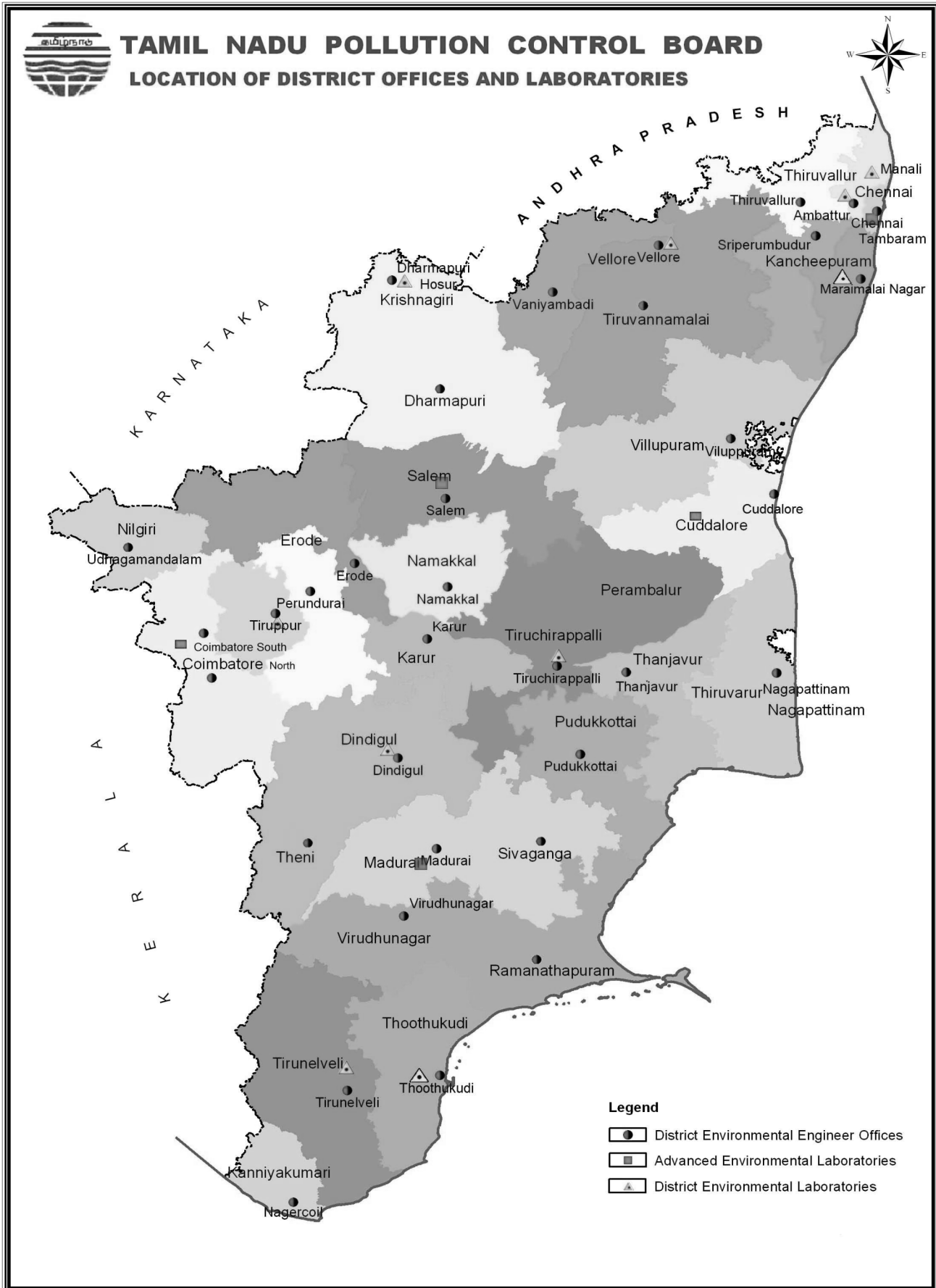
**Annexure - 1**

**List of Board Members from 01.04.2015 to 31.3.2016**

<b>Sl. No.</b>	<b>Board Members</b>	<b>Position</b>	<b>From</b>	<b>To</b>
1	<b>Thiru. K. SKANDAN, I.A.S.,</b> Additional Chief Secretary / Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai – 600 032.	Member	1.4.2015	31.3.2016
2	<b>Thiru. HANS RAJ VERMA, I.A.S.,</b> Principal Secretary to Government, Environment and Forests Department, Fort St. George, Secretariat, Chennai – 600 009.	Member	1.4.2015	31.3.2016
3	<b>V. ARUNROY, I.A.S.,</b> Joint Secretary to Government, Finance Department, Secretariat, Fort St. George, Chennai – 600 009.	Member	1.4.2015	23.6.2015
4	<b>Thiru T.UDHAYACHANDRAN, I.A.S.,</b> Secretary to Government (Expenditure), Finance Department, Secretariat, Fort St. George, Chennai – 600 009.	Member	24.6.2015	31.3.2016
5	<b>Thiru. R. KIRLOSH KUMAR, I.A.S.,</b> Director of Town and Country Planning, Chengalvarayan Building, IV Floor, 807, Anna Salai, Chennai – 600 002.	Member	1.4.2015	18.2.2016
6	<b>Thiru. A. KARTHIK, I.A.S.,</b> Director of Town and Country Planning,A/c., Chengalvarayan Building,IV Floor, 807, Anna Salai, Chennai – 600 002.	Member	18.2.2016	31.3.2016
7	<b>Dr. K. KOLANDASWAMY, M.B.B.S.,</b> <b>DPH, DIH,MAE.,</b> Director of Public Health and Preventive Medicine, Chennai – 600 006.	Member	1.4.2015	31.3.2016
8	<b>Dr. K. KARTHIKEYAN, M.Tech., Ph.D.,</b> Member Secretary, Tamilnadu Pollution Control Board, 76, Mount Salai, Guindy,Chennai – 600 032.	Member	23.9.2015	31.3.2016
9	<b>Thiru. C. VIJAYARAJ KUMAR, I.A.S.,</b> Managing Director, TWAD Board, Chepauk, Chennai – 600 005.	Member	1.4.2015	31.03.2016

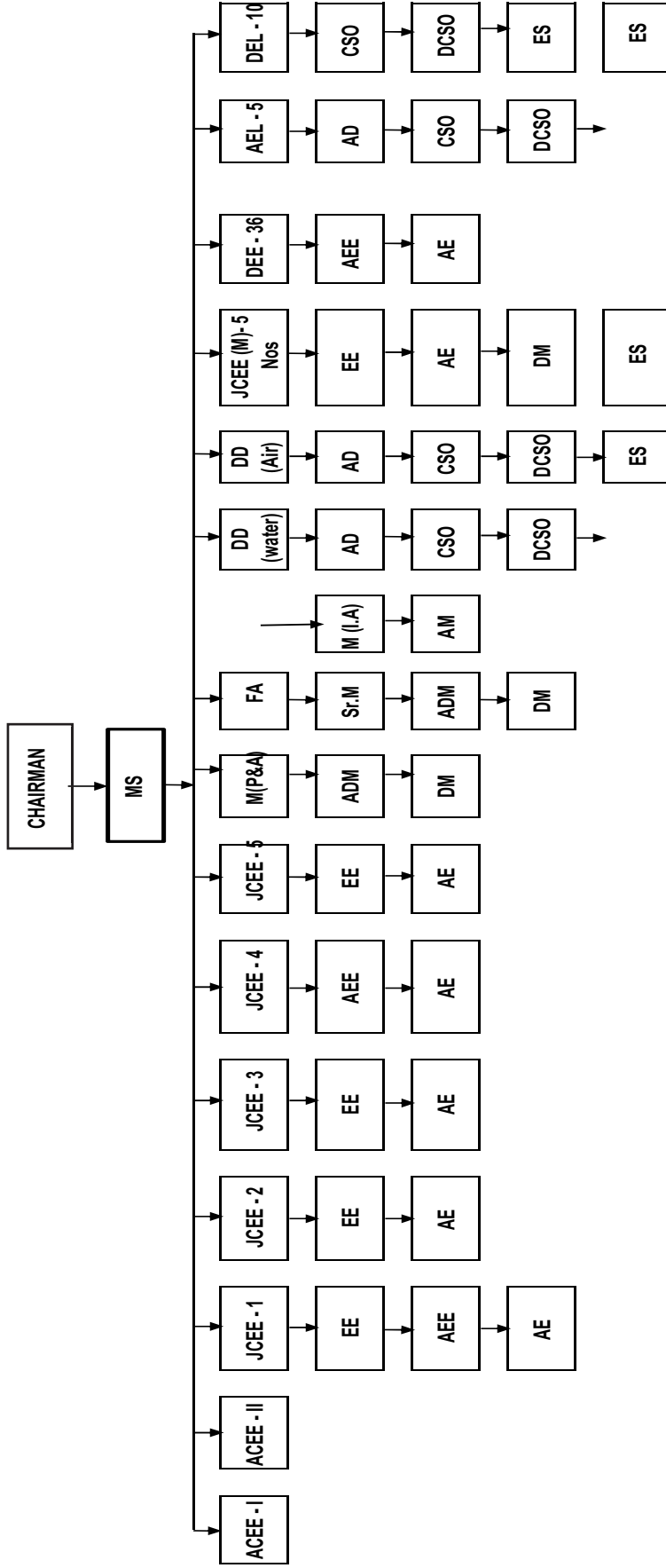
10	<b>Thiru. S. DEVARAJAN, M.E.,F.I.E.,</b> Director (Generation) / TANGEDCO., Tamilnadu Electricity Board, Electricity Avenue (NPKRR Maligai), 800, Anna Salai, Chennai – 600 002.	Member	1.4.2015	31.05.2015
11	<b>Thiru. T.V.K. MURUGAN, B.E.,</b> Director (Project), Director (Generation) A/c., / TANGEDCO., Tamilnadu Electricity Board, Electricity Avenue (NPKRR Maligai), 800, Anna Salai, Chennai – 600 002.	Member	31.5.2015	30.6.2015
12	<b>Thiru. PRABAKARAN,</b> Director (Project), Director (Generation) A/c., / TANGEDCO., Tamilnadu Electricity Board, Electricity Avenue (NPKRR Maligai), 800, Anna Salai, Chennai – 600 002.	Member	1.7.2015	31.7.2015
13	<b>Thiru.K. SIVAPRAKASAM,M.E., MIE.,</b> Director (Project), Director (Generation) A/c., / TANGEDCO., Tamilnadu Electricity Board, Electricity Avenue (NPKRR Maligai), 800, Anna Salai, Chennai – 600 002.	Member	1.8.2015	31.3.2016
14	<b>Tmt. MADHUMATHI KUMAR,</b> DGM (P&SP) / General Manager (P&R) SIPCOT, 194, Marshall Road, Chennai – 600 008.	Special Invitee	1.4.2015	31.03.2016
15	<b>Thiru. JAGMOHAN SINGH RAJU, I.A.S.,</b> Commissioner and Director of Industries and Commerce, A/c., 36, South Canal Bank Road, Mandavelipakkam, R.A. Puram, Chennai – 600 028	Special Invitee	1.4.2015	31.3.2015
16	<b>Thiru. H. MALLESAPPA, I.F.S.,</b> Director of Environment Department, Ground Floor, Panagal Building, Saidapet, Chennai – 600 015.	Special Invitee	1.4.2015	31.03.2016

Annexure - II



Annexure - 3

ORGANISATION CHART



**ACEE's Work Allocation**

- ACEE - I : Construction, P&D, Care Air, 17 Category
- ACEE - II : Lab, 17 Category, Care Centre

**JCEE's Work Allocation**

- JCEE - 1 : Tanneries, Textiles, Petrochemical, Power, Sugar, Distillery
- JCEE - 2 : Dairy, Sago, Stone Crushers, BMW, Glass, Paint
- JCEE - 3 : ETI, Pharma, Pesticides, Rubber, Explosives, MSW, Plastics
- JCEE - 4 : Cement, Engg., Foundry, hotels, Industrial Estates, Orange, Chemicals, Pulp & Paper
- JCEE - 5 : P&D, Construction, BMS, Legislative Assembly Questions, Computer Section, Care Air

- ACEE : Additional Chief Environmental Engineer
- JCEE : Joint Chief Environmental Engineer
- JCEE (M) : Joint Chief Environmental Engineer (Monitoring)
- EE : Environmental Engineer
- DEE : District Environmental Engineer
- AEE : Assistant Environmental Engineer
- AE : Assistant Engineer
- FA : Financial Advisor
- Sr.M : Senior Manager
- M(P&A) : Manager (Personnel & Administration)
- M (I.A) : Manager (Internal Audit)
- DM : Deputy Manager
- ADM : Additional Manager

- DD : Deputy Director
- AD : Assistant Director
- CSO : Chief Scientific Officer
- DSCO : Deputy Chief Scientific Officer
- ES : Environmental Scientist
- AEL : Advanced Environmental Laboratory
- DEL : District Environmental Laboratory

**ANNEXURE – 4 A**  
**STAFF DETAILS AS ON 31.03.2016**

Sl.No.	Name of the Post	No. of Staff
1	Chairman	1
2	Member Secretary	1
3	Engineering Service	200
4	Engineering Sub Ordinate Service	10
5	Scientific Service	73
6	Scientific Sub Ordinate Service	87
7	General Service	22
8	General Sub Ordinate Service	278
9	Miscellaneous services	4
10	Basic Service	36
11	Deputation	2
	<b>Total</b>	<b>714</b>
	<b>I. Engineering Service</b>	
1	Additional Chief Environmental Engineer	2
2	Joint Chief Environmental Engineer	8
3	Environmental Engineer	48
4	Assistant Environmental Engineer	46
5	Assistant Engineer	95
6	Assistant Engineer ( Auto)	1
	<b>Total</b>	<b>200</b>
	<b>II. Engineering Sub Ordinate Service</b>	
1	Junior Engineer	1
2	Assistant Draughts Man	2
3	Electrician	5
4	Technical Assistant	2
	<b>Total</b>	<b>10</b>
	<b>III. Scientific Service</b>	
1	Deputy Director (Labs)	2
2	Assistant Director (L)	7

3	Chief Scientific Officer	7
4	Deputy Chief Scientific Officer	20
5	Environmental Scientist	34
6	Senior Meteorologist	1
7	Meteorologist	2
	<b>Total</b>	<b>73</b>
<b>IV. Scientific Sub Ordinate Service</b>		
1	Junior Environmental Scientist	7
2	Field Assistant	52
3	Lab Assistant	28
	<b>Total</b>	<b>87</b>
<b>V. General Service</b>		
1	Senior Law Officer (Manager) Deputation	-
2	Deputy Director (I.A)	-
3	Senior Manager ( F & A)	1
4	Manager	2
5	Law Officer	1
6	Additional Manager	3
7	Deputy Manager	15
	<b>Total</b>	<b>22</b>
<b>VI. General Sub Ordinate Service</b>		
1	Assistant Manager	57
2	General Assistant	68
3	Assistant	65
4	Private Secretary	-
5	Steno Typist (Grade – I)	4
6	Steno Typist (Grade – II)	18
7	Steno Typist (Grade – III)	3
8	Telephone Operator	2
9	Typist	10
10	Driver	44
11	Motor Cycle Messenger	1

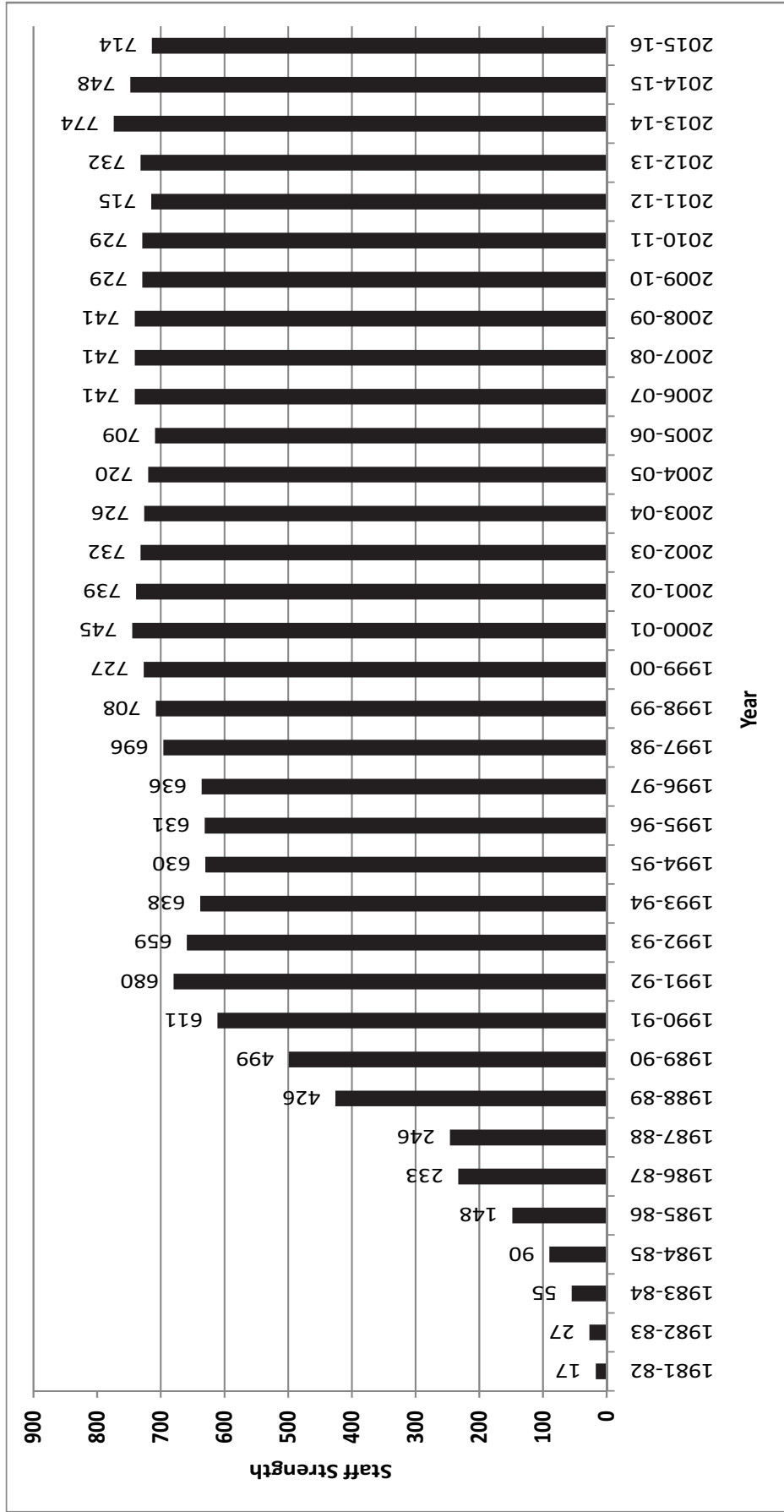


12	Record Clerk	6
	<b>Total</b>	<b>278</b>
<b>VII. Miscellaneous Services</b>		
1	Statistical Officer	-
2	Assistant Statistical Officer	1
3	Librarian (Grade – I)	1
4	Librarian (Grade – II)	-
5	Senior Programmer	1
6	Junior Programmer	1
7	Data Entry Operator	-
	<b>Total</b>	<b>4</b>
<b>VIII. Basic Service</b>		
1	Office Assistant	30
2	Sweeper	5
3	Watchman	1
	<b>Total</b>	<b>36</b>
<b>IX. Deputation</b>		
1	Director - Lab	1
2	Financial Adviser	1
	<b>Total</b>	<b>2</b>

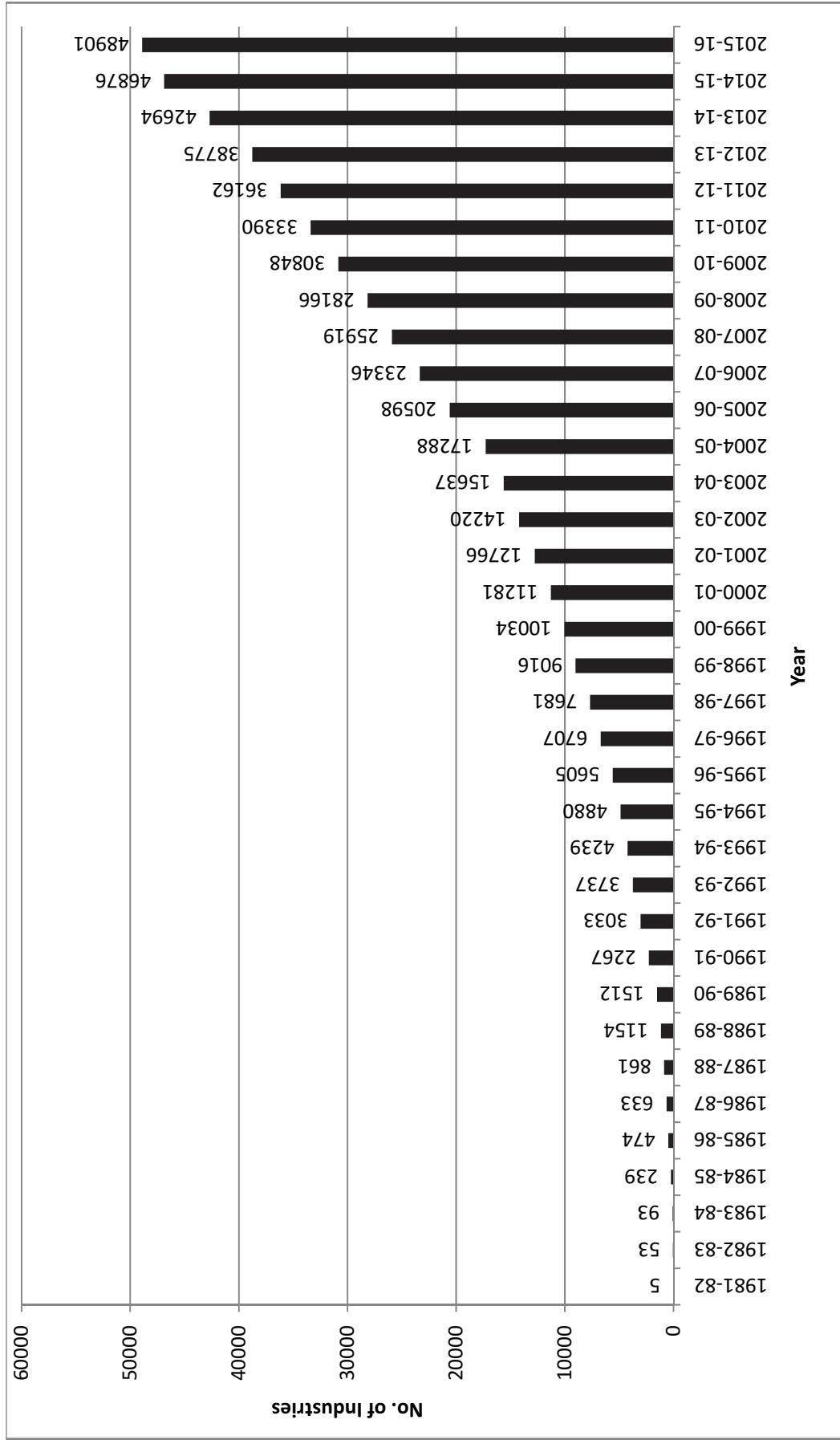
**Pensioners**

1	Pensioners	191
2	Family Pensioners	54
	<b>Total</b>	<b>245</b>

**Annexure 4-B**  
**TNPCB Staff Strength – Year wise**

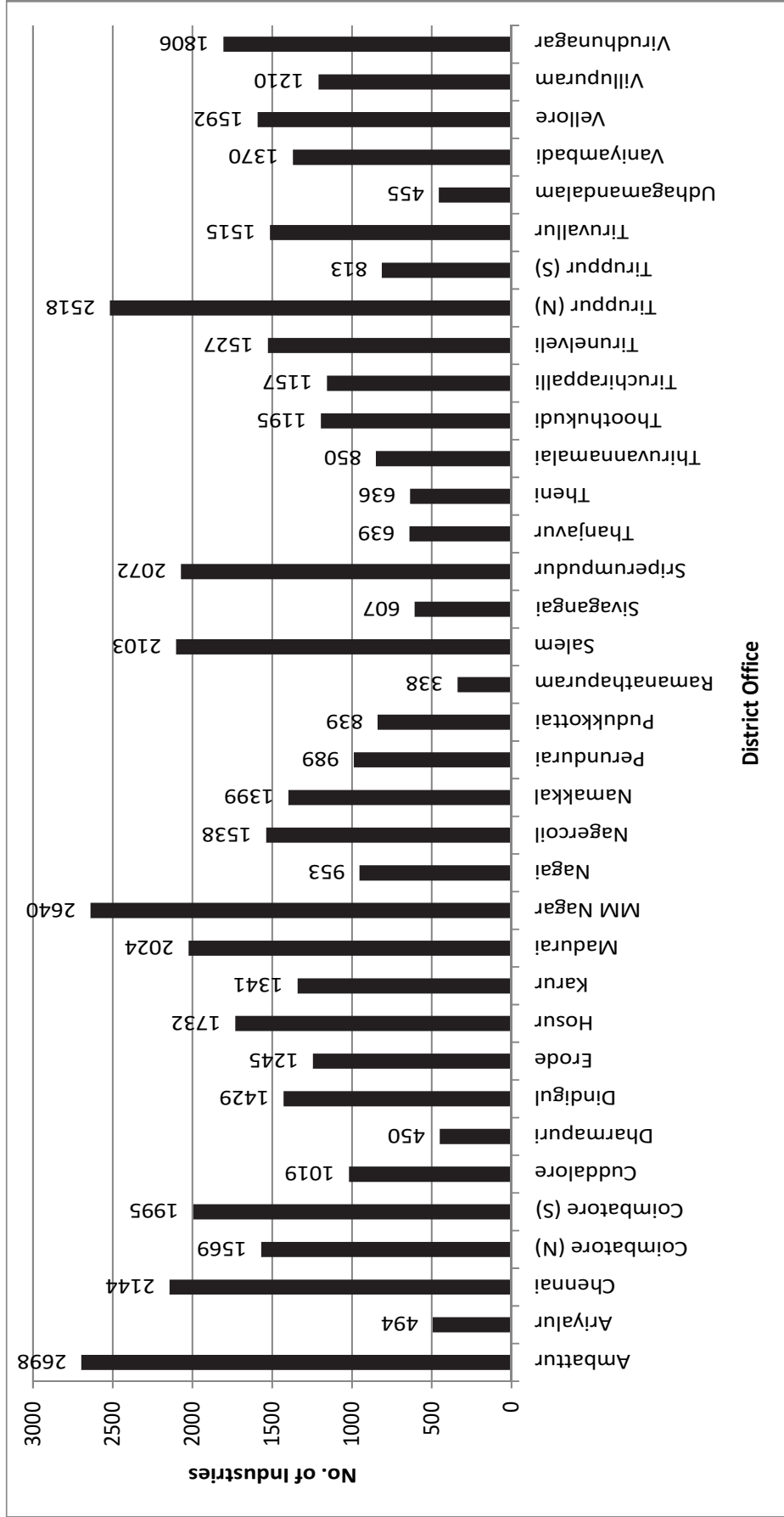


**Annexure – 5-A – Year Wise Industries under the purview of TNPCB**



**Annexure 5 – B**

**No. of Industries under each District Office**



## Annexure - 6

## STATUS OF AIR QUALITY OF IMPORTANT CITIES/ TOWNS OF TAMILNADU-UNDER NATIONAL AIR QUALITY MONITORING PROGRAMME(NAMP), ANNUAL AVERAGE CONCENTRATIONS OF AIR POLLUTANTS, 2015-2016

Sl.No.	City & Location	Category	Annual Average Concentrations of Air Pollutants in µg/m <sup>3</sup>								
			SO <sub>2</sub>			NO <sub>2</sub>			RSPM		
			Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
<b>1</b>	<b>CHENNAI</b>										
a)	Kathivakkam	Industrial	18	10	13	24	12	14	93	27	49
b)	Manali	Industrial	19	10	14	23	13	17	79	17	43
c)	Thiruvottiyur	Industrial	17	10	13	22	12	17	73	25	44
d)	Anna Nagar	Residential	26	9	13	41	13	19	250	28	<b>91</b>
e)	Adyar	Residential	18	8	12	22	11	16	80	23	44
f)	Kilpauk	Commercial (Traffic-intersection)	32	9	15	32	13	20	147	29	<b>79</b>
g)	Thiyagarayanagar	Commercial (Traffic-intersection)	28	11	15	37	14	23	244	38	<b>94</b>
h)	Nungambakkam	Commercial (Traffic-intersection)	32	10	15	44	13	21	263	35	<b>98</b>
<b>2</b>	<b>COIMBATORE</b>										
a)	DCO	Mixed	9	4	4	40	17	25	114	8	45
b)	Ponalyarajapuram	Residential	4	4	4	32	16	23	123	16	47
c)	SIDCO	Industrial	8	4	4	52	20	27	122	16	52
<b>3</b>	<b>THOOTHUKUDI</b>										
a)	Raja Agencies	Industrial	20	10	16	29	14	24	663	30	<b>190</b>
b)	AVM Buildings	Mixed	14	6	11	18	9	15	475	16	<b>91</b>
c)	SIPCOT	Industrial	19	8	16	29	11	23	383	28	<b>118</b>
<b>4</b>	<b>MADURAI</b>										
a)	M/s.Susee Cars & Trucks (P) Ltd.,	Industrial	21	10	15	48	14	23	128	31	<b>63</b>
b)	Madurai Corporation Office(SZ)	Mixed	23	9	16	48	18	27	119	36	<b>79</b>
c)	Highways project Buildings	Residential	15	8	10	36	12	21	113	22	53
<b>5</b>	<b>SALEM</b>										
a)	Sowdeswari college building	Mixed	14	6	8	35	22	27	122	41	53
Prescribed standards(Annual average) for Industrial,Residential,Rural&Other areas			<b>50</b>			<b>40</b>			<b>60</b>		
Note: SO <sub>2</sub> ; Sulphur di oxide			NO <sub>2</sub> ; Nitrogen di Oxides			RSPM : Respirable Suspended Particulate Matter (< 10 micron size)					

**ANNEXURE - 6 (Contd..)**

**STATUS OF AIR QUALITY OF IMPORTANT CITIES/ TOWNS OF TAMILNADU-UNDER NATIONAL AIR QUALITY MONITORING PROGRAMME(NAMP) ANNUAL AVERAGE CONCENTRATIONS OF AIR POLLUTANTS, 2015-2016**

Sl.No.	City & Location	Category	Annual Average Concentrations of Air Pollutants in µg/m <sup>3</sup>														
			SO <sub>2</sub>			NO <sub>2</sub>			RSPM								
			Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg			
<b>6</b>	<b>TRICHY</b>																
a)	Gandhi Market	Commercial	25	7	15	28	13	21	150	53	126						
b)	Main Guard Gate	Traffic Inter-Section	20	10	15	25	18	22	157	90	125						
c)	Bishop Heber College	Mixed	13	6	10	19	12	16	54	12	40						
d)	Golden Rock	Residential	19	6	11	23	9	16	118	25	49						
e)	Central Bus Stand	Traffic Inter-Section	21	8	14	28	14	21	157	36	124						
<b>7</b>	<b>CUDDALORE</b>																
a)	Eachangadu Village	Residential	42	4	12	29	8	19	79	28	58						
b)	DEE Office	Commercial	44	6	11	42	9	21	88	10	58						
c)	SIPCOT	Industrial	42	4	11	32	9	19	84	25	40						
<b>8</b>	<b>METTUR</b>																
a)	Raman Nagar	Residential	11	5	7	45	16	22	109	17	49						
b)	SIDCO	Industrial	16	6	9	49	13	27	125	19	59						
Prescribed standards(Annual average) for Industrial,Residential,Rurai&Other areas			<b>50</b>				<b>40</b>			<b>60</b>							
Note: SO <sub>2</sub> : Sulphur di oxide NO <sub>2</sub> : Nitrogen di Oxides			RSPM : Respirable Suspended Particulate Matter (< 10 micron size)														

**Annexure - 7**  
**Ambient Noise Level of Chennai City - Year 2015 (Annual Average)**

Sl. No.	Station Name	Limit in Leq dB(A)		January		February		March		April		May		June		July		August		September		October		November		December	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	Egmore - Eye Hosp. (S)	50	40	66	56	65	56	65	55	63	55	69	61	64	60	66	60	65	61	64	59	64	57	71	68	78	83
2	T. Nagar (C)	65	55	79	75	80	75	80	75	80	76	80	76	80	76	80	76	80	76	80	76	80	76	80	75	79	74
3	Perambur (C)	50	40	71	62	71	61	74	62	72	63	71	63	71	63	74	68	71	66	72	62	73	63	74	70	76	80
4	Guindy (I)	65	55	76	66	76	66	76	67	76	68	76	70	79	75	76	70	76	69	76	68	77	67	78	69	76	68
5	Triplicane (R)	50	40	71	62	71	61	72	60	73	63	70	61	69	61	75	70	80	75	73	73	74	72	69	69	70	69
6	Pallikaranai (C)	50	40	73	66	73	67	74	67	74	67	73	68	75	68	74	68	74	67	74	67	74	67	74	67	73	68
7	Velachery (R)	50	40	64	57	65	58	66	57	67	58	65	61	65	59	65	58	65	58	64	57	67	57	74	80	73	86
8	Washermanpet (C)	50	40	69	61	74	81	70	60	69	60	69	60	70	64	71	65	71	65	70	64	70	62	71	65	72	67
9	Anna Nagar (S)	50	40	65	56	65	57	65	56	67	61	66	64	67	64	67	64	65	63	67	66	66	57	71	71	71	66
10	Sowcarpet (R)	50	40	64	57	65	56	65	56	67	60	67	62	67	62	67	62	66	62	66	60	68	58	68	64	69	64

**Note:** S: Silence Zone, R: Residential Area, C: Commercial Area, I: Industrial Area



**Annexure -8**

**PERFORMANCE OF LABORATORIES (APRIL 2015 TO MARCH 2016)**

Sl No.	Name of the Laboratory	Water Samples						Sludge	Total	Air Survey			Noise						
		Effluent		Projects		Well/Water	River Water			Others	No. of Industries	Stations AAQS	SM Stations	Regular		Complaints			
		Effluents	Sewage	GEMS	MINARs									CCWW	No. of Industries		No. of Stations		
<b>Advanced Environmental Laboratories</b>																			
1	Chennai	1086	999	0	78	362	60	4	48	5	2642	94	617	575	6380	93	785	0	0
2	Coimbatore	690	738	0	12	0	62	14	46	0	1562	100	555	321	3912	95	748	15	97
3	Cuddalore	1134	256	0	0	0	159	22	64	0	1635	85	453	239	5097	85	560	4	16
4	Madurai	818	322	0	38	0	171	0	42	0	1391	83	475	157	6093	80	664	3	26
5	Salem	1579	130	38	430	0	274	250	12	34	2747	68	410	166	4423	62	560	0	0
<b>District Environmental Laboratories</b>																			
6	Ambattur	1713	952	0	0	0	0	41	35	0	2741	89	531	448	6465	89	461	1	4
7	Dindigul	530	176	0	0	0	174	88	0	0	968	51	325	90	0	47	325	0	0
8	Hosur	548	454	0	0	0	0	59	24	0	1085	108	530	239	0	108	789	3	24
9	Manali	946	450	0	0	0	245	0	0	0	1641	66	775	0	0	66	398	0	0
10	Maraimalai Nagar	1204	1058	0	0	0	8	1	163	0	2434	116	598	354	0	115	670	2	12
11	Tirunelveli	343	170	0	144	0	30	0	28	0	715	26	130	28	0	25	129	2	24
12	Thoothukudi	198	32	0	0	0	209	0	15	0	454	46	303	103	6616	29	150	0	0
13	Tiruppur	2422	88	0	0	0	147	73	42	0	2772	92	400	167	0	87	449	10	71
14	Trichy	1082	368	0	0	0	258	0	0	0	1708	96	470	216	4416	96	515	8	96
15	Vellore	1160	277	0	0	0	142	97	0	0	1676	93	736	505	0	93	604	1	6
	<b>Total</b>	<b>15453</b>	<b>6470</b>	<b>38</b>	<b>702</b>	<b>362</b>	<b>1939</b>	<b>649</b>	<b>519</b>	<b>39</b>	<b>26171</b>	<b>1213</b>	<b>7308</b>	<b>3608</b>	<b>43402</b>	<b>1170</b>	<b>7807</b>	<b>49</b>	<b>376</b>

Annexure -9-A		CAUVERY RIVER WATER QUALITY(UNDER GEMS PROGRAMME)2015-2016																											
S.NO	Name of station	D.O mg/L	pH	Conductivity m mhos/cm	BOD at 27 C mg/L	Nitrate mg/L	Fecal coliform MPN/100 ml	Total coliform MPN/100 ml	Turbidity NTU	Phenophthaline mg/L	Alkalinity mg/L	Total Alkalinity mg/L	Chloride mg/L	COD mg/L	Total Kjeldahl Nitrogen mg/L	Ammonia-N,as N mg/L	Hardness as CaCO3 mg/L	Calcium as Ca++ mg/L	Magnesium as Mg++ mg/L	Sulphate mg/L	Sodium mg/L	Total Dissolved Solids mg/L	Total Fixed Solids mg/L	Total Suspended Solids mg/L	Phosphate mg/L	Boron mg/L	Potassium mg/L	Fluoride mg/L	DBU Class
1	Mettur	6	8	403	2	0.39	235	433	2.92	5.75	155.67	34.58	9.33	3.55	1.5	153.33	28.83	19.58	18.1	36.25	279	267.33	10	0.09	0.002	3.78	0.60	B	
2	Pallipalayam	6	8.1	527	3	0.30	1269	2176	3.42	7.17	172.67	58.17	10.00	3.92	1.9	177.33	32.83	23.17	30.58	55.75	354.67	342.67	13.33	0.28	0.002			C	
3	Musiri borewell	6	7.5	1625	1	1.44	78	196	1.00	1.00	314.00	254.00	8.00	6.16	2.0	523.00	138.00	43.00	35.50	109.00	910.00	882.00	10.00	0.16	0.002	13.85	0.48	B	
4	Musiri ferrygate	7	8.4	717	2	0.35	626	1074	8.92	14.08	203.33	92.67	10.67	4.01	1.9	214.83	40.33	27.58	44.53	75.92	465.00	449.00	12.33	0.31	0.002	8.07	0.72	C	

\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

A - Drinking Water Source without conventional treatment but after disinfection

B - Outdoor bathing (organised)

C - Drinking water source after conventional treatment and disinfection

D-Propagation of wild life and fisheries

E - Irrigation, Industrial cooling,controlled waste disposal

Below E Not meeting A,B,C,D & E Criteria

mg/L-milligram per liter

MPN-Most Probable Number

**Annexure -9-B  
CAUVERY RIVER WATER QUALITY-(UNDER MINARS PROGRAMME)-2015-2016**

S.NO	Name of station	D.O mg/L	pH	Conductivity mhos/cm	BOD at 27 C mg/L	Nitrate mg/L	Fecal coliform MPN/100 ml	Total coliform MPN/100 ml	Turbidity NTU	Phenolphthaleine Alkalinity mg/L	Total Alkalinity mg/L	Chloride mg/L	COD mg/L	Total Kjeldahl Nitrogen mg/L	Ammonia-N,as N mg/L	Hardness as CaCO3 mg/L	Calcium as Ca++ mg/L	Magnesium as Mg++ mg/L	Sulphate mg/L	Sodium mg/L	Total Dissolved Solids mg/L	Total Fixed Solids mg/L	Total Suspended Solids mg/L	Phosphate mg/L	Boron mg/L	Potassium mg/L	Fluoride mg/L	DBU Class
1	Bathira kaliarman koil	7	7.6	179	1	0.66	328	638	14.08	1.00	58.08	20.25	12.00	3.36	1.4	66.50	14.25	7.66	9.80	16.69	134.00	125.00	16.33	0.11	0.002	2.36	0.35	C
2	Sirumugai	7	7.7	233	1	0.73	343	657	11.08	1.25	69.67	23.42	11.25	3.27	1.3	88.00	16.23	11.63	14.38	19.69	166.67	155.33	13.00	0.28	0.002	2.98	0.50	C
3	Bhavani sagar	6	7.7	196	1	0.39	730	1183	2.75	1.58	73.17	25.25	12.00	3.45	1.4	80.17	17.17	9.23	12.25	15.67	156.33	146.67	8.00	0.10	0.002	3.18	3.21	C
4	Bhavani	6	8.1	569	1	0.80	1674	2833	2.17	6.83	164.67	71.42	14.67	4.29	1.8	188.80	41.50	24.00	40.83	48.50	372.33	358.67	12.00	0.10	0.002	5.61	0.41	C
5	R.N. Pudur	6	8.0	587	5	0.56	920	1623	6.00	7.83	187.67	70.83	24.42	6.15	2.4	186.83	36.83	22.92	33.67	64.58	401.33	377.33	17.33	0.25	0.002	6.38	0.64	E
6	Vairapalayam	6	8.1	747	6	0.43	2675	5971	7.50	3.75	199.00	98.92	21.25	5.96	2.8	187.50	34.42	24.58	35.42	101.67	476.00	454.67	17.00	0.21	0.002	8.28	0.51	E
7	P. Velur	7	8.3	670	2	0.25	988	1735	4.92	10.75	205.50	84.67	10.67	3.64	1.7	213.00	37.75	28.92	46.42	73.75	449.33	435.67	11.67	0.20	2.419	6.89	0.48	C
8	Mohanur	6	8.2	884	1	0.26	1277	2163	4.00	8.08	239.33	118.25	11.33	4.20	1.7	246.67	44.21	33.12	54.42	116.67	565.33	549.67	13.00	0.36	0.002	8.96	0.57	C
9	Madathukulam	7	8.1	307	1	0.27	395	679	2.40	1.70	113.60	24.60	11.20	3.69	1.5	125.80	30.20	12.50	14.28	19.80	212.40	201.60	8.00	0.11	0.002	3.24	0.57	C
10	Thirumukkudal	7	8.4	677	1	0.31	368	578	2.75	16.42	185.67	96.33	11.33	4.20	1.7	191.50	35.50	25.00	40.58	75.33	446.00	432.33	14.00	0.15	0.002	6.58	0.80	C
11	Trichy U/S	7	8.5	565	1	0.31	523	807	3.50	10.50	177.33	69.00	8.67	3.73	1.7	172.50	31.50	22.67	29.33	61.08	372.67	359.33	11.00	0.17	0.002	6.10	0.61	C
12	Trichy D/S	6	8.3	733	3	0.41	1258	2115	6.83	9.17	206.33	96.17	15.25	4.11	1.9	210.33	38.50	27.58	38.42	80.08	463.00	446.00	15.33	0.32	0.002	9.44	0.68	C
13	Grand Anaicut	6	8.4	669	2	0.54	526	949	7.10	9.10	195.20	85.60	11.20	4.03	1.8	197.40	36.20	25.90	40.90	73.70	437.60	420.80	15.20	0.38	0.002	7.95	0.63	C
14	Coleroon	7	8.5	7767	3	0.26	402	798	4.33	8.08	148.67	2210.00	25.25	5.27	2.4	884.00	73.75	151.17	328.92	1133.17	4169.33	4134.33	35.33	0.11	0.002	50.92	0.54	C
15	Pitchavaram	6	7.6	1024	3	0.36	300	530	5.50	2.42	216.00	176.42	27.17	5.04	2.0	223.13	49.58	27.50	49.67	123.00	634.67	608.00	20.33	0.66	0.002	14.87	0.51	C
16	Karunthattankudi	7	8.5	644	1	0.22	673	1116	6.11	9.89	190.22	76.78	9.78	3.86	1.6	186.89	34.89	24.22	29.89	76.78	408.00	393.78	12.89	0.09	0.002	7.31	0.70	C

\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

A - Drinking Water Source without conventional treatment but after disinfection

B - Drinking Water Source without conventional treatment but after disinfection

C - Outdoor bathing (organised)

D - Drinking water source after conventional treatment and disinfection

E - Propagation of wild life and fisheries

F - Irrigation, Industrial cooling, controlled waste disposal

Below E Not meeting A,B,C,D & E Criteria

MPN-Most Probable Number

mg/L-milligram per liter

Annexure -9-C CAUVERY RIVER WATER QUALITY-UNDER MINARS PROGRAMME 2015-2016																												
S.NO	Name of station	D.O mg/L	pH	Conductivity m mhos/cm	BOD at 27 C mg/L	Nitrate mg/L	Fecal coliform MPN/100 ml	Total coliform MPN/100 ml	Turbidity NTU	Phenophthaline Alkalinity mg/L	Total Alkalinity as CaCO3 mg/L	Chloride mg/L	COD mg/L	Total Kjeldahl Nitrogen mg/L	Ammonia-N,as N mg/L	Hardness as CaCO3 mg/L	Calcium as Ca++ mg/L	Magnesium as Mg++ mg/L	Sulphate mg/L	Sodium mg/L	Total Dissolved Solids mg/L	Total Fixed Solids mg/L	Total Suspended Solids mg/L	Phosphate mg/L	Boron mg/L	Potassium mg/L	Fluoride mg/L	DBU Class
1	Komarapalayam	6	8.0	520	3	0.40	1308	2084	10.67	3.67	169.33	51.25	14.67	4.20	2.0	167.50	31.67	21.58	29.00	52.75	342.00	327.33	16.00	0.22	0.002	5.86	0.63	C
2	Urrachikottai	7	8.5	426	2	0.31	787	1330	2.50	9.42	156.33	41.67	15.92	4.48	1.7	162.17	27.33	22.08	24.33	38.33	295.67	282.00	9.67	0.11	0.002	4.15	0.50	C
3	Vairapalayam	6	8.1	747	6	0.43	2675	5971	7.50	3.75	199.00	98.92	21.25	5.96	2.8	187.50	34.42	24.58	35.42	101.67	476.00	454.67	17.00	0.21	0.002	8.28	0.51	E
4	Pugalur	7	8.3	742	1	0.29	368	604	3.42	11.17	183.00	115.00	10.67	4.59	1.8	193.33	33.50	26.58	36.92	75.67	453.67	439.00	13.00	0.19	0.002	7.07	0.62	C
5	Pettavaihalai	7	8.4	698	2	0.32	907	1548	9.25	11.17	197.67	98.17	15.42	4.29	1.8	208.67	36.42	28.42	41.17	72.83	453.33	436.00	12.00	0.33	0.002	7.77	0.53	C
6	Kumbakonam	7	8.5	579	2	0.24	781	1228	1.38	9.38	177.50	64.50	9.00	3.92	1.6	181.75	34.38	23.13	30.00	59.00	371.50	358.00	12.00	0.07	0.002	6.23	0.79	C
7	Mayiladurai	7	8.2	448	1	0.47	858	1612	7.00	4.60	166.40	44.60	8.00	3.36	1.6	180.40	33.40	23.60	25.80	42.20	314.40	302.40	10.40	0.09	0.002	5.00	0.94	C
8	Sahiyamanagalam	7	7.8	318	1	0.60	813	1456	2.67	4.33	115.33	33.75	15.25	3.55	1.7	117.50	23.92	14.12	21.25	28.83	222.33	210.67	8.33	0.06	0.002	3.94	0.43	C
9	Kalingarayn Canal (B5)	6	8.1	747	6	0.43	2675	5971	7.50	3.75	199.00	98.92	21.25	5.96	2.8	187.50	34.42	24.58	35.42	101.67	476.00	454.67	17.00	0.21	0.002	8.28	0.51	E
10	Kalingarayn Canal (B10)	7	8.2	436	1	0.42	908	1537	5.70	6.10	144.40	48.40	8.80	3.69	1.6	161.60	36.20	17.20	26.10	34.90	294.00	282.00	15.60	0.18	0.002	4.67	0.62	C
11	Thirumanimuthar	3	7.8	2094	36	1.15	16188542	28118283	29.58	7.50	566.83	312.25	113.50	22.75	10.4	454.17	69.25	66.33	68.02	256.33	1321.33	1224.67	71.33	26.29	0.002	27.58	1.08	Below E
12	Vasiala	0	7.7	1955	93	1.12	45145000	73158333	78.42	6.92	559.00	263.00	351.17	39.17	21.5	484.33	78.10	70.17	34.75	157.42	1340.00	1128.33	199.00	33.46	0.002	63.78	1.19	Below E
13	Sarabanga	1	7.8	3562	32	1.07	66815000	116326667	62.00	4.17	574.00	713.00	127.08	24.67	13.5	482.00	96.17	65.08	110.25	474.58	2083.67	1948.67	81.00	27.67	6.252	56.92	1.12	Below E

\*CPCB-GEMS/ MINARS Water quality criteria

DBU Class-Designated Best Use

A - Drinking Water Source without conventional treatment but after disinfection

B - Outdoor bathing (organised)

C - Drinking water source after conventional treatment and disinfection

D-Propagation of wild life and fisheries

E -Irrigation, Industrial cooling,controlled waste disposal

Below E Not meeting A,B,C,D & E Criteria

mg/L-milligram per liter

MPN-Most Probable Number

## Annexure -10

## TAMIRAPARANI RIVER WATER QUALITY (UNDER MINARS PROGRAMME)-2015-2016

S.NO	Name of station	D.O mg/L	pH	Conductivity m mhos/cm	BOD at 27 C mg/L	Nitrate mg/L	Fecal coliform MPN/100 ml	Total coliform MPN/100 ml	Turbidity NTU	Phenothaline Alkalinity mg/L	Total Alkalinity as CaCO3 mg/L	Chloride mg/L	COD mg/L	Total Kjeldahl Nitrogen mg/L	Ammonia-N,as N mg/L	Hardness as CaCO3 mg/L	Calcium as Ca++ mg/L	Magnesium as Mg++ mg/L	Sulphate mg/L	Sodium mg/L	Total Dissolved Solids mg/L	Total Fixed Solids mg/L	Total Suspended Solids mg/L	Phosphate mg/L	Boron mg/L	Potassium mg/L	Fluoride mg/L	DBU Class
1	Papanasam	6	6.5	66	2	0.09	25	78	4.53	1.00	16.67	9.73	34.67	1.47	0.6	19.58	15.25	4.33	7.20	5.25	47.33	37.50	4.67	0.03	0.00	1.2	0.01	B
2	Cheranmadevi	7	6.7	141	2	0.13	39	118	7.99	1.00	33.50	18.91	34.67	2.22	0.6	40.67	29.42	18.75	11.08	6.33	99.17	88.17	8.50	0.05	0.00	1.5	0.01	B
3	Kokirakulam	7	8.3	160	3	0.14	46	138	8.19	1.00	42.83	22.83	32.67	2.41	0.6	51.25	37.92	14.58	13.68	7.67	118.50	105.50	8.83	0.05	0.002	2.7	0.01	B
4	Murapanadu	7	6.9	248	2	0.18	30	97	5.05	1.00	70.00	23.75	43.33	2.52	0.6	79.83	68.50	11.50	12.77	8.25	163.00	147.50	5.33	0.05	0.002	2.1	0.01	B
5	Thiruvaidamarudur	7	6.6	102	2	0.15	32	100	6.68	1.00	26.33	15.33	30.67	2.10	0.6	33.67	24.33	9.33	9.94	5.33	73.17	62.17	6.83	0.04	0.002	1.2	0.01	B
6	Ambasamudram	7	6.6	77	2	0.10	25	79	5.57	1.00	20.00	10.88	33.33	2.39	0.6	23.33	17.08	6.42	8.03	4.50	54.67	45.00	5.83	0.03	0.002	1.3	0.01	B
7	Author	7	7.2	449	3	0.22	48	141	7.72	1.00	134.17	45.50	60.00	2.65	0.6	141.83	118.83	23.00	22.83	15.50	289.67	272.50	13.83	0.15	0.002	3.3	0.01	B
8	Eral	7	7.0	363	2	0.22	46	129	6.33	1.05	108.83	37.83	52.67	2.80	0.6	117.33	98.00	17.67	19.35	12.92	234.17	217.17	6.83	0.18	0.002	2.7	0.01	B
9	Kallidai Kurichi	6	6.5	89	2	0.11	34	94	5.72	1.00	22.33	12.83	38.67	2.09	0.6	27.50	19.67	7.83	8.29	5.00	63.67	52.83	6.50	0.04	0.002	1.3	0.01	B
10	Srivaikuntam	7	7.1	254	2	0.19	36	110	6.30	1.00	75.00	26.50	44.00	2.94	0.6	82.00	69.00	13.00	14.59	9.75	166.83	153.33	6.50	0.05	0.002	2.0	0.01	B
11	Vellakovil	7	6.8	194	3	0.16	36	114	8.67	1.00	48.50	27.33	44.00	2.42	0.6	60.67	43.67	17.00	15.73	8.75	134.83	123.50	9.17	0.06	0.002	1.9	0.01	B
12	Sivalaperi	7	6.9	223	3	0.15	41	133	7.70	1.00	56.83	33.08	32.67	2.54	3.0	70.00	50.00	20.00	17.35	9.67	157.83	142.33	8.33	0.07	0.002	1.8	0.01	B

\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

A - Drinking Water Source without conventional treatment but after disinfection

B - Outdoor bathing (organised)

C - Drinking water source after conventional treatment and disinfection

D-Propagation of wild life and fisheries

E -Irrigation, Industrial cooling,controlled waste disposal

Below E Not meeting A,B,C,D &amp; E Criteria

mg/L-milligram per liter

MPN-Most Probable Number

**Annexure -11**

**PALAR & VAIGAI RIVER WATER QUALITY(UNDER MINARS PROGRAMME)2015-2016**

S.NO	Name of station	D.O mg/L	pH	Conductivity mhos/cm	BOD at 27 C mg/L	Nitrate mg/L	Fecal coliform MPN/100 ml	Total coliform MPN/100 ml	Turbidity NTU	Phenophthaline Alkalinity mg/L	Total Alkalinity as CaCO3 mg/L	Chloride mg/L	COD mg/L	Total Kjeldahl Nitrogen mg/L	Ammonia-N,as N mg/L	Hardness as CaCO3 mg/L	Calcium as Ca++ mg/L	Magnesium as Mg++ mg/L	Sulphate mg/L	Sodium mg/L	Total Dissolved Solids mg/L	Total Fixed Solids mg/L	Total Suspended Solids mg/L	Phosphate mg/L	Boron mg/L	Potassium mg/L	Fluoride mg/L	DBU Class
1	Vaigai	5	7.8	1428	4	5.34	2	4	1.21	8.50	236.00	257.00	44.50	0.98	0.6	325.00	57.04	44.16	19.13	181.50	787.00	769.00	5.00	2.23	0.32	15.25	0.64	D
2	Palar	7	7.4	538	2	0.87	505	1101	1.79	11.86	206.00	30.29	6.29	8.29	2.9	124.14	28.00	13.00	30.29	60.29	332.00	268.57	7.43	5.00	0.09	2.43	0.11	C

\*CPCB-GEMS /MINARS Water quality criteria

DBU Class-Designated Best Use

mg/L-milligram per liter

**A** - Drinking Water Source without conventional treatment but after disinfection

**B** - Outdoor bathing (organised)

**C** - Drinking water source after conventional treatment and disinfection

D-Propagation of wild life and fisheries

E -Irrigation, Industrial cooling,controlled waste disposal

**Below E** Not meeting A,B,C,D & E Criteria

MPN-Most Probable Number

Annexure - 12

LAKE WATER QUALITY(UNDER MINARS PROGRAMME)2015-2016

S.NO	Name of station	D.O mg/L	pH	Conductivity m hos/cm	BOD at 27 C mg/L	Nitrate mg/L	Fecal coliform MPN/100 ml	Total coliform MPN/100 ml	Turbidity NTU	Phenophthaline Alkalinity mg/L	Total Alkalinity as CaCO3 mg/L	Chloride mg/L	COD mg/L	Total kjeldahl Nitrogen mg/L	Ammonia-N,as N mg/L	Hardness as CaCO3 mg/L	Calcium as Ca++ mg/L	Magnesium as Mg++ mg/L	Sulphate mg/L	Sodium mg/L	Total Dissolved Solids mg/L	Total Fixed Solids mg/L	Total Suspended Solids mg/L	Phosphate mg/L	Boron mg/L	Potassium mg/L	Fluoride mg/L	DBU Class
1	Udhagama ndalam	4	7.8	498	9.65	0.41	29892	61815	12.00	1.00	139.69	56.62	57.77	12.38	5.3	116.15	32.00	11.90	6.57	34.46	304.31	272.31	29.85	0.31	0.002	12.85	0.51	E
2	Kodaikanal	7	7.0	95	4.39	0.85	15	20	3.78	1.00	27.08	13.09	36.76	3.83	2.0	30.92	9.04	2.02	2.94	5.85	60.33	56.17	6.17	0.15	0.228	0.45	0.27	E
3	Yercaud	6	7.8	374	2.07	0.56	830	1427	6.25	2.50	114.00	47.75	20.58	5.69	2.8	113.50	30.58	9.25	7.76	32.92	259.33	242.67	16.67	0.002	9.92	0.55	C	
4	Veeranam	7	8.8	529	3.96	0.24	565	1104	5.64	7.18	134.18	79.18	24.64	4.63	2.1	135.27	20.64	21.09	30.73	64.82	358.18	338.91	25.82	0.09	0.002	6.03	0.44	D
5	Poondi	6	7.2	649	2.58	0.67	1589	3133	16.92	10.33	148.00	72.08	12.00	9.08	3.0	139.50	32.92	20.50	51.50	70.33	395.33	328.50	28.50	5.00	0.277	4.27	0.12	C
6	Red Hills	6	7.6	612	3.40	0.92	728	1695	8.50	3.92	110.25	60.92	17.67	10.08	3.3	100.42	22.67	10.42	50.25	58.50	365.00	280.50	12.67	5.00	0.215	5.00	0.12	C
7	Ponur	6	8.2	759	3.67	0.86	959	2567	27.58	6.58	95.92	120.00	29.33	10.67	3.4	99.42	27.00	9.25	45.33	67.67	463.17	359.00	26.17	4.65	0.251	10.92	0.12	E
8	Pulicat	6	7.6	43609	3.33	0.76	688	1448	25.78	12.83	124.92	16469.25	72.00	9.92	3.3	5928.33	618.08	1065.67	2018.33	8427.08	30185.33	24397.83	783.83	0.334	303.58	0.76	Below E	

\*CPCB-GEMS /MINARS Water quality criteria

DBU Class-Designated Best Use

mg/L-milligram per liter

mg/L-milligram per liter

MPN-Most Probable Number

A - Drinking Water Source without conventional treatment but after disinfection

B - Outdoor bathing (organised)

C - Drinking water source after conventional treatment and disinfection

D-Propagation of wild life and fisheries

E -Irrigation, industrial cooling,controlled waste disposal

Below E Not meeting A,B,C,D & E Criteria



**Annexure - 13 -A**

**ADYAR RIVER WATER QUALITY (UNDER CHENNAI CITY WATER WAYS PROGRAMME) 2015-2016**

S.No.	Name of the Station	pH	Conductivity µmhos/cm	TSS mg/L	TDS mg/L	Chlorides mg/L	Ammonical Nitrogen mg/L	BOD mg/L	COD mg/L
<b>Sampling in River</b>									
1	Manapakkam Bridge	7.49	1607	37	816	239	14	23	81
2	Alandur Abraham Bridge	7.46	2046	52	1099	324	16	32	115
3	Thiru Vi Ka Bridge	7.44	3451	68	1818	819	20	36	136
<b>Industrial Outfalls</b>									
4	Slaughter House	6.74	2578	4512	1530	227	177	4733	15707
5	Nesapakkam STP Outlet	7.47	1514	25	851	246	8	14	64
6	Nesapakkam STP Outlet Extn	8.01	2143	25	1192	406	8	15	70

**Annexure 13-B**

**BUCKINGHAM CANAL WATER QUALITY (UNDER CHENNAI CITY WATERWAYS PROGRAMME) 2015-2016**

S.No.	Name of the Station	pH	Conductivity µmhos/cm	TSS mg/L	TDS mg/L	Chlorides mg/L	Ammonical Nitrogen mg/L	BOD mg/L	COD mg/L
<b>Sampling in River</b>									
1	Kathivakkam Bridge	7.32	3385	76	1824	711	22	43	176
2	Manali Road Bridge	7.25	2818	70	1462	588	18	41	162
3	Wallaja Road Bridge	7.13	1963	91	1050	293	24	57	234
4	Lattice Road Bridge	7.26	2158	83	1082	395	25	51	221
<b>Industrial Outfalls</b>									
5	ETPS - Outlet	7.20	31862	131	22271	12679	9	25	96
6	CPCL - I Outlet	6.73	4937	75	3348	1259	7	29	156
7	CPCL -II Outlet	6.43	5252	112	3633	1405	7	23	210
8	MFL Outlet	8.34	6117	73	2562	1257	324	27	150
9	Kodungaiyur STP Outlet-I	7.88	2171	39	1139	372	20	18	69
10	Kodungaiyur STP Outlet-II	7.67	1948	36	1006	331	14	24	89
11	Kodungaiyur 110 MLD STP Outlet	7.81	1477	23	830	269	10	12	53

**Annexure 13-C**

**COOUM RIVER WATER QUALITY (UNDER CHENNAI CITY WATERWAYS PROGRAMME) 2015-2016**

S.No.	Name of the Station	pH	Conductivity µmhos/cm	TSS mg/L	TDS mg/L	Chlorides mg/L	Ammonical Nitrogen mg/L	BOD mg/L	COD mg/L
<b>Sampling in River</b>									
1	Thirumangalam Causeway	7.28	2020	82	1042	345	11	48	214
2	Chitra Talkies Bridge	7.26	1995	60	1004	334	18	32	149
3	Napier Bridge	7.25	9872	106	5718	3214	16	31	204
<b>Industrial Outfalls</b>									
4	Koyambedu STP Outlet	7.63	2116	32	1085	359	12	18	81
5	Koyambedu STP Outlet Extn.	7.41	1781	42	999	279	11	20	109
6	Alandur STP Outlet	7.55	4623	37	2634	1269	7	16	89
7	Perungudi STP Outlet	7.61	2141	29	1112	392	12	13	55

**Annexure 13-D**

**OTTERI NALLAH RIVER WATER QUALITY (UNDER CHENNAI CITY WATERWAYS PROGRAMME) 2015-2016**

S.No.	Name of the Station	pH	Conductivity µmhos/cm	TSS mg/L	TDS mg/L	Chlorides mg/L	Ammonical Nitrogen mg/L	BOD mg/L	COD mg/L
<b>Sampling in River</b>									
1	Block 'L' East Road Bridge	7.10	1583	77	872	255	12	44	151
2	Asprin Garden Bridge	7.20	1872	72	979	314	15	47	193
3	Vyasarpadi Road Bridge	7.24	1746	121	884	269	21	42	153
<b>Industrial Outfalls</b>									
4	Slaughter House	6.87	2975	5230	1603	444	150	5737	20700
5	ICF Shell	7.13	1136	37	587	171	10	21	81
6	Villivakkam STP Outlet	7.26	2374	70	1184	391	23	38	176

## Annexure -14

### Ambient Air Quality and Ambient Noise Level of Chennai city during Deepavali Festival 2015

Sl.No.	Station Location	Ambient Air Quality (24 hrs average)						Ambient Noise Level (18.00 hrs to 24.00 hrs )					
		Pre-Deepavali (05.11.2015)			Deepavali (10.11.2015)			Pre-Deepavali (05.11.2015)			Post-Deepavali (10.11.2015)		
		RSPM µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	RSPM µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	L <sub>min</sub> dB(A)	L <sub>max</sub> dB(A)	L <sub>eq</sub> dB(A)	L <sub>min</sub> dB(A)	L <sub>max</sub> dB(A)	L <sub>eq</sub> dB(A)
1	Triplicane (R)	29	10	13	90	15	19	54	89	66	59	114	81
2	Besant Nagar (R)	32	9	12	88	15	18	64	93	76	65	108	83
3	Nungambakkam (R)	48	10	15	131	12	22	55	96	70	55	107	79
4	Sowcarpet (M)	72	9	14	93	14	20	56	85	63	56	108	77
5	T.Nagar (C)	54	9	16	126	12	19	63	95	75	62	111	81
<b>Standard</b>		<b>NAAQ Std. 24 Hours Average:</b> RSPM (PM <sub>10</sub> ):100 µg/m <sup>3</sup> , SO <sub>2</sub> µg/m <sup>3</sup> : 80, NO <sub>2</sub> : 80 µg/m <sup>3</sup> . R- Residential, C - Commercial, M - Mixed Residential						<b>Ambient Noise Level Std :</b> <b>Residential:</b> Day Time 55 db(A), Night Time 45db(A). <b>Commercial:</b> Day Time 65db(A), Night Time 55db(A).					

**Annexure -15**

**Ambient Air Quality in Chennai City during Bhogi Festival 2016**

Sl.No.	Name of Zone & Zone Number	Station Location	Pollutant concentration in $\mu\text{g}/\text{m}^3$ (24 hrs average)							
			SO <sub>2</sub>		NO <sub>2</sub>		RSPM/PM <sub>10</sub>			
			Pre Bhogi	Bhogi	Pre Bhogi	Bhogi	Pre Bhogi	Bhogi		
1	Teynampet - IX	T.Nagar	9	18	11	18	88	118		
2	Valasaravakkam-XI	Virugambakkam	10	19	13	21	93	226		
3	Alandur - XII	Meenambakkam	8	26	14	25	101	176		
4	Adyar - XIII	Besant Nagar	6	26	11	20	86	208		
5	Perungudi - XIV	Perungudi	8	25	13	27	92	112		
6	Sholinganallur- XV	Sholinganallur	5	16	11	20	66	121		
NAAQ Standard			80	80	80	80	100	100		





# **ACCOUNTS**

**AUDITOR'S REPORT TO THE MEMBERS OF THE  
TAMILNADU POLLUTION CONTROL BOARD  
FOR THE YEAR ENDED 31<sup>st</sup> MARCH 2016**

We have audited the attached Balance Sheet of Tamil Nadu Pollution Control Board as at March 31, 2016 and also the Receipts and payments account and Income and Expenditure Account for the year ended on that date annexed thereto.

These financial statements are the responsibility of the entity's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with the auditing standards generally accepted in India. Those Standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management as well as evaluating the overall financial statements presentation. We believe that our audit provides a reasonable basis for our opinion.

We report that:

1. We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit.
2. In our opinion proper books of account as required by law have been kept by the Board so far as it appears from our examination of those books.
3. The attached Balance Sheet, Receipts and Payments account and Income and Expenditure account which are set out as provided in Rule 36 of the Tamil Nadu Water (Prevention and Control of Pollution) Rules, 1983 and dealt with by this report are in agreement with the books of accounts.
4. In our opinion and to the best of information and according to the explanations given to us, the said accounts read with the schedules thereto and the notes thereon attached hereto subject to the following:

- a. Refer point no II(e) of the notes to accounts with respect to Land advance of Rs.2.49 crores which is outstanding for a long time.
- b. Refer point no. II(f) of the notes to accounts with respect to Advance to suppliers for purchase of fixed assets and other expenditure for an amount of Rs 5.70 Crores is outstanding for more than one year and requires adjustment in the books of accounts.
- c. Refer point no. II (g) of the notes to accounts with respect to non recoverability of cess amounting to Rs.771.70 crores due from Thermal Stations and local bodies in turn to be remitted to the Ministry of Environment and Forest, Government of India.
- d. The Internal Audit wing is not commensurate with the size of this organization. The Internal Audit wing has not furnished the report for the year under audit.
- e. The entity follows cash basis of accounting for Consent Fees and Cess Re-Imbursement. However Consent Fees received in advance of Rs.10.79 crores (net) received during the year has not been treated as income and to that extent the income of the Board has been understated.

Give the information required by the Tamil Nadu Water (Prevention and control of pollution) Rules 1983, in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India:

(a) In the case of Balance Sheet, of the State of affairs of the Board as at March 31, 2016,

(b) In the case of the Receipts and Payments account of the total receipts and payments of the Board for the year ended 31st March 2016 and

© In the case of the Income and Expenditure account of the excess of Income over Expenditure for the year ended 31st March 2016.

**For Velu & Co.**  
**Chartered Accountants**  
**FR.NO : 004589 S**

Date: 17-11-2016

Place: Chennai

**Partner P.T. Jayakumar**  
**M. No. [M.No. 200239]**

---

New No.145/83, Triplicane High Road, (Near Triplicane Post Office), Triplicane, Chennai-600 005.  
Ph:4556 7597, 2851 4248 Cell:9840106280 e-mail : veluandco1965@gmail.com/jayakumarpt@rediffmail.com

**ANNUAL STATEMENT**  
**Receipts and Payments for the**  
**See Rules 36 of Tamil Nadu Water**

PREVIOUS YEAR		RECEIPTS	TOTAL OF SUB HEAD		TOTAL OF MAJOR HEADS	
Rs.	Ps.		Rs.	Ps.	Rs.	Ps.
		<b>A. OPENING BALANCE</b>				
754910863.64		a. Bank	152536454.64			
	-	b. Cash		-		
	-	c. Funds in Transit		44893.00	152581347.64	
		<b>B. GRANTS RECEIVED</b>				
	-	a. From Government		-		
	-	b. From other Agencies		-		
	-	c. Schemes		-		-
		<b>C. FEES</b>				
	-	a. Consultant Registration Fees		-		
135550.00		b. Cost of Application		200.00		
765966302.00		c. Consent Fees	797938670.43			
75242708.80		d. Cess Collection	92263626.00			
	-	e. Fees for handling H. Waste		-	890202496.43	
		<b>D. Services &amp; Rental Charges</b> (Lab Analysis Charges <i>Sch - A</i> )			137727709.00	
134424196.00						
		<b>E. INTEREST ON INVESTMENT</b>			258583749.00	
149702831.00						
		<b>F. MISCELLANEOUS</b>				
7809768.00		a. Others ( <i>Schedule-B</i> )	6776197.00			
0.00		b. Cess Re-imburement	80336359.00		87112556.00	
<b>1888192219.44</b>		<b>C/o</b>			<b>1526207858.07</b>	

Chennai - 600 032

Date: 17/11/2016

**Sd/**  
**K.Chitra** B.Com, MBA, FCA.,  
Senior Manager (F&A)

**Sd/**  
**R. Vijaya** M.A.,B.Ed.,  
Financial Adviser

**Sd/**  
**N. Sundara Gopal** M.E.,  
Member Secretary

# OF ACCOUNT

year ended 31 March 2016.

(Prevention and control of Pollution) rules 1983.

PREVIOUS YEAR		PAYMENTS	TOTAL OF SUB HEAD		TOTAL OF MAJOR HEADS	
Rs.	Ps.		Rs.	Ps.	Rs.	Ps.
		<b>A. CAPITAL EXPENDITURE</b>				
90448780.00		a. Assets - Land and Building	104471353.00			
4393179.00		b. Laboratory Equipment	17761691.00			
54,938.00		c. Vehicles	-			
1180166.00		d. Furniture	949154.00			
1218461.00		e. Office Appliance	488731.00			
149088.00		f. Library Books	226531.00			
-		g. Electrical Installation	-			
11,554.00		h. Computer	990,299.00			
-		i. Software	2414995.00		127302754.00	
		<b>B. REVENUE EXPENDITURE</b>				
		<b>A. ADMINISTRATIVE</b>				
405804433.00		a. Salaries	417525038.00			
102786572.00		b. Pension & Gratuity Contribution	79691304.00			
12314168.00		c. Surrender Leave Salary	13590824.00			
1575015.00		d. Bonus	1534800.00			
2960984.00		e. Medical Expenses	2787012.00		515128978.00	
		<b>B. BOARD LABORATORY</b>				
593746.00		a. Running Expenses of Lab.	1852888.00			
1377361.00		b. Lab. Chemicals etc.,	880195.00		2733083.00	
		<b>C. RUNNING &amp; MAINTENANCE OF VEHICLE</b>				
16147955.00					17194136.00	
	0.00	<b>D. SCHEME</b>				
					215445.00	
<b>641016400.00</b>		<b>C/o</b>			<b>662574396.00</b>	

Subject to our report of even date & Schedules + Notes attached  
for **Velu & Co., FR.NO : 004589 S**  
Chartered Accountants

Sd/  
**Atulya Misra IAS.**  
Chairman

Sd/  
**P.T. Jayakumar [M.No. 200239]**  
Partner

**ANNUAL STATEMENT**  
**Receipts and Payments for the**  
**See Rules 36 of Tamil Nadu Water**

PREVIOUS YEAR	RECEIPTS	TOTAL OF SUB HEAD	TOTAL OF MAJOR HEADS
Rs. Ps.		Rs. Ps.	Rs. Ps.
1888192219.44	<b>B/F</b>		1526207858.07
	<b>G. DEPOSITS &amp; ADVANCES</b>		
704910.00	a. Earnest Money Deposit	19896600.00	
3033709.00	b. Security Deposist	1280565.00	
1031603.00	c. Advance to Staff ( Sch. - C)	860198.00	
3434152678.00	d. Short Term Deposit	5501449843.00	5523487206.00
563162102.12	<b>H. OTHERS (Schedule - D)</b>		1206060633.98
<b>5890277221.56</b>	<b>Total</b>		<b>8255755698.05</b>

Chennai - 600 032

Date: 17/11/2016

*Sd/*  
**K.Chitra** B.Com, MBA, FCA.,  
Senior Manager (F&A)

*Sd/*  
**R. Vijaya** M.A.,B.Ed.,  
Financial Adviser

*Sd/*  
**N. Sundara Gopal** M.E.,  
Member Secretary

# OF ACCOUNT

year ended 31 March 2016.

(Prevention and control of Pollution) rules 1983.

PREVIOUS YEAR		PAYMENTS	TOTAL OF SUB HEAD		TOTAL OF MAJOR HEADS	
Rs.	Ps.		Rs.	Ps.	Rs.	Ps.
641016400.00		<b>B/F</b>			662574396.00	
		<b>E. MAINTENANCE &amp; REPAIRS</b>				
5300393.00		a. Buildings	6125719.00			
19389.00		b. Furniture & Fixture	28355.00			
1241923.00		c. Scientific instruments	1138961.00			
1405541.00		d. Office Appliance	1465270.00			
1381112.00		e. Electrical Installation	3986095.00			
58917.00		f. Insurance of Assets	219842.00			
1078786.00		g. Other Assets	66123.00		13030365.00	
5313855.00		<b>F. LAW CHARGES</b>			2846370.00	
50562.00		<b>G. AUDIT FEES</b>			51300.00	
281708372.10		<b>H. MISCELLANEOUS (Schedule-E)</b>			298826275.53	
92810293.00		<b>C. CESS REMITTANCE</b>			112130278.00	
9762657.00		<b>D. ADVANCE (Schedule - F)</b>			7101940.00	
		<b>E. DEPOSITS</b>				
4612012208.00		a. Short Term Deposits	6210809617.00			
84535465.82		b. Others (Schedule - G)	155791941.70		6366601558.70	
		<b>F. CLOSING BALANCE</b>				
152536454.64		a. Bank	792593214.82			
-		b. Cash	-			
44,893.00		c. Funds in Transit	-		792593214.82	
<b>5890277221.56</b>		<b>Total</b>			<b>8255755698.05</b>	

Subject to our report of even date & Schedules + Notes attached  
for **Velu & Co., FR.NO : 004589 S**  
Chartered Accountants

Sd/  
Atulya Misra IAS.  
Chairman

Sd/  
P.T. Jayakumar [M.No. 200239]  
Partner

**ANNUAL STATEMENT**  
Income and Expenditure Account for the  
See Rules 36 of Tamil Nadu Water

PREVIOUS YEAR	EXPENDITURE		TOTAL OF SUB HEAD		TOTAL OF MAJOR HEADS	
	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.
		<b>A. Administrative</b>				
182502728.00		a. Pay of officers and Pay of Establishment	180811751.00			
238504028.00		b. Allowance & Honororia ( <i>Schedule-H</i> )	255931518.00			
354604115.00		c. Contribution to Gratuity & Provision for Pension	663086500.00			
37554651.00		d. Surrender Leave Salary	13592962.00		1113422731.00	
3523418.71		<b>B. Running Expenses of Labs.</b>			2710035.33	
17762583.00		<b>C. Running and Maintenance of Vehicle (<i>Schedule-I</i>)</b>			17453755.10	
		<b>D. Maintenance and Repairs</b>				
90639.00		a. Furniture & Fixtures	70241.00			
1703683.00		b. Lab. Equipments & Instruments	1392801.00			
2053717.00		c. Office Appliance & Others	1516309.00			
1024246.00		d. Electrical Installation	2395775.00			
4969282.00		e. Building	5384433.00		10759559.00	
333949.00		<b>E. Fees to Consultants and Specialists</b>			434213.00	
980600.00		<b>F. Law Charges</b>			4653750.00	
56180.00		<b>G. Fees for Audit</b>			56180.00	
275595897.10		<b>H. Miscellaneous (<i>Schedule-J</i>)</b>			295116541.53	
27995035.00		<b>I. Depreciation</b>			39615319.00	
4648877.00		<b>J. Prior Period Adj.Account</b>			1508307.00	
901170916.64		<b>K. Excess of income over Exp.trf to B/S</b>			709668497.59	
<b>2055074545.45</b>		<b>Total</b>			<b>2195398888.55</b>	

Chennai - 600 032  
Date: 17/11/2016

*Sd/*  
**K.Chitra** B.Com, MBA, FCA.,  
Senior Manager (F&A)

*Sd/*  
**R. Vijaya** M.A.,B.Ed.,  
Financial Adviser

*Sd/*  
**N. Sundara Gopal** M.E.,  
Member Secretary



# OF ACCOUNT

Year ended 31st March 2016.

(Prevention and control of Pollution) rules 1983.

PREVIOUS YEAR	INCOME		TOTAL OF SUB HEAD		TOTAL OF MAJOR HEADS	
	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.
	-			-		
	-			-		
	-			-		
	-			-		
	-			-		
	-			-		
1298372142.45					1325858723.55	
135866556.00					136104647.00	
9344980.00			6737310.00			
-			80336359.00		87073669.00	
611490867.00					646361849.00	
-						
<b>2055074545.45</b>		<b>Total</b>			<b>2195398888.55</b>	

Subject to our report of even date & Schedules + Notes attached  
for **Velu & Co., FR.NO : 004589 S**  
Chartered Accountants

Sd/  
Atulya Misra IAS.  
Chairman

Sd/  
P.T. Jayakumar [M.No. 200239]  
Partner

**ANNUAL STATEMENT**  
Balance Sheet as on  
See Rules 36 of Tamil Nadu Water

PREVIOUS YEAR		LIABILITIES	TOTAL OF SUB HEAD		TOTAL OF MAJOR HEADS	
Rs.	Ps.		Rs.	Ps.	Rs.	Ps.
		<b>A. CAPITAL FUND</b>				
		a. Grants				
		i. Grants received from Govt. for capital exp. upto the yr.2004-05.	54526922.18			
54526922.18		ii. Grants received from Govt. for capital exp. During the current year and utilised.		-		
	-	iii. Grants received towards specific schemes from other agencies		-		
	-	iv. <b>Less:</b> Amount transferred to Depreciation Fund		-		54526922.18
		b. Excess of Income over Expenditure				
		i. As at 01.04.15	5859274712.69			
4986505028.05		ii. <b>Add:</b> Surplus during the year	709668497.59			
901170916.64		iii. <b>Less:</b> Amount transferred to Depreciation Fund	6568943210.28			
(28401232.00)			39615319.00		6529327891.28	
		<b>B. EARMARKED FUND</b>				
		a. Pension Fund ( <i>Schedule-N</i> )	2791811605.00			
2135092175.00		b. Depreciation Fund ( <i>Sch-N</i> )	631762625.41			
558629534.41		c. E.L. encashment Fund ( <i>Sch-N</i> )	339697523.00			
272115144.00		d. CETP Development Fund	3363250.00		3766635003.41	
3363250.00						
		<b>C. OTHER DEPOSITS</b>				
		a. Deposits for supply & works ( <i>Schedule -O</i> )	647087444.23			
86464711.23		b. Eco Devlpt. Measure Deposit	3729000.00		650816444.23	
3729000.00						
		<b>D. AMOUNT DUE</b>				
		a. Cess Payable	7765450179.84			
7849498163.26		<b>Less:</b> Cess unrecoverable		-		7765450179.84
	-	b. Other Liability ( <i>Schedule -P</i> )				51408192.10
38566986.00						
16861260598.77		<b>C/o</b>			18818164633.04	

# OF ACCOUNT

31st March 2016.

(Prevention and control of Pollution) rules 1983.

PREVIOUS YEAR		ASSETS	TOTAL OF SUB HEAD		TOTAL OF MAJOR HEADS	
Rs.	Ps.		Rs.	Ps.	Rs.	Ps.
		<b>A. FIXED ASSETS</b>				
12306284.65		a. Land Development	33100254.65			
117283780.00		b. Buildings Under Construction	131511163.00		164611417.65	
		<b>B. OTHER ASSETS</b>				
133726310.20		a. As per Form XV			225759557.07	
		b. Stock in hand				
1806063.71		i. Lab Chemicals	1694852.73			
980199.35		ii. Glassware	996260.33			
125058.27		iii. Misc. Stores	116743.56			
1531122.04		iv. Filter Paper	1335649.42		4143506.04	
		<b>C. SUNDRY DEBTORS</b>				
		a. Cess Receivable				
6391742431.08		i. From Industries	6225865353.66			
1442041257.80		ii. From Local Bodies	1519793024.80			
			7745658378.46			
		<b>Less: Cess unrecoverable</b>		-	7745658378.46	
383845.00		b. Receivable-Project study & others			1332051.00	
		c. Ways and Means Advance Receivable			240752715.50	
240752715.50		d. Tax Refundable / Receivable			10000000.00	
		<b>D. ADVANCES &amp; DEPOSITS</b>				
		a. Misc. amounts recoverable (Schedule - R)	793113997.80			
770543621.97		b. Advance to Staffs (Schedule - S)	11248286.00			
13660626.00		c. Deposits (Schedule - T)	2526665.00		806888948.80	
2418549.00						
9129301864.57		<b>C/o</b>			9289146574.52	

**ANNUAL STATEMENT**  
Balance Sheet as on  
See Rules 36 of Tamil Nadu Water

PREVIOUS YEAR	LIABILITIES	TOTAL OF SUB HEAD	TOTAL OF MAJOR HEADS
Rs.    Ps.		Rs.    Ps.	Rs.    Ps.
16861260598.77	<b>B/f</b>		18818164633.04
264956.98	<b>E. ENVIRONMENTAL IMPACT STUDY</b>		264956.98
558938573.12	<b>F. INCOME RECEIVED IN ADVANCE</b> <i>(Schedule - Q)</i>		664856906.98
21498500.00	<b>G. SUBSIDIES FOR COMMON EFFLUENT TREATMENT PLANTS</b>		21498500.00
1189893.34	<b>H. ENVIRONMENTAL EDUCATION FUND RESERVE</b>		1189893.34
500000.00	<b>I. EMERGENCY RESPONSE CENTRE</b>		500000.00
692000.00	<b>J. C P C B GREEN BELT</b>		692000.00
2995077.00	<b>K. SCHEMES</b>		2779632.00
12085550.00	<b>L. SPONSORSHIP FOR SCHEMES</b>		12085550.00
<b>17459425149.21</b>	<b>Total</b>		<b>19522032072.34</b>

Chennai - 600 032  
Date: 17/11/2016

**Sd/**  
**K.Chitra** B.Com, MBA, FCA.,  
Senior Manager (F&A)

**Sd/**  
**R. Vijaya** M.A.,B.Ed.,  
Financial Adviser

**Sd/**  
**N. Sundara Gopal** M.E.,  
Member Secretary

# OF ACCOUNT

31st March 2016.

(Prevention and control of Pollution) rules 1983.

PREVIOUS YEAR	ASSETS	TOTAL OF SUB HEAD	TOTAL OF MAJOR HEADS
Rs. Ps.		Rs. Ps.	Rs. Ps.
9129301864.57	<b>B/f</b>		9289146574.52
	<b>E. INVESTMENTS</b>		
2135092175.00	1. Pension Fund Investment	2791811605.00	
558629534.41	2. Depreciation Fund Investment	631762625.41	
272115144.00	3. EL Encashment Fund Inv.	339697523.00	
3363250.00	4. CETP Develop. Fund Investment	3363250.00	
5208341833.59	5. Other term deposits	5673657279.59	9440292283.00
	<b>F. CASH &amp; BANK BALANCE</b>		
152536454.64	a. Balance with Banks	792593214.82	
-	b. Cash in Hand	-	
44893.00	c. Funds under Transit	-	792593214.82
<b>17459425149.21</b>	<b>Total</b>		<b>19522032072.34</b>

Subject to our report of even date & Schedules + Notes attached  
for **Velu & Co., FR.NO : 004589 S**  
Chartered Accountants

**Sd/**  
**Atulya Misra IAS.**  
Chairman

**Sd/**  
**P.T. Jayakumar [M.No. 200239]**  
Partner

**FORM - XV**  
**ANNUAL STATEMENT OF ACCOUNTS - FIXED ASSETS AS ON 31st MARCH 2016.**  
**See Rules 36 of Tamil Nadu Water (Prevention and control of Pollution) rules 1983.**

Sl. No	Particulars of Assets	Rate of Depreciation	Opening Balance on 01/04/2015	Additions and Adjustment during the year	Total	Depreciation	Closing Balance on 31/03/2016	Cumulative Depreciation on 31/03/2016
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs. P.
1	Building	10.00%	70319047.20	69450000.00	139769047.20	9683218.00	130085829.20	147868524.60
2	Computer	60.00%	4051771.13	26302588.00	30354359.13	9957289.00	20397070.13	47864432.00
3	Electrical Installations	15.00%	2994916.68	32840.00	3027756.68	451484.00	2576272.68	8003929.11
4	Furniture & Fixture	10.00%	10881761.31	1225610.00	12107371.31	1135446.00	10971925.31	24259609.23
5	Lab Equipment	33.33%	24336262.72	27266452.87	51602715.59	12628604.00	38974111.59	137807716.57
6	Library Books	10.00%	1657394.93	226531.00	1883925.93	178547.00	1705378.93	6151856.03
7	Office Appliance	10.00%	10524498.08	744781.00	11269279.08	1091400.00	10177879.08	22326759.14
8	Vehicle	33.33%	8883804.15	2358643.00	11242447.15	3547881.00	7694566.15	53420987.43
9	Software Development	60.00%	76854.00	4043315.00	4120169.00	943645.00	3176524.00	967915.00
	<b>Total</b>		<b>133726310.20</b>	<b>131650760.87</b>	<b>265377071.07</b>	<b>39617514.00</b>	<b>225759557.07</b>	<b>448671729.11</b>

Chennai - 600 032  
Date: 17/11/2016

Subject to our report of even date & Schedules + Notes attached  
for **Velu & Co., FR.NO : 004589 S**  
**Chartered Accountants**

**Sd/**  
**K.Chitra B.Com, MBA, FCA.,**  
Senior Manager (F&A)

**Sd/**  
**R. Vijaya M.A.,B.Ed.,**  
Financial Adviser

**Sd/**  
**N. Sundara Gopal M.E.,**  
Member Secretary

**Sd/**  
**Atulya Misra IAS.**  
Chairman

**Sd/**  
**P.T. Jayakumar [M.No. 200239]**  
Partner

**SCHEDULE FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2016.**

**RECEIPTS**

**SCHEDULE - A  
Services & Rental Charges**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Air Ambient Quality Survey	682227	19.00
2	Analysis Charges	635021	36.00
3	Bio Medical Management	245115	0.00
4	Cess Appeal Fees		1750.00
5	GEMS / MINARS / NAMP	341955	4.00
6	Noise Leavel Measurement	130400	0.00
	<b>TOTAL</b>	<b>1377277</b>	<b>09.00</b>

**SCHEDULE - B  
MISCELLANEOUS RECEIPTS**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Environment Training Institute	250035	0.00
2	Interest on Loans & Advance	220664	0.00
3	Miscellaneous Income	200132	5.00
4	Public Hearing	226688	3.00
5	Rent	196489	2.00
6	Right to Information Fees	47023	0.00
7	Sale of legal Books	25375	0.00
	<b>TOTAL</b>	<b>677619</b>	<b>7.00</b>

**SCHEDULE FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2016.**

**SCHEDULE - C  
ADVANCE TO STAFF (Receipts)**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Temporary Advance	830487.00	
2	Tour Advance	29711.00	
	<b>TOTAL</b>	<b>860198.00</b>	

**SCHEDULE - D  
ADVANCES AND DEPOSITS**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	AAQS Fees Advance	254400.00	
2	Analysis Fees Advance	802920.00	
3	Cess received in advance	21708919.00	
4	Consent Fees received in advance	635847922.98	
5	Miscellaneous Deposit	200000.00	
6	Others - Court Deposit	543517590.00	
7	Rent Advance	179043.00	
8	SEIAA/SEAC	3549839.00	
	<b>TOTAL</b>	<b>1206060633.98</b>	



**SCHEDULE FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2016.**

**PAYMENT**

**SCHEDULE - E  
MISCELLANEOUS**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	AAQS Expenses	2238736.00	
2	Advertisement & Publicity	2715531.00	
3	Appellate Authority Expenses	384895.00	
4	Bank interest and commission	44408.53	
5	Board Meeting Expenses	2778016.00	
6	Consultant Fees	504698.00	
7	Contract Charges / Wages	44783365.00	
8	Conveyance	623993.00	
9	Electricity / Water Charges	11501865.00	
10	Entertainment	51002.00	
11	Environmental Pavilion/Study Expenses	142384.00	
12	ETI Expenses	112501.00	
13	Expenses of Audit	61395.00	
14	Family Benefit Fund	23840.00	
15	Financial Assistance for projects	274275.00	
16	Land Maintenance Expenses	71868.00	
17	Leave Travel Concession	108700.00	
18	Miscellaneous Expenses	1517853.00	
19	Newspaper & periodicals	430989.00	
20	OCMMS Expenses	1207148.00	
21	Office Expenses	2326006.50	
22	Outstanding Expenses	3436107.00	
23	Petty Cash Expenses	192516.00	
24	Pollution Awareness Expenses	184635377.00	
25	Postage / Telegram	1836634.00	
26	Printing and Stationery	3751476.50	
27	Prior Period Expense	1297224.00	
28	Property tax	966742.00	
29	Rent	8854911.00	
30	Staff Welfare Expenses	3920123.00	
31	Telephone and Telex	5309019.00	
32	Trade Fair	1192058.00	
33	Training and Seminar	4672239.00	
34	Travelling expenses	6816790.00	
35	Turn duty and Overtime Allow.	41590.00	
	<b>TOTAL</b>	<b>298826275.53</b>	

**SCHEDULE FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2016.**

**PAYMENT**

**SCHEDULE - F  
ADVANCE TO STAFF (PAYMENT)**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Festival Advance	1930650.00	
2	Handloom Advance	284360.00	
3	Leave Travel Concession	13628.00	
4	Motor Vehicle Advance	836295.00	
5	Personal Computer Advance	176603.00	
6	Temporary Advance	3619338.00	
7	Tour Advance	241066.00	
	<b>TOTAL</b>	<b>7101940.00</b>	

**SCHEDULE - G  
DEPOSITS AND ADVANCES (PAID) (OTHERS)**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Advance to Suppliers	50363753.70	
2	Amount Receivable - Others	948206.00	
3	Earnest Money Deposit	2618220.00	
4	Electricity Deposit	108116.00	
5	Income Tax Receivable	100000000.00	
6	NGT-Receivable	666713.00	
7	Rent Advance	275500.00	
8	Retention Money Deposit	153277.00	
9	Security Deposit	658156.00	
	<b>TOTAL</b>	<b>155791941.70</b>	

**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH - 2016.**

EXPENDITURE

**SCHEDULE - H  
ALLOWANCES AND HONORORIA**

SL.NO	DESCRIPTION	Rs.	Ps.
1	Allowances		237573225.00
2	Bonus		1534800.00
3	Contributory Pension Scheme / FBF		7834525.00
4	Health Insurance		249459.00
5	Leave Travel Concession Expenses		126328.00
6	Medical Reimbursement		1378384.00
7	Special Provident Fund-Board's Contribution		320000.00
8	Travelling Expenses		6872928.00
9	Turn Duty and Overtime Allowances		41869.00
	<b>TOTAL</b>		<b>255931518.00</b>

SCHEDULE - I

**RUNNING AND MAINTENANCE OF VEHICLES**

SL.NO	DESCRIPTION	Rs.	Ps.
1	Fuel		5576140.10
2	Hire Charges		8886377.00
3	Insurance		841466.00
4	Repairs		2149772.00
	<b>TOTAL</b>		<b>17453755.10</b>

**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2016.**

**EXPENDITURE**

**SCHEDULE - J  
MISCELLANEOUS**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Air Ambient Quality Survey Expenses		3159748.00
2	Advertisement & Publicity		1168590.00
3	Appellate Authority Expenses		3242878.00
4	Bank Charges		44408.53
5	Board Meeting / Other meeting Expenses		3658889.00
6	Contract Charges / Wages		46492619.00
7	Conveyance Expenses		639807.00
8	DEE Legal Sample		1000.00
9	Electricity & Water Charges		12717439.00
10	Entertainment Expenses		142090.00
11	Environmental Study / Pavilion Expenses		179210.00
12	Expenses of audit		62215.00
13	Financial Assistance to Projects		274275.00
14	Insurance of Assets		219842.00
15	Land Maintenance Expenses		70323.00
16	Newspaper and Periodicals		449362.00
17	OCMMS Expenses		1231784.00
18	Office Expenses		3187709.50
19	Pollution Awareness Expenses		185221500.00
20	Postage Expenses		1856227.00
21	Printing & Stationery		3985118.50
22	Property Tax and Rates		966742.00
23	Rent on Buildings		7472748.00
24	Staff Welfare Expenses		4274845.00
25	Sundries		2908156.00
26	Telephone Expenses		5449975.00
27	Trade Fair Expenses		1318783.00
28	Training and Seminar Expenses		4720258.00
	<b>TOTAL</b>		<b>295116541.53</b>

**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2016.**

**INCOME**

**SCHEDULE - K  
FEES**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Consent Fees	1325858523.55	
2	Consent Forms		200.00
	<b>TOTAL</b>	<b>1325858723.55</b>	

**SCHEDULE - L  
SEVICES AND RENTAL CHARGES**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Air Ambient Quality Survey	68425479.00	
2	Analysis Charges	64045114.00	
3	NAAQM / NAMP / GEMS	3419554.00	
4	Noise level survey fees	130400.00	
5	Stack Moniroring	84100.00	
	<b>TOTAL</b>	<b>136104647.00</b>	

**SCHEDULE - M  
MISCELLANEOUS**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Bio-Medical Waste Authorisation Fees	2458650.00	
2	Cess Appeal Fees	1750.00	
3	Environmental Training Inst.	98999.00	
4	Fees for Right to Information	47023.00	
5	Interest on Loans & Advance	1465819.00	
6	Miscellaneous Income	2423207.00	
7	Public Hearing	216487.00	
8	Sale of Books	25375.00	
	<b>TOTAL</b>	<b>6737310.00</b>	

**SCHEDULE FORMING PART OF BALANCE SHEET  
AS ON 31st MARCH 2016.**

**SCHEDULE-N  
EARMARKED FUND**

**PENSION FUND ACCOUNT**

SL.NO	DESCRIPTION		AMOUNT
1	Opening balance as on 01-04-15		2135092175.00
	Add: Interest @ 6%		128105531.00
			2263197706.00
	Less: Disbursement from fund		
	a) Pension disbursed by Corp. Office	40137577.00	
	b) Pension disbursed by Units	26032690.00	
			66170267.00
			2197027439.00
	Add: Contribution to the Fund		594784166.00
	<b>Closing balance as on 31-03-16</b>		<b>2791811605.00</b>

**EARN LEAVE ENCASHMENT FUND**

SL.NO	DESCRIPTION		AMOUNT
2	Opening balance as on 01-04-15		272115144.00
	Add: Interest @ 6%		16326909.00
			288442053.00
	Less: Disbursement from fund		
	a) Disbursement to retirees-Board	7057820.00	
	b) Disbursement to retirees-Units	8996390.00	
			16054210.00
			272387843.00
	Add: Contribution to the Fund		67309680.00
	<b>Closing balance as on 31-03-16</b>		<b>339697523.00</b>

**DEPRECIATION FUND ACCOUNT**

SL.NO	DESCRIPTION		AMOUNT
3	Opening balance as on 01-04-15		558629534.41
	Add: Interest @ 6%		33517772.00
			592147306.41
	Add: Current year's Depreciation		39615319.00
	<b>Closing balance as on 31-03-16</b>		<b>631762625.41</b>

**SCHEDULE FORMING PART OF BALANCE SHEET  
AS ON 31st MARCH 2016.**

**LIABILITIES**

**SCHEDULE - O  
OTHER DEPOSITS**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Deposit- Court	621194755.23	
2	Earnest Money Deposit	19455283.00	
3	Miscellaneous Deposits	358394.00	
4	Retention Money Deposits	512917.00	
5	Security Deposits	5566095.00	
	<b>TOTAL</b>	<b>647087444.23</b>	

**SCHEDULE - P  
OTHER LIABILITIES**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Others / Flag day collection	400.00	
2	Outstanding Liability	46081450.10	
3	Pay Roll Liabilities	4181844.00	
4	Staff Claim Payable	212415.00	
5	Tax Deducted at Source (Others)	7993.00	
6	Tax Deducted at Source (Staffs)	924090.00	
	<b>TOTAL</b>	<b>51408192.10</b>	

**SCHEDULE - Q  
INCOME RECEIVED IN ADVANCE**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Air Ambient Quality Services	254400.00	
2	Anylysis charges	4089065.00	
3	Cess Fees	21820361.00	
4	Consent Fees	638693080.98	
	<b>TOTAL</b>	<b>664856906.98</b>	

**SCHEDULE FORMING PART OF BALANCE SHEET  
AS ON 31st MARCH 2016.**

**ASSETS**

**SCHEDULE - R  
MISCELLANEOUS ADVANCES**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Advance to Suppliers	76238359.65	
2	Interest Receivable	684928638.00	
3	Land Advance	24857753.00	
4	NGT - Receivable	3035358.00	
5	Rent Advance	2765018.15	
6	SEIAA -Receivable	1288871.00	
	<b>TOTAL</b>	<b>793113997.80</b>	

**SCHEDULE - S  
ADVANCES TO STAFF**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Festival Advance	1245800.00	
2	Handloom Advance	193677.00	
3	House Building Advance	1020817.00	
4	Marriage Advance	6600.00	
5	Motor Vehicle Advance	6320070.00	
6	Personal Computer Advance	1340579.00	
7	Temporary Advance	1052943.00	
8	Tour Advance	67800.00	
	<b>TOTAL</b>	<b>11248286.00</b>	

**SCHEDULE - T  
DEPOSITS**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>Rs.</b>	<b>Ps.</b>
1	Customs Deposit	295552.00	
2	Electricity Deposit	1155374.00	
3	Gas Deposit (Miscellaneous deposit)	41529.00	
4	Telephone & Telex Deposit	1034210.00	
	<b>TOTAL</b>	<b>2526665.00</b>	



## Notes Forming Part of the Accounts for the year ended 31<sup>st</sup> March 2016.

### I. Significant Accounting Policies and Convention:

(I) The financial statements have been prepared on the assumption of going concern concept.

(ii) Revenue Recognition: Revenues are recognized in the following manner:

a. **Consent Fees:**

Consent Fees received relating to the period upto which financial statements are drawn is accounted on cash basis and the amount received beyond the date of Balance Sheet is accounted as "consent fees received in advance" and is carried as liability. The consent fees advance has not been segregated yearwise.

**Other Fees, Services Charges, Cess reimbursement and other Income:**

On Cash basis.

b. **Interest on Investments:**

On accrual basis.

c. **Revenue on Earmarked Funds:**

Revenue accrued on earmarked funds is recognized on accrual basis and transferred to the respective fund accounts.

(iii) **Investments** : Investments are stated at the carrying cost.

(iv) **Fixed Assets** : Fixed Assets are stated at written down value.

(v) **Expenses** : On accrual basis.

(vi) **Depreciation:**

Depreciation is calculated on written down value by applying the following rates:

Building	-	10%
Computer	-	60%
Electrical Installations	-	15%
Furniture and Fixtures	-	10%,
Lab Equipments	-	33.33%,
Library Books	-	10%,
Office Appliances	-	10%,
Vehicles	-	33.33%.

(vii) **Stock on Hand** : Stock of Lab chemicals, Glassware, Misc. Stores & Filter papers are valued at cost. Cost is arrived under First in First out method.

(viii) **Retirement Benefits:**

a) **Gratuity** : Gratuity is administered by a separate Trust managed by the Life Insurance Corporation of India. The contribution made against the fund is charged to revenue.

b) **Pension** : Contribution to Pension is provided in the accounts as per Actuarial valuation. Fixed Deposits are earmarked and transferred to separate fund account to meet out the liability.

c) **Earn Leave** : Contribution to Earned Leave is provided in the accounts as per Actuarial valuation. Fixed Deposits are earmarked and transferred to separate fund account to meet out the liability.

**II Notes on Accounts:**

a) **Consent Fees / Cess** : The Board is collecting Cess and consent fees. However necessary information/data is not available to determine whether all industries to which the provisions of the Act apply have paid Cess and consent fees. In the absence of such information, income from this head has been recognized on the basis of available records.

b) **Interest accrued** on deposits has been adopted as worked out by Board.

c) **Internal Audit** : The Board's Internal Audit System needs to be strengthened and internal audit is to be conducted regularly and the Internal Audit Report should be furnished to audit each year.

d) **Fixed Assets** : The fixed assets have been physically verified by independent Officers of the Board. The Fixed Assets are not numbered.

e) **Land Advances** : This represents amount paid towards the land cost to SIPCOT amounting to Rs.2,48,57,753/- which is yet to be capitalized pending registration.

f) **Advance to suppliers** : Rs5,70,13,932/- has been paid as Advance to Suppliers for purchase of assets and other expenditure and is pending adjustment for more than one year.

g) **Cess receivable includes disputed amount from the following Thermal stations / Local Bodies.**

		(Rs. in crores)	
i)	Ennore Thermal Power Station.	104.60	
ii)	North Chennai Thermal Power Station	211.15	
iii)	NTPC TN Energy Gen Co	0.35	
iii)	Tuticorin Thermal Power Station	303.62	619.72
iv)	Local bodies		151.98

During last year the penal interest assessment of Tuticorin Thermal Power Station was erroneously provided in excess by Rs.80.52 crores. This has been set right during this financial year.

**h) Position under Income Tax Act, 1961:**

1. The Board's income has been notified as exempt u/s10(46) for assessment years from 2014-15 to 2018-19 vide GOI Gazette Notification No.86/2014 dated 23-12-2014.
2. The Board has been assessed for the AY 2009-10, 2010-11, 2011-12 and 2012-13 against the NIL income filed by it against the notice served u/s 148. The income tax payable with interest as per demand notice u/s156, tax paid and appeal is as follows:

Sl. No.	Assessment year & order date	Original IT demand	Revised IT after rectification u/s154	Amount remitted till date	Appeal filed on
1	2011-12 Dt.25-03-15	79,81,61,770	41,77,67,094	10,00,00,000 plus TDS of 1,20,13,110	28-10-15
2	2009-10 Dt.31-03-16	16,18,50,415	13,85,99,044	2,07,89,857	28-04-16
3	2010-11 Dt.31-03-16	58,38,11,570	54,55,28,843	8,18,29,326	28-04-16
4	2012-13 Dt.31-03-16	30,36,35,459	25,27,61,641	3,79,14,246	28-04-16
	<b>Total</b>	<b>184,74,59,214</b>	<b>135,46,56,622</b>	<b>25,25,46,539</b>	

3. The Board has also filed application u/s 119(2)(b) for redressal to CBDT New Delhi seeking direction to Director (Exemption) Chennai to dispose the application made by the Board for exemption u/s10(23C)(iv) dated 27-08-2004 in spite of the expiry of the period specified there-in and to deal with the same on the merits in accordance with law.

**l) Project Study Receivable:**

Rs.3,83,845/- has been paid to various agencies for conducting studies on environment issues. These sums were proposed to be collected from the industries to which the issues related to. However these sums remain to be collected till date.

**j) Pension Fund**

The assumptions for valuation are as under:

<b>Date of Valuation</b>	31-03-2016
<b>Employee Profile</b>	
Age of Retirement	58 / 60 years
No. of Employees	503
Total monthly relevant salary for pension	268,38,328/-
No. of pensioners	192
Total monthly pension	40,81,358/-
No. of family pensioners	54
Total monthly family pension	7,95,562/-
<b>Assumptions as per AS 15R</b>	
Discount rates as per Para 78	7.80%
Salary escalation fixed as per Para 83-91 and 120(1)	3.00%
Pension Escalation Rate ( DA Increase)	12.00%
Attrition rate fixed	1.00%
<b>Funding mechanism</b>	Earmarked deposits
<b>Present value of obligation</b>	<b>279,18,11,605/-</b>

**j) Earn Leave Encashment Fund:**

The assumptions for valuation are as under:

<b>Date of Valuation</b>	31-03-2016
<b>Employee Profile</b>	
Age of Retirement	58 / 60 years
No. of Employees	724
Total monthly relevant salary for leave encashment	335,04,073.00
Average Age	49.10
Average past service	18.40
No. of leave days (EL)	1,37,590 days
No. of Leave days (UEL-PA)	65,160 days
Decrement adjusted /estimated future service	8.20
<b>Assumptions as per AS 15R</b>	
Discount rates as per Para 78	7.80%
Expected rate of return computer as per Paras 107-109	0.00%
Salary escalation fixed as per Para 83-91 and 120(1)	8.00%
Attrition rate fixed	1.00%

Proportion of leave availment	10.00%
Proportion of encashment during service	10.00%
Proportion of encashment on separation	80.00%
<b>Funding mechanism</b>	Earmarked deposits
<b>Present value of obligation for Earned Leave</b>	<b>23,03,58,673/-</b>
<b>Present value of obligation for UEL - PA</b>	<b>10,93,38,850/-</b>
<b>Total</b>	<b>33,96,97,423/-</b>

**j) Contingent Liability:**

1. A sum of Rs. 7,63,25,790/- as quarterly interest is payable upto 31.03.2013 as per G.O. (Ms).No. 209 Environment and Forests (EC-1) Department dated 31.12.2011. The Board has written to the Government for waiver of interest @ 12.00 % & penal interest @ 2.50%.

k) Previous year figures are regrouped and reclassified wherever considered necessary.

l) Position on balance outstanding in Ways & Means advance Payable / Receivable:

The sum of Rs.75.00 crores was received on 31.12.2011 and was disbursed to Noyyal River Acyacutdars Protection Association (NRAPA) Account on 23.01.2012. As per the terms and conditions of the G.O the Board remitted Rs.15.00 crores to the Govt., as part refund on 22.10.2012. On 01.11.2012 the Hon'ble High Court of Madras quashed the G.O. (Ms).No. 209 Environment and Forests (EC-1) Department dated 31.12.2011 and directed the beneficiaries to refund the sum. Consequent to this the balance sum of Rs.50.90 crores in the Account of NRAPA was remitted to Board. The Board has remitted the balance sum Rs.60.00 crores to the Govt.,. A balance of Rs.24.07 crores is due from NRAPA.

**III. Events occurring after the date of Balance Sheet : Nil**

**Date : 17-11-2016**

**Place : Chennai**

**For Velu & Co.  
Chartered Accountants  
FR.NO : 004589 S**

**Partner P.T. Jayakumar  
M. No. 200239**



**தமிழ்நாடு மாசு கட்டுப்பாடு வாரியம்**  
**TAMILNADU POLLUTION CONTROL BOARD**

76, Mount Salai, Guindy, Chennai - 600 032.