

# ANNUAL REPORTS & ANNUAL ACCOUNTS 2012-2013



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

# **ANNUAL REPORT 2012 - 2013**



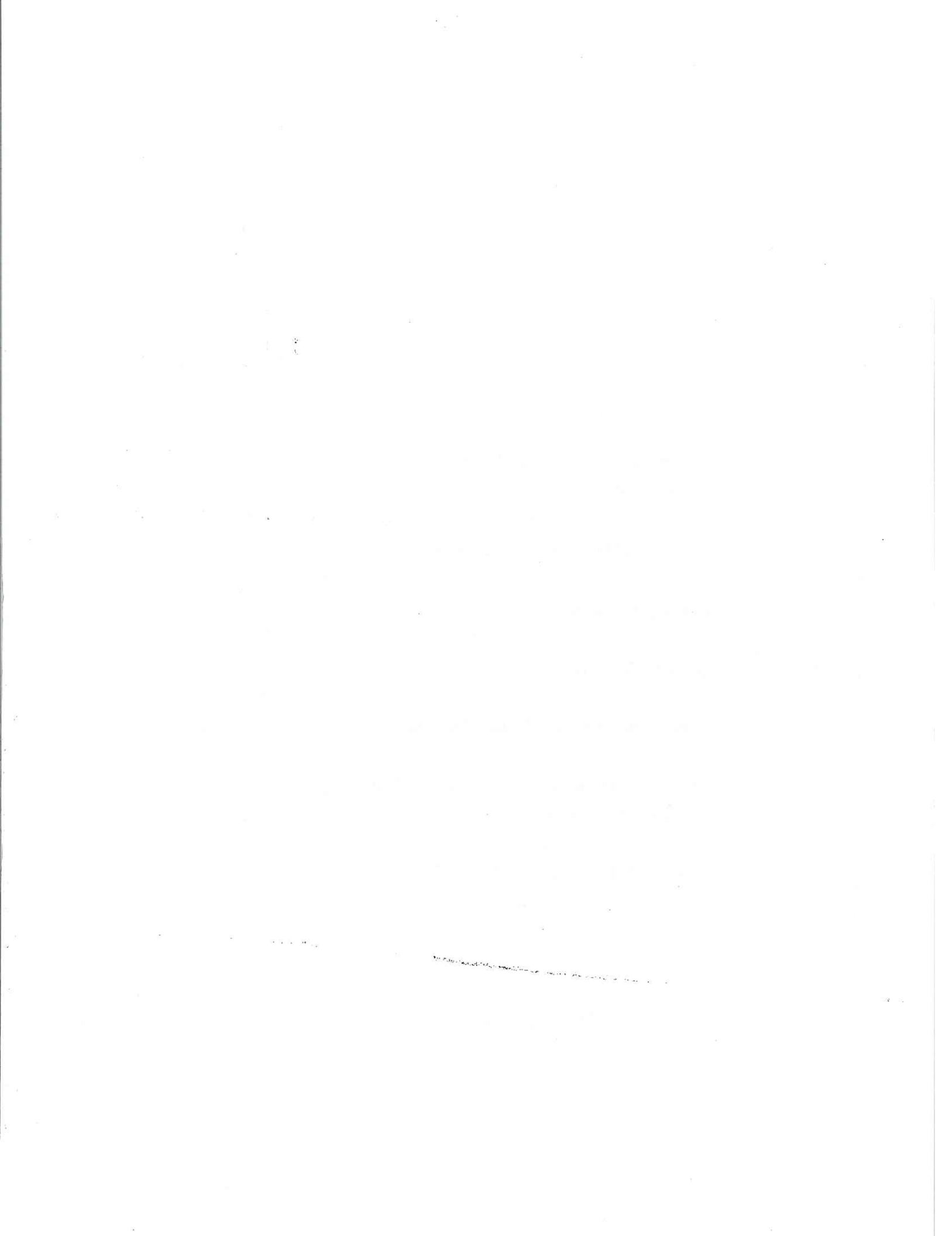
**TAMILNADU POLLUTION CONTROL BOARD**

76, Mount Salai, Guindy, Chennai - 32.



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### 1.1 INTRODUCTION

The Tamilnadu Prevention and Control of Water Pollution Board (TNPCB) 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 (TNPCB) 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, and the rules made under the Environment (Protection) Act, 1986 which includes

- ❖ The Environment (Protection) Rules, 1986
- ❖ The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 as amended.
- ❖ The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as amended in 1994 and 2000
- ❖ The Biomedical Waste (Management and Handling) Rules, 1998 as amended in 2000 & 2003.
- ❖ The Plastics Waste (Management & Handling) Rules, 2011
- ❖ The Noise Pollution (Regulation and Control) Rules, 2000
- ❖ The Municipal Solid Wastes (Management and Handling) Rules, 2000
- ❖ The Battery (Management and Handling) Rules, 2001 as amended.
- ❖ The e-Waste (Management and Handling) Rules, 2011

### 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 and trade effluents and emissions 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.

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### 2.1 CONSTITUTION OF TNPCB

The TNPCB is constituted by the State Government. It comprises 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 constitution of the TNPCB is given in Annexure – I.

### 2.2 ORGANISATIONAL SET UP

The TNPCB has established its organization structure with a three-tier system consisting of head-office at Chennai and district offices with total staff strength of 732. There are 32 district offices, 29 are headed by District Environmental Engineers and 3 by Assistant Environmental Engineers. The locations of district offices are shown in Annexure – II.

The TNPCB has delegated powers to the Chairman to grant consent to all “Green Site” applications received from new industries pertaining to red category industries. The Board has delegated powers to District Environmental Engineers and Assistant Environmental Engineers in the district offices to issue consent to establish, consent to operate and to renew consent to all new and existing orange and green category industries.

To assist the Board in monitoring the industries, 5 Advanced Environmental Laboratories, 10 District Environmental Laboratories are functioning. These laboratories carry out analysis on samples of sewage, trade effluents, emissions and hazardous wastes.

The organization chart of the Board, staff strength and year wise growth of the Board are furnished in Annexure - III, IV and V.

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### 3.1 ENVIRONMENTAL LEGISLATIONS

The various environmental legislations with which the TNPCB is concerned are given below. Some legislation is implemented directly by the Board and some by other departments of the Government.

- ❖ The Water (Prevention and Control of Pollution) Act, 1974 as amended in 1978 & 1988.
- ❖ The Tamilnadu Water (Prevention and Control of Pollution) Rules, 1983.
- ❖ The Water (Prevention and Control of Pollution) Cess Act, 1977, as amended in 1991 and 2003.
- ❖ The Water (Prevention and Control of Pollution) Cess Rules, 1978 as amended in 1992.
- ❖ The Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987.
- ❖ The Tamilnadu Air (Prevention and Control of Pollution) Rules, 1983.
- ❖ The Environment (Protection) Act, 1986.
- ❖ The Environment (Protection) Rules, 1986 as amended.
- ❖ The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 as amended.
- ❖ Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as amended in 1994 & 2000.
- ❖ The Manufacture, Use, Import, Export and Storage of Hazardous Micro organisms / genetically engineered organisms or cells Rules, 1989.
- ❖ The Public Liability Insurance Act, 1991 as amended in 1992.
- ❖ The Public Liability Insurance Rules, 1991.
- ❖ Coastal Regulation Zone Notification, 2011

- ❖ The Environment Impact Assessment Notification, 2006 as amended in 2009,
- ❖ The National Environment Tribunal Act, 1995.
- ❖ The Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996
- ❖ The National Environment Appellate Authority Act, 1997.
- ❖ The National Environment Appellate Authority (Appeal) Rules, 1997.
- ❖ The Bio-Medical Waste (Management and Handling) Rules, 1998 as amended in 2000, 2003.
- ❖ Fly Ash Utilization Notification, 1999 as amended in 2003.
- ❖ The Plastics Waste (Management & Handling) Rules, 2011.
- ❖ The Municipal Solid Wastes (Management and Handling) Rules, 2000.
- ❖ Noise Pollution (Regulation and Control) Rules, 2000.
- ❖ Ozone Depleting Substances (Regulation and Control) Rules, 2000.
- ❖ The Batteries (Management and Handling) Rules, 2001 as amended.
- ❖ The e-Waste (Management and Handling) Rules, 2011.

### **3.2 MONITORING OF INDUSTRIES**

With the increasing pace of industrialization in Tamilnadu, the need for continuous monitoring of pollution due to industrial sources has become significant. Industries are required 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 of pollution received from the public, organizations and the Government. For effective monitoring, industries are categorized as Red, Orange, and Green according to their pollution potential. Also the industries have been classified as Large, Medium and Small scale based on the gross fixed assets of the industry. Depending upon the category and size, industries are monitored periodically.

### **3.3 PROCEDURE FOR ISSUE OF CONSENT**

Industry requires to obtain consent for discharge of sewage / trade effluent into any stream or well or into sewer or land under the Water (Prevention and Control of Pollution) Act, 1974 and to operate the plant in air pollution control area of entire Tamilnadu under the Air (Prevention and Control of Pollution) Act, 1981. The consent is issued to industries in two stages. 'Consent to Establish' is issued depending upon the suitability of the site before the industry takes up the construction activity. 'Consent to Operate' is issued before commissioning the industrial unit after the compliances of conditions of 'Consent to Establish' issued.

### **3.4 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 quality of water. 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 effluents are collected regularly to assess the quality of effluent discharged and also to assess the efficiency of the effluent treatment plants provided. During the year 2012-2013, 19564 samples of sewage and trade effluents from the industries were collected and analysed. The Board has issued 1241 'Consent to Establish' orders and 1327 'Consent to operate' orders under the Water (Prevention and Control of Pollution) Act, 1974 as amended during the year 2012-2013.

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

### **3.5 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 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'. Industries, which let out process emissions, are regularly monitored through inspections of the air pollution control measures provided by the units. Ambient air quality survey/ stack emission survey are conducted in and around the industries regularly to assess the quality of the emissions let out and on the basis of the report of analysis, the industries are instructed to carry out necessary corrective measures. During the year 2012-2013, ambient air quality surveys have been conducted in 994 industries. The Board has issued 1241 'Consent to Establish' orders and 1326 'Consent to Operate' orders under the Air (Prevention and Control of Pollution) Act, 1981 as amended during the year 2012 - 2013.

### 3.6. COMMON EFFLUENT TREATMENT PLANTS

The TNPCB plays an important role in the establishment of Common Effluent Treatment Plants (CETPs) for clusters of small-scale industries in various parts of the State. Small-scale industries often express financial difficulties, lack of space and other reasons, which prevent them from putting up required individual effluent treatment plant. As a large number of small-scale units are in clusters, the Board has launched a massive programme of motivating these industries to set up common effluent treatment plants. The Board assists the units in mobilization of financial resources and in the technical scrutiny of the proposals for the common effluent treatment plants.

#### 3.6.1 FINANCIAL PATTERN OF CETP SCHEMES

|                                  |   |
|----------------------------------|---|
| Subsidy by Central Government    | 25% of the project cost.  |
| Subsidy by State Government      | 25% of the project cost.  |
| Beneficiaries Contribution       | 20% of the project cost by way of Share capital collections.                                |
| Financial Institution Assistance | Balance by way of loans from the Financial Institutions such as IDBI. (30% of project cost) |

#### 3.6.2 STATUS OF COMMON EFFLUENT TREATMENT PLANTS:

Common effluent treatment plants are formulated in the following sectors:

|                                  |            |
|----------------------------------|------------|
| Tanneries                        | 13 Schemes |
| Textile Bleaching & Dyeing Units | 28 Schemes |
| Hotels & Lodges                  | 1 Scheme   |

Out of 13 CETP schemes established for tanneries, 8 CETPs are under operation with ZLD system, ZLD system are under implementation in 4 CETPs, out of which ZLD is nearing completion in 3 CETPs and work is in progress in one CETP. The remaining one CETP for tannery has opted for dilution of tannery effluent with sewage to achieve the standards prescribed by the Board.

Out of 28 CETPs established for textile dyeing processing units, 19 CETPs have implemented ZLD system. In the remaining of 9 CETPs, one CETP is implementing the ZLD system and other 8 CETPs have not implemented the ZLD system and are under closure. One CETP scheme for hotels and lodges are under operation.

The State and Central Governments sanction the subsidy for implementing the CETP schemes. Prior to 2003-04 the Government of Tamil Nadu has sanctioned Rs. 26.88 crores towards subsidy for the common effluent treatment plants and out of this Rs. 22.66 crores has been released as on 31.03.2013 through the Board and Tamil Nadu Leather Development Corporation. For the 18 CETP schemes for textile dyeing processing units in Tiruppur, the State Government has sanctioned Rs. 179.34 crores, out of Rs. 200 crores interest free loan announced by the State Government for modernization/improvement of ZLD system. The sanctioned amounts are released to the respective 18 CETP schemes for textile dyeing processing units by the Director of Handlooms and Textiles.

### **3.7. MANAGEMENT OF HAZARDOUS WASTES AND CHEMICALS**

Tamil Nadu Pollution Control Board is implementing the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 notified by the Government of India, under the Environment (Protection) Act, 1986. Tamil Nadu Pollution Control Board is taking effective steps for safe handling of hazardous wastes including collection, treatment, storage, transport and disposal in an environmentally sound manner. As on 31.03.2013, there are 2771 hazardous waste generating industries in Tamil Nadu generating total of **423631.4 T/Y** of hazardous waste of which **188629.5 tons** is recyclable, **17334.7 tons** is incinerable and **217667.2 tons** is landfillable.

A Common Hazardous Waste Treatment Storage and Disposal Facility (CHWTSDF) have been established at SIPCOT Industrial Estate, Gummidipoondi for Treatment, Storage and Disposal of hazardous waste from industries located in Tamilnadu. The secured landfill facility in the CHWTSDF is in operation since January. 2008. The Common Hazardous Waste

incinerator is functioning since September 2009. Besides, the Federation of common effluent treatment plants, Tiruppur has identified a site at Nallur Village, Karupagoundarpalayam, Tiruppur District. The site has been notified as a site for establishing Common Hazardous Waste Treatment Storage and Disposal facility vide G.O.Ms.No.299 E&F (ECII) Dept.dt.2.11.2004. The federations of CETPs & ETPs in Karur have identified a site at Mathagiri village, Krishnarayapuram Taluk, Karur district for establishing a secure landfill facility for disposal of sludge generated from treatment of textile dyeing effluents. The site has been notified as a site for establishing Common Hazardous Waste Treatment Storage and Disposal facility vide G.O.Ms.No.135 E&F (ECII) Dept.dt.16.08.2005. Work will be undertaken after obtaining local body clearance in the above two sites.

Another site for CHWTSDF has been identified at SIPCOT, Perundurai, Erode District. The EIA studies and the process of public hearing have been completed. Environmental Clearance is awaited from the SEIAA.

The TNPCB is promoting utilization of Hazardous Waste in cement kilns for co-incineration. M/s.Grasim Industries, Ariyalur Reddiyarpalayam, M/s.ACC, Madukarai have been given permission in this regard.

### **3.8 MANAGEMENT OF BIOMEDICAL WASTES**

The Biomedical Waste (Management & Handling) Rules, 1998 as amended applies to all persons who generate, collect, receive, store, transport, treat, dispose or handle biomedical waste in any form. As per the rule, authorization is required for handling of biomedical wastes. It is the duty of the occupier of an institution generating the biomedical waste to take all steps to ensure that the biomedical waste is handled without any adverse effect to human health and environment. Biomedical waste shall be treated and disposed in accordance with Bio Medical Waste rules.

The Board has so far inventoried 5563 hospitals in the State. All the health care facilities have joined area wise in common biomedical waste treatment and disposal facilities having treatment systems like autoclave, shredder, compactor, incinerator and secure landfill facility. So far 12 common medical waste treatment facilities have been issued consent of the Board. Out of 12, Ten CBWTF is in operation for the treatment and scientific disposal of BMW, one CBWTF is not in operation and one is under construction. Eleven CBWTF have been issued with authorization under BMW (M&H) Rules, 1998 and amended 2000, 2003. About 5563 HCF have joined as member with CBWTF and amount 33.024 T/day of BMW is being handled by the facility as said.

### **3.9 MANAGEMENT OF MUNICIPAL SOLID WASTES**

With increasing urbanization and rising levels of municipal solid wastes generation, there is an urgent need to evolve scientific approaches to the management of municipal solid wastes. The Municipal Solid Wastes (Management and Handling) Rules, 2000 has been enacted for proper management of municipal solid wastes. Commissioners of Corporations, Municipalities and Executive Officers of Town Panchayats have been addressed to comply with the implementation schedule prescribed in Schedule 1 of the rules. The Board is advocating the concept of segregation of wastes at source, reduction, recycle and reuse of waste. Municipal authorities have been asked to segregate the wastes as wet compostable waste, dry recyclable waste, inert wastes, construction debris and domestic hazardous waste.

Board initially issues 'No Objection Certificate' to the sites selected by the local body if the site is found suitable and not owned by the local body. This is done to speed up the process of acquiring the land and setting up the compost facility by the local bodies. So far 108 out of 125 municipalities have been issued NOC for the site selected by them. Out of these 76 municipalities and 45 Town Panchayat have been issued with authorisation. Seven Corporations have also been issued with NOC. Further power has been delegated to DEES/AEEs to issue NOC/Authorisation to Municipalities and Town Panchayats on 08.02.2010 in order to speed up the issue of NOC/Authorisation to the local bodies.

### **3.10 MANAGEMENT OF PLASTIC WASTE**

The Government of India, Ministry of Environment and Forest notified the Recycled Plastics Manufacture Sale and Usage Rules, 1999 as amended under the Environment (Protection) Act, 1986 to ensure that carry bags and containers used for packing food stuff is not made of recycled plastics. As per the provision of the said rules, only virgin plastics, permitted additives and colour are to be used in plastic items shall use for packaging foodstuff. All District Collectors, local bodies, Commissioner of Police, Special Commissioner and Commissioner of civil supplies have been addressed to ensure compliance with the provision of the said rules. The Board has identified 1941 plastic products manufacturing units and issued consent for the same.

The Tamil Nadu Pollution Control Board has taken many initiatives to deal with the plastic wastes. Tamil Nadu Pollution Control Board has instructed all the local bodies to pass resolution and ban the use of use and throw carry bags, cups, tumblers, sheets, plastic plates etc., In continuation to the above, Many awareness programmes were conducted by Tamil Nadu Pollution Control Board on the ill effects of plastics and the need to use alternatives to the use and throw plastic items to the Public/Government body. All the marriage halls, hotels, educational institutions, Government offices in Tamil Nadu were instructed not to use the use and throw plastic items.

The Ministry of Environment and Forest, Government of India vide notification'.dt:04-02-2011 has notified the Plastic Waste (Management and Handling) Rules, 2011. As per this notification, no person shall manufacture, stock, distribute or sell any carry bag made of virgin or recycled or compostable plastic, which is less than 40 microns in thickness.

\*\*\*\*



### 4.0 MONITORING NETWORK FOR QUALITY OF AIR AND WATER

#### 4.1 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 Tamilnadu has been declared as an air pollution control area.

##### 4.1.1 AMBIENT AIR QUALITY MONITORING PROGRAMME AT CHENNAI CITY

Tamilnadu Pollution Control Board is operating eight ambient air quality monitoring stations in Chennai under National Air Quality Monitoring Programme (NAMP).

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

- |                      |                                      |
|----------------------|--------------------------------------|
| 1. Kathivakkam       | - Industrial area                    |
| 2. Manali            | - Industrial area                    |
| 3. Thiruvottiyur     | - Industrial area                    |
| 4. Kilpauk           | - Commercial (traffic inter-section) |
| 5. Thiyagaraya Nagar | - Commercial (traffic inter-section) |
| 6. Vallalar Nagar    | - Commercial (traffic inter-section) |
| 7. Anna Nagar        | - Residential area                   |
| 8. Adyar             | - Residential area                   |

In Chennai city, 5 monitoring stations functioned in the following places under Chennai ambient air quality monitoring programme (CAAQM) are now operated under NAMP from January'2013.

All the above stations are functioning on 24 hours basis, twice a week. The samples collected from NAMP stations are analysed for the Total Suspended Particulate Matter (TSPM), 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 Oxides of Nitrogen (NO<sub>2</sub>).

The National Ambient Air Quality Standards prescribed is given below:

| Area   | Annual average concentrations of pollutants in µg/m <sup>3</sup> |                 |      |
|--|--|-----------------|------|
|  | 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 the industrial area.

The average values of respirable suspended particulates (PM<sub>10</sub>) levels exceeded the revised standard at all the Monitoring stations (NAMP) in Chennai. The average values of pollutants recorded under NAMP programme during the year 2012-2013 are given in Annexure-VI.

In general, the ambient air pollutants such as sulphur dioxide and oxides of nitrogen are well within the standards in Chennai city limit, where as respirable suspended particulate matter (PM<sub>10</sub>) levels exceeded the permissible limit at all stations except Adyar mainly due to the 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 under NAMP programme during the year 2012-2013 are in Annexure –VI.

#### **4.1.2 AMBIENT AIR QUALITY MONITORING IN THOOTHUKUDI, COIMBATORE, SALEM, MADURAI AND TRICHY**

At Thoothukudi, ambient air quality stations have been functioning from the year 1988 in the following locations.

- )
- a) Raja Agencies - Industrial zone
  - b) SIPCOT - Industrial zone
  - c) A.V.M. Building - Mixed zone

**At Coimbatore, the ambient air quality stations have been functioning from the year 1991 in the following locations.**

- a) G.D. Matriculation School Buildings - Mixed zone
- b) Ponnigarapuram - Residential zone
- c) SIDCO Building - Industrial zone

**At Salem, the ambient air quality station has been functioning in the following location from July 1996 onwards.**

- a) Sowdeswari College - Mixed zone

**At Madurai, the ambient air quality stations have been functioning from July 1996 in the following locations.**

- a) Highways Project Building - Residential zone
- b) M/s.Susee Cars and trucks Co., Ltd. - Industrial zone
- c) Madurai Corporation Office (SZ) - Mixed zone

The ambient air quality data recorded during 2012-2013 indicate that the parameters such as sulphur dioxide, nitrogen dioxide are found to be well controlled at Thoothukudi, Madurai, Coimbatore and Salem. The annual average values of RSPM are found to exceed the permissible limits at Thoothukudi, Salem and at G.D.Matric School, SIDCO in Coimbatore due to heavy commercial activities and traffic flow. The annual average values of pollutants recorded during the year 2012-2013 are given in Annexure –VI.

At Trichy, 5 monitoring stations functioned in the following places under Trichy ambient air quality monitoring programme, are now operated under NAMP from September'2012 twice a week on 24 hours basis in all working days.

- 1. Gandhi Market - Commercial zone
- 2. Main Guard Gate - Traffic intersection
- 3. Bishop Heber College - Mixed zone
- 4. Golden rock - Residential zone
- 5. Central bus stand - Traffic intersection

The ambient air quality data collected from the NAMP stations in Trichy indicates that the average concentrations of SO<sub>2</sub> and NO<sub>2</sub> values are found well within the prescribed standard and the RSPM values (except at Bishop Heber College and at Golden Rock) are exceeding the standard prescribed by the Board. This could be attributed not only 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. The annual average concentration of ambient air pollutants during the period 2012-2013 are given in **Annexure –VI**.

#### **4.2.1. VEHICULAR EMISSION MONITORING**

At present only the 248 private emissions testing centers authorized by Transport Department under rule 116(B) of Tamilnadu Motor vehicles Rules 1989 are testing and issuing Emission Under Control Certificate (EUCC) for all kind of vehicles in Tamilnadu.

At present Tamilnadu Pollution Control Board is not having any vehicle emission checking centers in Tamilnadu wef 01.11.2010.

Tamilnadu Pollution Control Board now only conducting training programme on the operation of emission checking instruments for the persons to be engaged in emission checking centers and issue working performance certificate for the new emission monitoring instruments purchased and to be utilized in the private emission testing centers.

#### **4.3. LABORATORIES**

To assist the Board in the monitoring of industries, the Tamilnadu Pollution Control Board 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 details of samples analysed laboratory wise during the year 2012-2013 are shown at Annexure – VII.

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

Tamil Nadu Pollution Control Board 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, Vaigai and Palar and three lakes i.e. Ooty, Kodaikanal and Yercaurd in Tamil Nadu.

In addition to the above, CPCB has sanctioned 23 new 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 (32 old stations+23 new stations) stations are being monitored by Tamil Nadu Pollution Control Board. The programmes are funded by the Central Pollution Control Board, New Delhi.

Under MINARS programme, the rivers Thamiraparani, Palar and Vaigai and lakes such as Udhagamandalam lake, Kodaikanal lake, Yercaud lake, Veeranam lake, Porur lake, Poondi lake, Pulicat lake and Redhills lake are being monitored. Under GEMS and MINARS programmes the river Cauvery is being monitored.

#### **4.4.1. The River Cauvery and its Tributaries**

The Cauvery river is a major river in the State which drains 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 thirty three (33) places along the river under GEMS (4 stations) and MINARS (29 stations). These places have been selected on the basis of the location of outlets for the discharge of industrial effluents, municipal and domestic wastes.

The physico-chemical and biological parameters are analysed at each of the monitoring stations. Sampling is done on a frequency prescribed by Central Pollution Control Board, New 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-VIII A, VIII B and VIII C.

The overall analysis of the data reveals that the faecal contamination of surface water of the river is a common phenomenon 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. In general, the water quality of the river is categorized under B & C, class designated best use for out door bathing (B), drinking water source with conventional treatment followed by disinfection (C). The water quality of Thirumanimuthar, Vasista & Sarabanga river does not meet the water quality criteria (DBU Class) and this may be due to disposal of municipal and domestic waste into the river systems directly in that particular sampling point. The water quality at Coleroon in river Cauvery also does not meet the water quality criteria (DBU Class) and this may be due to backwater intrusion.

#### **4.4.2 The River Tamiraparani**

The water quality of the Tamiraparani River is being monitored on a frequency prescribed by Central Pollution Control Board, New Delhi at 12 places. The physico-chemical parameters and biological parameters are analysed in the District Environmental Laboratory at Tirunelveli and the details have been furnished in Annexure – IX.

The water quality study conducted during the year 2012-2013 shows that the average level of pH values varied from 6.82 to 7.74 and the average values of the bio-chemical oxygen demand (BOD) varied from 2 to 16 mg/l as against the standards prescribed for pH ( 6.5 to 8.5) and bio-chemical oxygen demand (3mg/L) respectively. The parameters analysed meet the standards prescribed for surface water quality under the class 'B' designated best use for outdoor bathing except at Authoor & Srivaikuntam where the BOD values were found to be high.

#### **4.4.3 The River Palar**

One station viz., Vaniyambadi Municipal Head Works in the Palar River is being monitored every month. The analysis of water samples is done in the Advanced Environmental Laboratory at Chennai, for physico-chemical and bacteriological parameters. The mean values of water quality are furnished in Annexure – X.

The analysed data reveals that the water quality of the river at the sampling point meets the standards prescribed for surface water quality under class 'C' drinking water source with conventional treatment followed by disinfection.

#### **4.4.4 The 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 Advanced Environmental Laboratory 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 'C' and the details are furnished in the Annexure-X.

#### **4.4.5 LAKES**

Under MINARS programme, 8 important lakes of Tamil Nadu at Udthagamandalam, Kodaikanal, Yercaud, Veeranam lake, Porur lake, Poondi lake, Pulicat lake and Redhills lakes have been identified and monitored by collecting samples on monthly basis. The mean values of water quality are furnished in Annexure – XI.

The bio-chemical oxygen demand (BOD) & Coliforms values in Udthagamandalam lake is 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 Udthagamandalam lake does not meet the water quality criteria (DBU Class).

The water quality of the Pulicate 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 Yercaud lake, Poondi lake, Red Hills lake and Porur lake meets the standards prescribed under class 'C' drinking water source with conventional treatment followed by disinfection. The water quality of Veeranam lake meets the standards prescribed for surface water under class 'B' outdoor bathing. The water quality of Kodaikanal Lake also meets the standards prescribed for surface water quality under class 'B' out door bathing except for BOD.

#### **4.5 ENVIRONMENTAL AWARENESS AND PUBLIC PARTICIPATION**

As a part of the awareness campaign to inform the public about the health effects caused by air & noise pollution, due to bursting crackers continuously, special monitoring programmes were launched by TNPC Board for 2012 - 2013 during festival seasons with monitoring of noise level and air quality level during Deepavali and monitoring of air quality level during Bhogi, 2013. The noise level and the ambient air quality surveys were conducted during Deepavali in important cities of Tamilnadu viz., Chennai, Trichy, Coimbatore, Madurai, Tirunelveli, Vellore, Salem, Hosur, Tiruppur and Cuddalore. A special ambient air quality survey on pre-bhogi, bhogi and post bhogi days were conducted in Chennai at nine places viz., Anna Nagar, Besant Nagar, Kilpauk, Royapuram, Thiyagaraya Nagar, Vallalar Nagar, Vysarpadi, Triplicane and Mandaveli.

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### 5.1 ENVIRONMENTAL STANDARDS

One of the functions of the TNPCB is to lay down, modify or annual effluent standards for the sewage / trade effluents and for the emissions of air pollutants into the atmosphere from the industrial plants or any other source with approval of Government of Tamil Nadu.

The Board has 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 industries local bodies, automobile emission so that they adhere to the prescribed effluent / emission standards.

MOEF has issued revised standards during Nov 2009 for the National Ambient Air Quality. All the industries have been advised to adhere to the revised emission standards.

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### 6.1 LEGAL ACTION

The TNPCB is taking legal action against the defaulting industries. The Board has so far issued show cause notices to 53701 industries and closure orders to 10331 industries for not complying with the conditions prescribed by the Board. During the year 2012-2013, 2873 show cause notices and 255 closure orders have been issued.

### 6.2. GREEN BENCH

The Hon'ble High Court of Madras has constituted a 'Green Bench' during the year 1996 as per the directions of Hon'ble Supreme Court of India dated 28.8.96 in W.P(C) No.914/1991. The Green Bench deals with cases pertaining to environment related matters.

### 6.3. APPELLATE AUTHORITY

During 2007, the Government of TamilNadu reconstituted the Appellate Authority under the Chairmanship of Hon'ble Justice Thiru.K.Sampath Kumaran, retired Judge of Madras High Court and Thiru.Dr.Thayumanavan, Director for Environment Studies (Retd.), Anna University and Thiru.Dr.G.B.Jaiprakash Narain, Former Director, National Institute of Technical Teachers and Research, MOHRD, Government of India, Chennai as members vide G.O.Ms. No.24 E&F (ECI) Dept. dated 08.02.2007.

Any person aggrieved by an order made by the SPCB under Section 25, 26 or 27 of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 may within 30 days from the date on which the order is communicated to him, prefer an appeal to the said authority. During the year 2012 – 2013, 54 appeals have been filed by the aggrieved units in the Appellate Authority.

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7.1 BOARD MEETINGS

THE DETAILS OF BOARD MEETINGS HELD DURING THE PERIOD FROM APRIL 2012 TO MARCH 2013 ARE DETAILED BELOW:

| Sl. No. | Board Meeting Number | No. of Subject placed | Date of Meeting |
|---------|----------------------|-----------------------|-----------------|
| 1       | 246                  | 12                    | 3.5.2012        |
| 2       | 247                  | 25                    | 9.7.2012        |
| 3       | 248                  | 39                    | 28.9.2012       |
| 4       | 249                  | 46                    | 29.1.2013       |

**Major decision taken by the Board**

1. The Board resolved to approve the proposal and forward the same to the Government for establishing the Technology Demonstration Centre at I.I.T., Madras at an estimated cost not exceeding Rs.5 crores (Corpus fund Rs.90 lakhs and non recurring Rs.313 lakhs and Rs.97 lakhs recurring expenditure for 3 years) on nomination basis under Section 16 (f) of Tamilnadu Transparency in Tenders Act 1998 after getting prior exemption from the Government by executing a MoU with I.I.T. To continue running the TDC after three years with revenue generated out of the interest earned on the corpus fund and the funds generated from the centre's activities like membership fees, registration fee etc. as per directions of the governing body.
2. The Board resolved to approve the establishment of one mobile real time continuous ambient air quality monitoring station (MCAAQM) to identify the vulnerable air pollution points and for monitoring the pollution levels in Chennai City at a cost of Rs.1.20 crores.
3. The Board resolved to approve the establishment of five numbers of real time stationary continuous ambient air quality monitoring stations (SCAAQM) for monitoring the pollution levels in Chennai City at a cost of Rs.6.25 crores.

4. The Board resolved to approve computerization of TNPCB activities by implementing Xtended Green Node(XGN) software developed by NIC Gujarat on web enabled platform for sum of Rs.30.00 lakhs (approximately for next one year period). The Board also resolved to authorize the Chairman TNPCB to proceed the computerization of the activities of TNPCB on lines of GPCB model.
5. The Board resolved to approve the proposal to spend Rs. 30 Crores for the proposal of planting 65 lakhs seedling for three years from 2012-13 to 2014-15 in 32 Districts of Tamilnadu under Massive Tree Planting Programme, subject to the conditions mentioned in the agenda. The Board also felt that TNPCB should also monitor the above tree planting programme.
6. The Board resolved to approve the proposal for construction office building for the District Environmental Engineers office and Advanced Environmental Laboratory at Sanganoor Village, Coimbatore North Taluk, Coimbatore District at a cost of Rs.321.75 lakhs (approx) from Board's own fund. The construction will be done through Public Works Department.
7. The Board resolved to approve the purchase of 0.26 acre of land on lease at SIPCOT, Oragadam and payment towards plot deposit of Rs. 31.20 lakhs to SIPCOT from Board's own fund for the construction of District Environmental Engineer Office, Sriperumbudur.
8. The Board resolved to approve the construction of office building for District Environmental Engineer/lab at Pudukottai District at a cost of Rs.185 lakhs (approx) from Board's own fund. The construction will be done through Public Works Department.
9. The Board resolved to approve installation of solar panels on the roof top of Corporate Office, Chennai and on the roof tops of office buildings of the District Environmental Engineers office in Arumbakkam, Ambattur, M.M. Nagar, Vellore, Hosur, Trichy, Madurai, Tirunelveli and Thoothukudi at a cost of Rs.301Lakhs (approx.) from Board's own fund.

10. The Board resolved to approve the proposal for the purchase of five ozone analyser at a cost of Rs. 8.00 lakhs (Rupees Eight lakhs only) each for five laboratories of Tamilnadu Pollution Control Board at Chennai, Madurai, Coimbatore, Salem and Cuddalore with a total cost of Rs. 40.00 lakhs (Rupees Forty lakhs only) from Board's own fund.
11. The Board resolved to approve the proposal for the purchase of four Atomic Absorption Spectrometer with Graphite furnace at a cost of Rs. 75.00 lakhs (Rupees Seventy five lakhs only) each for four laboratories of Tamilnadu Pollution Control Board at Chennai, Vellore, Cuddalore and Trichy with a total cost of Rs. 3.00 crores (Rupees Three crores only) (approx) from Board's own funds.
12. The Board resolved to approve the proposal for the establishment of one Stationary Real Time Continuous Ambient Air Quality Monitoring Station (SCAAQMS) at Thoothukudi town for monitoring the pollution levels at a cost of Rs. 87.00 Lakhs (Rupees Eighty seven lakhs only) (approx) from Board's own funds.
13. The Board resolved to approve the proposal for establishment of one Stationary Real Time Continuous Ambient Air Quality Monitoring Station (SCAAQMS) at Gummidipoondi industrial estate for monitoring the pollution levels at a cost of Rs. 87.00 Lakhs (Rupees Eighty seven lakhs only) (approx) from Board's own funds.
14. The Board resolved to approve the proposal for the establishment 3 Nos. of continuous online water quality monitoring system in river Tamiraparani at total cost of Rs. 40 lakhs (approx) from Board's own funds.
15. The Board resolved to approve the proposal for the construction of District Office cum lab building at Sivaganga, Dindigul, Namakkal and Virudhunagar at a total cost of Rs.12crores from Board's own fund as announced by the Hon'ble Chief Minister of Tamilnadu under TNLA Rule 110 on the floor of Assembly. The Board also authorized the Chairman to give individual sanction orders for the construction will be executed through Public Works Department.

16. The Board resolved to approve and introduce the scheme of house building advance to the staff of Tamil Nadu Pollution Control Board on par with Govt. servants from the financial year 2013-14 onwards based on the announcement made by the Hon'ble Chief Minister in the Tamil Nadu Legislative Assembly under Rule 110 on 02/05/2013 for the benefit of employees by obtaining prior concurrence of Government in Finance (BPE) Department.
17. The Board resolved to approve the construction of office building for District Environmental Engineer/lab at Villupuram District at a cost of Rs.213 lakhs (approx) from Board's own fund and the construction will be done through Public Works Department.
18. The Board resolved to approve the construction of office building for District Environmental Engineer/lab at Thanjavur District at a cost of Rs.207.60 lakhs (approx) from Board's own fund. The construction will be done through Public Works Department.

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### 8.1 ENVIRONMENTAL TRAINING INSTITUTE

ETI is an organizational wing of TNPCB, which was established in 1994 with Danish assistance. It is functioning in the 3rd floor of its corporate office of TNPCB. ETI is guided by a steering committee, chaired by Chairman of TNPCB and its Members are from Government, PCB and CEOs of Industry. An Advisory Council comprising of Members from Industries, NGOs, Academic and government institutions provides technical support to the ETI.

The main objective of the Training institute is to impart training to staff of the Pollution Control Board, Industrial representatives, Executives of Municipalities and Corporations, Line agencies and non-governmental organizations 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 industry, urban sector and the public on Environmental Hazards and adverse impact on 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 2012-2013 this training institute has conducted 18 programmes and trained 755 personnel in total.

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### 9.1 ENVIRONMENTAL AWARENESS AND PUBLIC PARTICIPATION

As a part of the awareness campaign to create awareness among the public about the health effects caused due to air and noise pollution by bursting of crackers continuously, Special monitoring programs were launched by TNPC Board for 2012-13. During festival seasons the monitoring of noise level, and air quality level, during deepavali the monitoring of air quality level and also during bhogi. The noise level and the ambient air quality survey was carried out during deepavali in the important cities of Tamil Nadu viz. Chennai, Trichy, Coimbatore, Madurai, Tirunelveli, Vellore, Salem, Hosur, Tiruppur and Cuddalore. A special ambient air quality survey on pre-bhogi, bhogi and post-bhogi days were carried out in Chennai at nine places viz. Anna Nagar, Besant Nagar, Kilpauk, Royapuram, Thiyagaraya Nagar, Vallalar Nagar, Vyasarpadi, Triplicane and Mandaveli.

As a part of awareness programme the mobile exhibition vehicle was also done to all schools of Tamil Nadu for creating awareness among the students for which 83 programmes were conducted. In the Anna FM 38 environmental programs were broadcasted. Apart from the above, TNPCB has conducted 165 awareness programmes on various environmental issues for the public, school students, other institutions etc.

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### 10. OTHER IMPORTANT MATTERS DEALT IN THE BOARD

#### 10.1. PUBLIC HEARING

Some specific categories of industrial projects require environmental clearance from the Ministry of Environment & Forests, Government of India as per the Notification issued. As per the instruction of the MOEF and State Environment Impact Assessment Authority, the Tamil Nadu Pollution Control Board 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.

#### 10.2. 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 in their plants after tertiary treatment for cooling purposes. The 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.

#### 10.3. CLEANER TECHNOLOGIES

The TNPCB is involved in promoting a holistic approach of environment protection by cleaner technology options more than mere end-of-pipe treatment. With active support and encouragement from the Board, the industrial units in Tamilnadu have switched over to cleaner technologies such as adoption of membrane cell instead of mercury cell in caustic soda manufacturing, adoption of dry process instead of wet process to reduce air pollution in cement factories, 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. Tanneries adopt desalting, reuse of lime and chrome recovery system so as to reduce the pollution load in the effluent.



#### **10.4 WASTE MINIMIZATION**

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 discharge system and 7 distilleries have gone for biocomposting of their effluents with press mud of sugar factories for achieving zero discharge of trade effluent and 5 distilleries have established concentration cum incineration system to dispose spent wash effluent and achieved zero discharge of trade effluent.

#### **10.5 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. In activated carbon process, the waste heat is recovered and used at boiler section. Other industrial units are encouraged to use less energy and it is being audited through the environmental statements of the unit.

#### **10.6 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 Waste (Management & Handling) 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 to assess their water & energy consumption and efforts in reducing the pollution levels.

#### **10.7. 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 after auditing the environmental management systems by an external agency.

#### **10.8 GREEN COVER PROGRAMME**

As a measure of pollution check, industries have been directed to develop 25% of the land area as 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.

## 10.9 APPLIED RESEARCH AND DEVELOPMENT

The TNPC Board has resolved to support research projects relating to environmental protection out of Cess Funds in accordance to TNPC Board Proceeding Ms.No.1/Dated 03.01.1996. Since, promotions of research and development activities are one of the functions of the Board as per Section 17 of the Water (Prevention and Control of Pollution Act), 1974 constituted the AR&D Evaluation Council, TNPCB. The Board has established the AR&D Wing as per G.O.Ms.No.199, E&F (ECI) Dept., Dated 23.6.95 in AEL, TNPCB, Chennai-32. Subsequently, the Board has reconstituted the Council as per TNPC Board's Proceeding No.3043/AR&D/2008/Dated 22.02.2010 for its purposes with expert members from the renowned State/Central Government Research Institutions, reputed University Departments of the State and industry. To make suggestions to the Board to invite research proposals from the various research institutions and university departments of the State as per above said references.

The Sub Committee, AR&D Evaluation Council, TNPCB was also constituted to evaluate the research projects to furnish the report to the Council for its decision. The Council after careful examination finally makes the decision with comments on the projects and guidelines to the project proponents and recommends the environmentally viable projects to the consideration of the Board to sanction financial assistance from the Cess Funds.

Further, the Board as per Proceeding No.22/Dated 04/7/2008 has revised the "Guidelines of Funding of R&D Projects" and "Terms and Conditions for Tamil Nadu Pollution Control Board Funded Projects" to be sanctioned from the Cess Funds based on the suggestions of the Council.

In accordance to above and based on the suggestions of the AR&D Evaluation Council, TNPCB the Board has invited research proposals from the various university departments/research institutions of the State. The Sub Committee, AR&D Evaluation Council, TNPCB has evaluated and furnished the report to the Council. The Council after careful examination recommended 5 projects to the Board for its consideration and sanction of research grant to the environmentally viable projects as per the objectives of TNPCB out of Cess Funds and from the sum allocated under the budget towards "Research Scheme" as per "Terms and Conditions for Tamil Nadu Pollution Control Board Funded Projects".

| SI No   | Title of the Projects  | Name of the Principal Investigators                | Name of the University Department / Institutions   | Grant Rs.   |
|---|--|--|--|-------------|
| 1.  | "A Comparative Analysis of State and National Policies and its Implications to Climate Change with specific focus on Energy, Health and Population Sectors". | Dr.G.Koteswara Prasad, Professor and Head,         | Dept. of Politics and Public Administration, University of Madras, Chennai-5                                   | 4,30,107.00 |
| 2.  | "Remediation of Chromite Ore Processing Residue (COPR) using Solidification and Stabilization Process"   | Mr.E.Ravindranath, Scientist, 'F' Deputy Director. | CLRI, Adyar, Chennai-20  | 6,95,600.00 |
| 3.  | "Development & Evaluation of Multi Plume Gaussian Diffusion Model Intended for Air Quality Regulatory Purposes"  | Dr.S.Palanivel-Raja, Reader,                       | Dept of Civil Eng., Faculty of Eng&Tech, Annamalai Nagar, Annamalai University                                 | 4,07,000.00 |
| 4.  | "Studies on Advanced Oxidation Processes (AOPS) for Colour Removal in Textile Dyeing Waste Waters in Tamil Nadu"   | Dr.S.Kanmani, Assistant Professor,                 | Centre for Environmental Studies, (CES), Anna University, Chennai-25   | 5,86,636.00 |
| 5.  | Bioremediation of Petroleum Contaminate Site using Bio surfactant Producers".  | Dr.Indumathi M.Nambi, Assistant Professor          | Department of Civil Engineering, Environmental & Water Resources Engg, Indian Institute of Technology, Madras. | 8,62,700.00 |
| <b>TOTAL AMOUNT PROPOSED FOR THE SANCTION OF GRANT = RS.29,82,043/-</b> |  |  |  |             |

The Board vide its Proceedings No.39 Dated 26-11-2010 based on the recommendations of the AR&D Evaluation Council, TNPCB has resolved to sanction financial assistance to 5 research projects at a cost of Rs.29.82 lakhs during the year 2010-2011. The Council during the meeting held on 06.06.2012 and 27.02.2013 in TNPCB has evaluated the progress made under the TNPC Board funded projects to offer its suggestions to the Project Investigator of the projects. Accordingly the follow up actions were taken.

Further, the Board has sanctioned towards 2 research projects at a total cost of Rs.13.54 lakhs as per B.P.Ms.No.2 Dated 08.02.2013 during the year 2012-2013 based on the recommendations of the AR&D Evaluation Council, TNPCB during the year 2012-2013.

#### **10.10. 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, noise and vehicular 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 is required based on the reports are taken then and there. For attending environmental related complaints especially in Chennai City, a 'Green Squad' under the control of District Environmental Engineer, Tamilnadu Pollution Control Board, Chennai has been formed. Two patrolling vehicles and two two-wheelers have been provided to the Green Squad Chennai Districts. Further the Office of District Environmental Engineer, Ambattur and Tambaram at Maraimalai Nagar have also been provided with one Two wheeler for each to the Green Squad. The Green Squad visits the complaint immediately as and when received and intimates the facts to the District Environmental Engineers, Tamilnadu Pollution Control Board for action.

## **10.11 RIGHT TO INFORMATION ACT**

In pursuance to the directions of Government of Tamil Nadu, Tamil Nadu Pollution Control Board has designated the Member Secretary as State Information Officer (Appellate Authority) and One Public Information Officer in the Corporate Office and 32 District Officers are also designated as Public Information Officers to provide information to the persons requesting for information under the Right to Information Act 2005. The Board has received **1914** applications seeking information for the period from 01.04.2012 to 31.03.2013 and the Board has disposed all the request of **1914** applicants.

Further the Board has also received **125** appeal petitions and all the appeal petitions were disposed during the same period.

## **10.12 LIBRARY**

The TNPC Board Library was established during November 1989. At present library has a collection of above 11,352 Books and Reports. The Collections are classified under Dewey decimal classification.

The collection comprises of documents to the field of Environmental Protection. Air Pollution, Vehicular Pollution, Water Pollution, Noise Pollution, Wastewater Treatment, Municipal Waste Management, Hazardous Waste Management, Biomedical 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, Forestry.

Library subscribes for 76 Journals 9 Newspapers, 11 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 consist 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 aspects used to refer the Library. Readers are not only from Chennai but also from all over Tamil Nadu and Pondicherry and from other States like Karnataka, Andhra Pradesh, Kerala, Maharashtra, Uttar Pradesh and West Bengal also visited the library. From April 2012 to March 2013, 1527 No. of readers utilized the library.

Lib Sys software has been installed for TNPCB Library automation. Data Entry is being done. Through OPAC (Open Access Catalogue) anyone can search the available books and reports and also articles published in the subscribed journals.

**10.13 TNPCB Newsletter**

TNPCB Newsletter, a Quarterly is published, which brings Board activities, important notifications, research articles and news articles on environment and pollution control.

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**Annexure – I**

**List of Board Members from 1/4/2012 to 31/3/2013**

| <b>Sl. No</b> | <b>BOARD MEMBERS</b>   | <b>Position</b> | <b>From</b>       | <b>To</b>         |
|---------------|--|-----------------|-------------------|-------------------|
| 1             | <b>Thiru. VIKRAM KAPUR, I.A.S.,</b><br>Chairman,<br>Tamilnadu Pollution Control Board,<br>76, Mount Salai,<br>Guindy, Chennai – 600 032.   | <b>Member</b>   | <b>1/4/2012</b>   | <b>30.9.2012</b>  |
| 3             | <b>Thiru. C.V. SANKAR, I.A.S.,</b><br>Principal Secretary / Chairman,A/c.,<br>Tamilnadu Pollution Control Board,<br>76, Mount Salai,<br>Guindy, Chennai – 600 032.   | <b>Member</b>   | <b>1/10/2012</b>  | <b>13/12/2012</b> |
| 3             | <b>Thiru. D. KARTHIKEYAN, I.A.S.,</b><br>Chairman,<br>Tamilnadu Pollution Control Board,<br>76, Mount Salai,<br>Guindy, Chennai – 600 032.   | <b>Member</b>   | <b>14/12/2012</b> | <b>31.3.2013</b>  |
| 4             | <b>Thiru. MOHAN VERGHESE CHUNKATH, I.A.S.,</b><br>Addl. Chief Secretary to Govt.,<br>Secretary to Government,<br>Environment and Forests Department,<br>Fort St. George, Secretariat,<br>Chennai – 600 009.. | <b>Member</b>   | <b>1/4/2012</b>   | <b>31.3.2013</b>  |
| 5             | <b>Dr. P. SENTHILKUMAR, I.A.S.,</b><br>Special Secretary to Government.,<br>Finance Department,<br>Secretariat,<br>Fort St. George,<br>Chennai – 600 009.  | <b>Member</b>   | <b>1/4/2012</b>   | <b>4/6/2012</b>   |
| 6             | <b>V. ARUNROY, I.A.S.,</b><br>Joint Secretary to Government.,<br>Finance Department,<br>Secretariat,<br>Fort St. George,<br>Chennai – 600 009.   | <b>Member</b>   | <b>5/6/2012</b>   | <b>31.3.2013</b>  |
| 7             | <b>Thiru. A. KARTHIK, I.A.S.,</b><br>Director of Town and Country Planning,<br>Chengalvarayan Building,<br>IV Floor,<br>807, Anna Salai,<br>Chennai – 600 002.   | <b>Member</b>   | <b>1.4.2012</b>   | <b>31.3.2013</b>  |
| 8             | <b>Thiru. K. AYYANU, B.E.,</b><br>Chief Inspector of Factories,<br>617, Bharathkumar Bhavan,<br>Anna Salai, Chennai- 600006  | <b>Member</b>   | <b>1.4.2012</b>   | <b>31.3.2013</b>  |

|    |  |                 |           |            |
|----|--|-----------------|-----------|------------|
| 9  | <b>Dr. R.T. PORKAIPANDIAN, M.B.B.S., DPH, DIH, DHM, DFN.,</b><br>Director of Public Health and Preventive Medicine, Chennai – 600 006.   | Member          | 1.4.2012  | 31.3.2013  |
| 10 | <b>T.S. SRINIVASAMURTHY, IF S.,</b><br>Member Secretary,<br>Tamilnadu Pollution Control Board,<br>76, Mount Salai, Guindy, Chennai – 600 032.  | Member          | 1.4.2012  | 1.6.2012   |
| 11 | <b>Dr. S. BALAJI, M.E.(PH), Ph.D.,</b><br>Member Secretary,<br>Tamilnadu Pollution Control Board,<br>76, Mount Salai, Guindy, Chennai – 600 032.   | Member          | 1.6.2012  | 31.3.2013  |
| 12 | <b>Thiru. P. EKAMBARAM, I.A.S.,</b><br>Managing Director,<br>TWAD Board,<br>Chepauk,<br>Chennai – 600 005.   | Member          | 1.4.2012  | 31.03.2013 |
| 13 | <b>Er. S. AKSHAYA KUMAR, B.E., FIE</b><br>Director (Generation) / TANGEDCO.,<br>Tamilnadu Electricity Board,<br>Electricity Avenue (NPKRR Maligai),<br>800, Anna Salai, Chennai – 600 002. | Member          | 1.2.2012  | 4.7.2012   |
| 14 | <b>Thiru. N. SANKAR, B.E.,</b><br>Director (Generation) / TANGEDCO.,<br>Tamilnadu Electricity Board,<br>Electricity Avenue (NPKRR Maligai),<br>800, Anna Salai, Chennai – 600 002.         | Member          | 5.7.2012  | 31.03.2013 |
| 15 | <b>Tmt. MADHUMATHI KUMAR,</b><br>DGM (P&SP) / General Manager (P&R)<br>SIPCOT, 194, Marshall Road,<br>Chennai – 600 008.   | Special Invitee | 1.4.2012  | 31.03.2013 |
| 16 | <b>Thiru. HARMANDAR SINGH, I.A.S.,</b><br>Commissioner of Industries and Commerce,<br>36, South Canal Bank Road,<br>Mandavelipakkam, R.A. Puram,<br>Chennai – 600 028.                     | Special Invitee | 1.4.2012  | 31.03.2013 |
| 17 | <b>Thiru. T.S. SRINIVASA MURTHY, I.F.S.,</b><br>Director of Environment Department,<br>Ground Floor,<br>Panagal Building,<br>Saidapet, Chennai – 600 015.                                  | Special Invitee | 23.9.2009 | 1.4.2012   |
| 18 | <b>Thiru. H. MALLEESAPPA, I.F.S.,</b><br>Director of Environment Department,<br>Ground Floor,<br>Panagal Building,<br>Saidapet, Chennai – 600 015.   | Special Invitee | 2.4.2012  | 31.03.2013 |



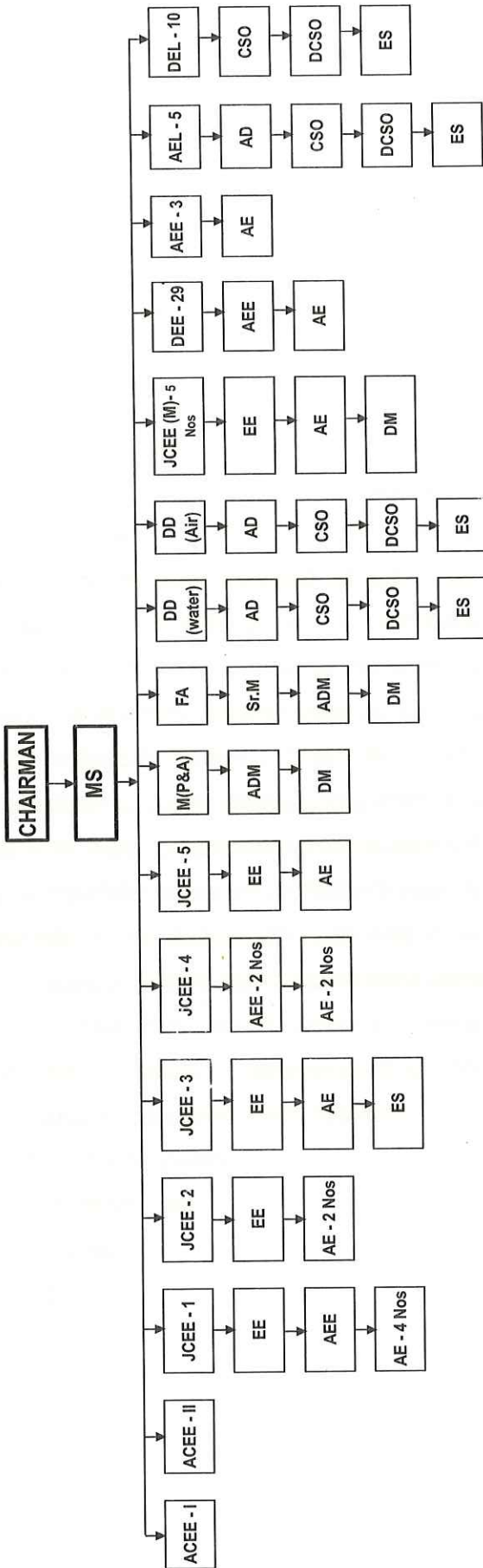
## ANNEXURE II



### TAMILNADU POLLUTION CONTROL BOARD LOCATION OF DISTRICT OFFICES AND LABORATORIES



# ORGANISATION CHART



ACEE's Work Allocation

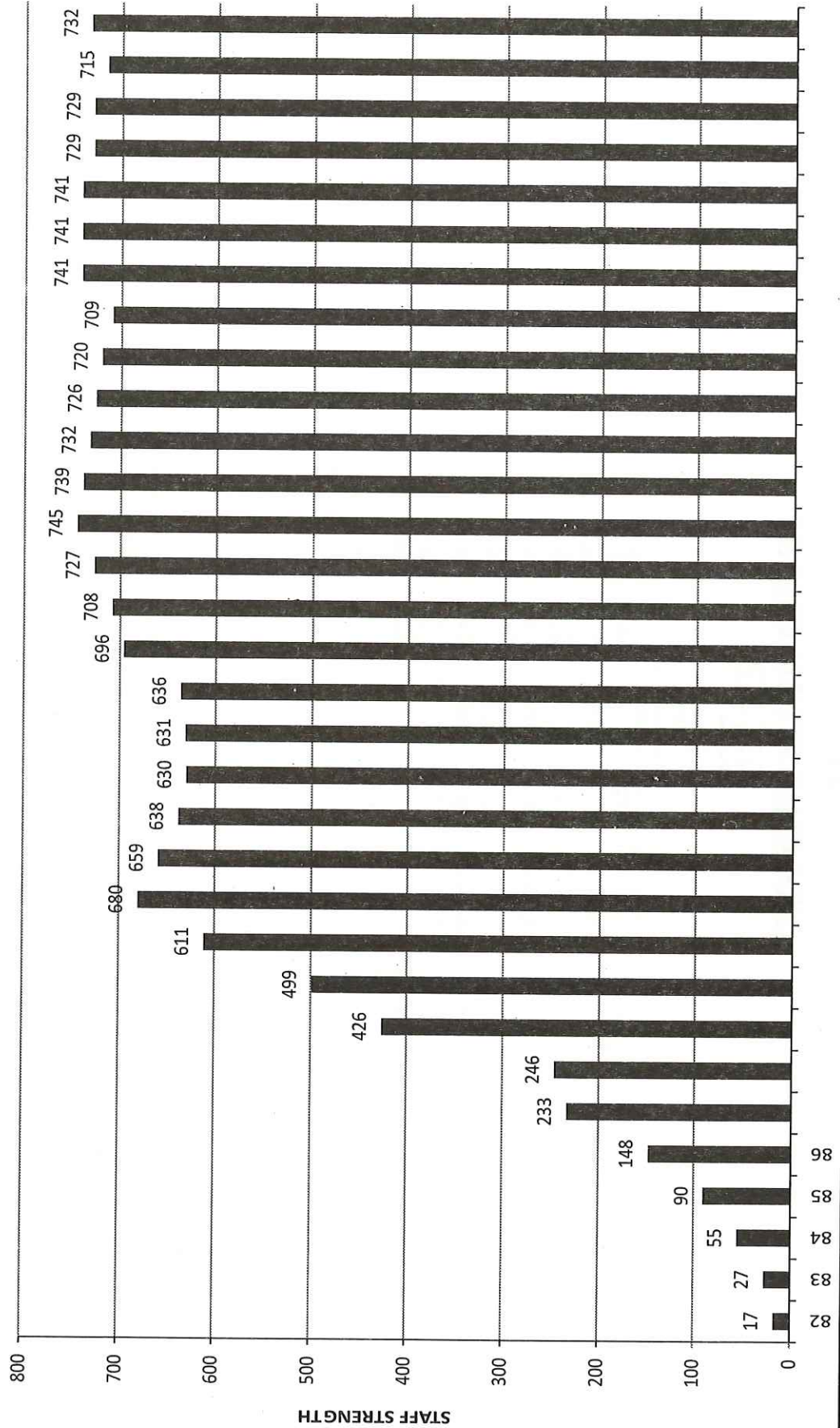
- ACEE - I - Construction, P&D, Care Air, 17 Category
- ACEE - II - Lab, 17 Category, Care Centre

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 DD
- JCEE - Joint Chief Environmental Engineer AD
- JCEE (M) - Joint Chief Environmental Engineer (Monitoring) CSO
- EE - Environmental Engineer DSCO
- DEE - District Environmental Engineer ES
- AEE - Assistant Environmental Engineer AEL
- AE - Assistant Engineer DEL
- FA - Financial Advisor
- Sr.M - Senior Manager
- M(P&A) - Manager (Personnel & Administration)
- 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 - IV**  
**STAFF STRENGTH FROM THE YEAR 1982 TO 2013**



**ANNEXURE - V**  
**STAFF POSITION AS ON 31.3.2013**

| NAME OF THE POST                        | STRENGTH   |
|---|------------|
| Chairman                                | 1          |
| Member Secretary                        | 1          |
| Engineering Service                     | 168        |
| Engineering Subordinate Service         | 11         |
| Scientific Service                      | 85         |
| Scientific Subordinate Service          | 105        |
| General Service                         | 24         |
| General Subordinate Service             | 284        |
| Miscellaneous Service                   | 5          |
| Basic service                           | 46         |
| Deputationist                           | 2          |
| <b>Total</b>                            | <b>732</b> |
| <b>ENGINEERING SERVICE</b>              |            |
| Additional Chief Environmental Engineer | 2          |
| Joint Chief Environmental Engineer      | 10         |
| Environmental Engineer                  | 38         |
| Assistant Environmental Engineer        | 42         |
| Assistant Engineer                      | 76         |
| <b>Sub Total</b>                        | <b>168</b> |
| <b>ENGINEERING SUBORDINATE SERVICE</b>  |            |
| Electrical Supervisor (Junior Engineer) | 1          |
| Technical Assistant                     | 1          |
| Electrician                             | 6          |
| Assistant Draughtsman                   | 3          |
| <b>Sub-Total</b>                        | <b>11</b>  |

| <b>NAME OF THE POST</b>               | <b>STRENGTH</b> |
|---------------------------------------|-----------------|
| <b>SCIENTIFIC SERVICE</b>             |                 |
| Deputy Director (Labs)                | 2               |
| Asst. Director (Lab)                  | 7               |
| Chief Scientific Officer              | 8               |
| Deputy Chief Scientific Officer       | 20              |
| Environmental Scientist               | 45              |
| Senior Meteorologist                  | 1               |
| Meteorologist                         | 2               |
| <b>Sub-Total</b>                      | <b>85</b>       |
| <b>SCIENTIFIC SUBORDINATE SERVICE</b> |                 |
| Junior Environmental Scientist        | 9               |
| Field Assistant                       | 65              |
| Lab Attendant                         | 31              |
| <b>Sub-Total</b>                      | <b>105</b>      |
| <b>GENERAL SERVICE</b>                |                 |
| Senior Manager (F&A)                  | 1               |
| Manager                               | 2               |
| Law Officer                           | 1               |
| Additional Manager                    | 4               |
| Deputy Manager                        | 16              |
| <b>Sub-Total</b>                      | <b>24</b>       |
| <b>GENERAL SUBORDINATE SERVICE</b>    |                 |
| Assistant Manager                     | 37              |
| General Assistant                     | 101             |
| Assistant                             | 36              |
| Steno Typist                          | 28              |
| Typist                                | 16              |
| Telephone Operator                    | 2               |
| Driver                                | <b>54</b>       |

| <b>NAME OF THE POST</b>      | <b>STRENGTH</b> |
|------------------------------|-----------------|
| Rider                        | 1               |
| Record Clerk                 | 9               |
| <b>Sub-Total</b>             | <b>284</b>      |
| <b>MISCELLANEOUS SERVICE</b> |                 |
| Junior Programmer            | 2               |
| Data Entry Operator          | 1               |
| Librarian                    | 2               |
| <b>Sub-Total</b>             | <b>5</b>        |
| <b>BASIC SERVICE</b>         |                 |
| Office Assistant             | 40              |
| Sweeper                      | 5               |
| Watchman                     | 1               |
| <b>Sub-Total</b>             | <b>46</b>       |
| <b>DEPUTATION</b>            |                 |
| Financial Adviser            | 1               |
| Manager(Law)                 | 1               |
| <b>Sub-Total</b>             | <b>2</b>        |

**ANNEXURE - VI**

**STATUS OF AIR QUALITY OF IMPORTANT CITIES/ TOWNS OF TAMILNADU-UNDER NATIONAL AIR QUALITY MONITORING PROGRAMME (NAMP)  
ANNUAL AVERAGE CONCENTRATIONS OF AIR POLLUTANTS, 2012-2013**

| 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                        | 22   | 11.2 | 15   | 40              | 13  | 21  | 160  | 37  | 85   |
| b)  | Manali                         | Industrial                        | 21   | 11   | 15   | 33              | 14  | 21  | 347  | 25  | 73   |
| c)  | Thiruvottiyur                  | Industrial                        | 25   | 11   | 15   | 31              | 13  | 21  | 190  | 41  | 89   |
| d)  | Anna Nagar                     | Residential                       | 42   | 4    | 11   | 49              | 8   | 23  | 258  | 45  | 117  |
| e)  | Adyar                          | Residential                       | 26   | 4    | 10   | 39              | 6   | 17  | 136  | 26  | 67   |
| f)  | Kilpauk                        | Commercial (Traffic-intersection) | 34   | 4    | 13   | 78              | 11  | 30  | 282  | 52  | 138  |
| g)  | Thiyagaravanagar               | Commercial (Traffic-intersection) | 34   | 4    | 12   | 86              | 13  | 28  | 234  | 60  | 122  |
| h)  | Vallalar Nagar                 | Commercial (Traffic-intersection) | Temporarily closed due to administrative reasons                     |      |      |                 |     |     |      |     |      |
| <b>2</b>  | <b>COIMBATORE</b>              |                                   |  |      |      |                 |     |     |      |     |      |
| a)  | G.D Matric School              | Mixed                             | 13   | 4    | 4.1  | 75              | 13  | 28  | 69   | 31  | 62   |
| b)  | Ponaiyarapuram                 | Residential                       | 14   | 4    | 4    | 65              | 9   | 27  | 144  | 10  | 59   |
| c)  | SIDCO                          | Industrial                        | 10   | 4    | 5    | 43              | 10  | 25  | 318  | 36  | 78   |
| <b>3</b>  | <b>THOOTHUKUDI</b>             |                                   |  |      |      |                 |     |     |      |     |      |
| a)  | Raja Agencies                  | Industrial                        | 31   | 4    | 15   | 67              | 9   | 14  | 426  | 38  | 115  |
| b)  | AVM Buildings                  | Mixed                             | 31   | 4    | 14   | 48              | 9   | 14  | 351  | 29  | 92   |
| c)  | SIPCOT                         | Industrial                        | 35   | 4    | 17   | 43              | 9   | 14  | 469  | 23  | 100  |
| <b>4</b>  | <b>TRICHY</b>                  |                                   |  |      |      |                 |     |     |      |     |      |
| a)  | Gandhi Market                  | Commercial                        | 20   | 7    | 12   | 22              | 12  | 17  | 63   | 17  | 151  |
| b)  | Main Guard Gate                | Traffic intersection              | 18   | 8    | 12   | 22              | 14  | 17  | 132  | 64  | 94   |
| c)  | Bishop Heber College           | Mixed                             | 14   | 7    | 10   | 19              | 12  | 14  | 65   | 30  | 14   |
| d)  | Golden Rock                    | Residential                       | 13   | 7    | 10   | 18              | 11  | 15  | 65   | 26  | 44   |
| e)  | Central Bus Stand              | Traffic intersection              | 19   | 9    | 13   | 23              | 14  | 19  | 148  | 34  | 106  |
| <b>5</b>  | <b>MADURAI</b>                 |                                   |  |      |      |                 |     |     |      |     |      |
| a)  | M/s.Susee Cars & Trucks (P)    | Industrial                        | 17   | 8    | 13   | 31              | 18  | 24  | 78   | 31  | 53   |
| b)  | Madurai Corporation Office(SZ) | Mixed                             | 14   | 7    | 10   | 22              | 16  | 22  | 76   | 26  | 49   |
| c)  | Highways project Buildings     | Residential                       | 15   | 6    | 10.0 | 26              | 15  | 12  | 40   | 18  | 42.0 |
| <b>6</b>  | <b>SALEM</b>                   |                                   |  |      |      |                 |     |     |      |     |      |
| a)  | Sowdeswari college building    | Mixed                             | 13   | 6    | 9    | 31              | 17  | 23  | 158  | 19  | 61   |
| Prescribed standards(Annual average) for Industrial, Residential, Rural & Other areas |                                |                                   |  |      |      | 50              |     |     | 60   |     |      |
| Note: SO <sub>2</sub> : Sulphur di oxide    NO <sub>2</sub> : Nitrogen di Oxides      |                                |                                   | RSPM : Respirable Suspended Particulate Matter (< 10 micron size)    |      |      |                 |     |     |      |     |      |

## Annexure-VII

### PERFORMANCE OF LABORATORIES

PERIOD: APRIL 2012 - MARCH 2013

| Sl No.                                   | Name of the Laboratory | Effluent        |          |                   |            | Water Samples |            |               |                                 | Total        | Air Survey        |               |              | Air Project |           |            |              | Noise           |            |            |
|--|------------------------|-----------------|----------|-------------------|------------|---------------|------------|---------------|---------------------------------|--------------|-------------------|---------------|--------------|-------------|-----------|------------|--------------|-----------------|------------|------------|
|  |                        | Regular         |          | Complaints/Legal  |            | GEMS          | MINARS     | GCWW          | Sludge/Soil/Fuel/Private/Others |              | No. of Industries | AAQS Stations | SM Stations  | CAQM        | NAMP      | TAQM       | Spl. Project | Regular         |            | Complaints |
|  |                        | No. of Stations |          | No. of Industries |            |               |            |               |                                 |              |                   |               |              |             |           |            |              | No. of Stations |            |            |
|  |                        |                 |          |                   |            |               |            |               |                                 |              |                   |               |              |             |           |            |              |                 |            |            |
| <b>Advanced Environmental Laboratory</b> |                        |                 |          |                   |            |               |            |               |                                 |              |                   |               |              |             |           |            |              |                 |            |            |
| 1  | Chennai                | 2,331           | 3        | -                 | 130        | 358           | 82         | 2,904         | 73                              | 407          | 231               | 1,353.00      | -            | -           | 76        | 73         | 488          | 2               | 18         |            |
| 2  | Madurai                | 1,171           | -        | -                 | 35         | -             | 6          | 1,212         | 79                              | 471          | 169               | -             | 880          | -           | -         | 80         | 734          | 5               | 68         |            |
| 3  | Salem                  | 2,276           | -        | 41                | 430        | -             | 26         | 2,773         | 60                              | 363          | 151               | -             | 377          | -           | -         | 57         | 549          | 1               | 5          |            |
| 4  | Cuddalore              | 1,111           | -        | -                 | -          | -             | -          | 1,111         | 76                              | 402          | 231               | -             | -            | -           | -         | 77         | 386          | 2               | 11         |            |
| 5  | Coimbatore             | 1,194           | -        | -                 | -          | -             | -          | 1,194         | 90                              | 494          | 314               | -             | 836          | -           | -         | 88         | 757          | 18              | 177        |            |
| <b>District Environmental Laboratory</b> |                        |                 |          |                   |            |               |            |               |                                 |              |                   |               |              |             |           |            |              |                 |            |            |
| 6  | Ambattur               | 1,409           | -        | -                 | -          | -             | -          | 1,409         | 68                              | 412          | 310               | -             | 746          | -           | 1         | 67         | 345          | 7               | 17         |            |
| 7  | Dindigul               | 761             | -        | -                 | -          | -             | -          | 761           | 42                              | 255          | 78                | -             | -            | -           | -         | 45         | 315          | 1               | 28         |            |
| 8  | Hosur                  | 965             | -        | -                 | -          | -             | -          | 965           | 104                             | 525          | 328               | -             | -            | -           | -         | 93         | 699          | -               | -          |            |
| 9  | Manali                 | 841             | -        | -                 | -          | -             | -          | 841           | 35                              | 212          | 119               | -             | -            | -           | -         | 32         | 175          | 3               | 19         |            |
| 10                                       | Trichy                 | 1,445           | -        | -                 | -          | -             | -          | 1,445         | 135                             | 768          | 311               | -             | 1,145        | 417         | 3         | 133        | 808          | 5               | 59         |            |
| 11                                       | Tirunelveli            | 648             | -        | -                 | 106        | 6             | 1          | 761           | -                               | -            | -                 | -             | -            | -           | -         | -          | -            | -               | -          |            |
| 12                                       | Tiruppur               | 1,326           | -        | -                 | -          | -             | 707        | 2,033         | 77                              | 372          | 141               | -             | -            | -           | -         | 72         | 377          | 8               | 61         |            |
| 13                                       | Vellore                | 1,593           | -        | -                 | -          | -             | -          | 1,593         | 82                              | 454          | 422               | -             | -            | -           | -         | 76         | 476          | -               | -          |            |
| 14                                       | Marimalai Nagar        | 562             | -        | -                 | -          | -             | -          | 562           | 13                              | 61           | 40                | -             | -            | -           | -         | 13         | 91           | 4               | 36         |            |
| 15                                       | Thoothukudi            | -               | -        | -                 | -          | -             | -          | -             | 60                              | 350          | 95                | -             | 623          | -           | 3         | 44         | 224          | 7               | 44         |            |
|  | <b>Total</b>           | <b>17,633</b>   | <b>3</b> | <b>41</b>         | <b>701</b> | <b>364</b>    | <b>822</b> | <b>19,564</b> | <b>994</b>                      | <b>5,546</b> | <b>2,940</b>      | <b>1,353</b>  | <b>4,607</b> | <b>417</b>  | <b>83</b> | <b>950</b> | <b>6,424</b> | <b>63</b>       | <b>543</b> |            |



**ANNEXURE-VIII A  
CAUVERY RIVER WATER QUALITY(UNDER GEMS PROGRAMME) 2012-2013**

| S.NO | Name of stations | 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 mg/L | Chloride mg/L | COD mg/L | Total Kjeldahl Nitrogen mg/L | Ammonia-N,as N mg/L | Hardness as CaCO <sub>3</sub> 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           | 6.3      | 7.89    | 492                    | 1                | 0.2          | 129                       | 260                       | 3             | 8                              | 166                   | 57            | 16       | 3                            | 0.5                 | 153                                | 37                   | 14                     | 10            | 50          | 303                         | 289                     | 5                           | <0.005         | <0.002     | 3              | 0.2           | B         |
| 2    | Pallipalayam     | 6.7      | 7.77    | 706                    | 2                | 0.2          | 163                       | 317                       | 3             | 10                             | 209                   | 90            | 18       | 4                            | 0.7                 | 203                                | 44                   | 25                     | 46            | 75          | 463                         | 423                     | 5                           | <0.005         | <0.002     | 4              | 0.2           | B         |
| 3    | Musiri borewell  | 6.1      | 7.51    | 1616                   | 0.2              | 0.3          | <2                        | <2                        | 7             | <1                             | 436                   | 290           | 16       | 3                            | 0.4                 | 430                                | 116                  | 34                     | 13            | 110         | 1068                        | 840                     | 4                           | <0.005         | <0.002     | 10             | 0.2           | B         |
| 4    | Musiri ferrygate | 7.2      | 7.91    | 666                    | 1                | 0.3          | 135                       | 274                       | 3             | 8                              | 208                   | 81            | 17       | 3                            | 1                   | 205                                | 41                   | 22                     | 24            | 74          | 408                         | 392                     | 9                           | <0.005         | <0.002     | 8              | 0.2           | B         |
|      | *Tolerance Limit | 5        | 6.5-8.5 |                        | 3                | -            | 200                       | 500                       | -             | -                              | -                     | -             | -        | -                            | -                   | -                                  | -                    | -                      | -             | -           | -                           | -                       | -                           | -              | -          | -              | 1.5           | B         |

\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

B-Outdoor bathing (organised)

source after

mg/L-milligram per liter  
MPN-Most probable number

## ANNEXURE-VIII B

### CAUVERY RIVER WATER QUALITY-(UNDER MINARS PROGRAMME) 2012-2013

| S.NO | Name of stations        | 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 mg/L | Chloride mg/L | COD mg/L | Total Kjeldahl Nitrogen mg/L | Ammonia-N as N mg/L | Hardness as CaCO <sub>3</sub> 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    | Pathira kalliamman koil | 8.2      | 7.69    | 146                    | 1                | 0.2          | 61                        | 127                       | 3             | 3                              | 60                    | 19            | 16       | 2                            | 0.4                 | 66                                 | 14                   | 7                      | 3             | 12          | 104                         | 98                      | 6                           | <0.005         | <0.002     | 2              | 0.2           | B         |   |
| 2    | Sirumugai               | 8.2      | 7.65    | 162                    | 1                | 0.2          | 73                        | 133                       | 3             | 7                              | 65                    | 18            | 16       | 2                            | 0.4                 | 66                                 | 18                   | 5                      | 3             | 14          | 111                         | 104                     | 5                           | <0.005         | <0.002     | 2              | 0.2           | B         |   |
| 3    | Bhavani sagar           | 6.8      | 7.71    | 208                    | 1                | 0.2          | 122                       | 255                       | 3             | 12                             | 79                    | 21            | 16       | 2                            | 0.4                 | 80                                 | 20                   | 8                      | 8             | 16          | 143                         | 133                     | 15                          | <0.005         | <0.002     | 3              | 0.1           | B         |   |
| 4    | Bhavani                 | 4.6      | 7.76    | 476                    | 1                | 0.2          | 156                       | 307                       | 3             | 5                              | 153                   | 57            | 18       | 3                            | 0.7                 | 154                                | 32                   | 17                     | 12            | 52          | 292                         | 280                     | 5                           | <0.005         | <0.002     | 5              | 0.2           | C         |   |
| 5    | R.N. Pudur              | 5.3      | 7.84    | 439                    | 1                | 0.3          | 157                       | 307                       | 3             | 6                              | 171                   | 38            | 19       | 3                            | 0.8                 | 149                                | 34                   | 16                     | 16            | 39          | 279                         | 268                     | 4                           | <0.005         | <0.002     | 4              | 0.2           | B         |   |
| 6    | Erode                   | 4.5      | 7.79    | 653                    | 4                | 0.3          | 471                       | 786                       | 4             | 4                              | 193                   | 88            | 33       | 4                            | 1.0                 | 172                                | 34                   | 18                     | 20            | 68          | 408                         | 384                     | 5                           | <0.005         | <0.002     | 8              | 2.6           | C         |   |
| 7    | P. Velur                | 7.8      | 7.95    | 547                    | 1                | 0.3          | 121                       | 260                       | 3             | 9                              | 182                   | 59            | 17       | 3                            | 0.6                 | 178                                | 38                   | 19                     | 19            | 56          | 337                         | 321                     | 4                           | <0.005         | <0.002     | 5              | 0.2           | B         |   |
| 8    | Mohanur                 | 6.9      | 7.88    | 589                    | 2                | 0.3          | 144                       | 296                       | 3             | 11                             | 194                   | 69            | 18       | 3                            | 0.6                 | 202                                | 38                   | 23                     | 20            | 63          | 368                         | 351                     | 4                           | <0.005         | <0.002     | 5              | 0.2           | B         |   |
| 9    | Madaathukulam           | 8.7      | 7.87    | 363                    | 2                | 0.1          | 120                       | 248                       | 7             | <1                             | 128                   | 52            | 16       | 3                            | 0.7                 | 98                                 | 25                   | 9                      | 9             | 48          | 242                         | 220                     | 5                           | <0.005         | <0.002     | 9              | 0.2           | B         |   |
| 10   | Thirumukkudal           | 6.8      | 8.00    | 631                    | 1                | 0.3          | 132                       | 270                       | 3             | 8                              | 193                   | 80            | 19       | 3                            | 0.7                 | 194                                | 39                   | 22                     | 20            | 70          | 393                         | 378                     | 5                           | <0.005         | <0.002     | 6              | 0.4           | B         |   |
| 11   | Trichy U/S              | 7.2      | 7.90    | 600                    | 1                | 0.2          | 122                       | 266                       | 3             | 11                             | 204                   | 70            | 17       | 3                            | 0.7                 | 191                                | 37                   | 20                     | 21            | 68          | 373                         | 362                     | 4                           | <0.005         | <0.002     | 7              | 0.2           | B         |   |
| 12   | Trichy D/S              | 4.8      | 7.59    | 853                    | 2                | 0.2          | 203                       | 421                       | 5             | 7                              | 258                   | 112           | 41       | 4                            | 0.9                 | 253                                | 53                   | 29                     | 25            | 96          | 525                         | 507                     | 8                           | <0.005         | <0.002     | 13             | 0.2           | C         |   |
| 13   | Grand Anaicut           | 5.8      | 7.76    | 806                    | 2                | 0.3          | 147                       | 302                       | 4             | 5                              | 241                   | 106           | 23       | 3                            | 0.7                 | 235                                | 50                   | 27                     | 24            | 92          | 499                         | 483                     | 6                           | <0.005         | <0.002     | 11             | 0.2           | B         |   |
| 14   | Coleroon                | 7.6      | 8.04    | 10448                  | 1                | 0.2          | 98                        | 166                       | 3             | 9                              | 243                   | 3041          | 41       | 3                            | 0.7                 | 1108                               | 145                  | 180                    | 290           | 2391        | 6705                        | 6581                    | 6                           | 0.04           | <0.002     | 49             | 0.2           | B         |   |
| 15   | Pitchavaram             | 4.8      | 8.18    | 2293                   | 3                | 0.3          | 330                       | 449                       | 5             | 22                             | 341                   | 546           | 34       | 5                            | 0.8                 | 414                                | 71                   | 57                     | 73            | 385         | 1485                        | 1444                    | 7                           | <0.005         | <0.002     | 32             | 0.2           | C         |   |
| 16   | Karunthattankudi        | 7.1      | 8.11    | 773                    | 1                | 0.2          | 127                       | 260                       | 5             | 12                             | 188                   | 139           | 18       | 3                            | 0.7                 | 190                                | 31                   | 27                     | 21            | 106         | 490                         | 475                     | 11                          | <0.005         | <0.002     | 9              | 0.2           | B         |   |
|      | *Tolerance Limit        | 5        | 6.5-8.5 |                        | 3                | -            | 200                       | 500                       | -             | -                              | -                     | -             | -        | -                            | -                   | -                                  | -                    | -                      | -             | -           | -                           | -                       | -                           | -              | -          | -              | 1.5           | B         |   |
|      |                         | 4.00     | 6.0-9.0 |                        | 3                | 50           | 2000                      | 5000                      | -             | -                              | -                     | 600           | -        | -                            | -                   | -                                  | -                    | -                      | -             | -           | 1500                        | -                       | -                           | -              | -          | -              | -             | 1.5       | C |

\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

B - Outdoor bathing (organised)

C-Drinking water source after conventional treatment and disinfection

mg/L-milligram per liter  
MPN-Most probable number

## ANNEXURE-VIII C

### CAUVERY RIVER WATER QUALITY-(UNDER MINARS PROGRAMME)2012-2013

| S.NO | Name of stations         | 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 CaCO <sub>3</sub> mg/L | Chloride mg/L | COD mg/L | Total Kjeldahl Nitrogen mg/L | Ammonia-N,as N mg/L | Hardness as CaCO <sub>3</sub> 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            | 5.9      | 7.73    | 474                    | 3                | 0.9          | 166                       | 322                       | 3             | 10                             | 170  | 61            | 23       | 4                            | 0.9                 | 172                                | 31                   | 19                     | 16            | 63          | 321                         | 308                     | 5                           | <0.005         | <0.002     | 6              | 0.2           | B         |  |
| 2    | Urrachikottai            | 7.2      | 7.77    | 333                    | 1.6              | 0.8          | 121                       | 261                       | 3             | 3                              | 152  | 31            | 16       | 3                            | 0.6                 | 145                                | 32                   | 17                     | 11            | 30          | 242                         | 229                     | 4.3                         | <0.005         | <0.002     | 3              | 0.2           | B         |  |
| 3    | Vairapalayam             | 6.0      | 7.87    | 461                    | 2                | 0.3          | 163                       | 308                       | 3             | 6                              | 173  | 41            | 18       | 3                            | 0.5                 | 174                                | 32                   | 21                     | 16            | 41          | 289                         | 271                     | 5                           | <0.005         | <0.002     | 4              | 0.2           | B         |  |
| 4    | Pugalur                  | 6.7      | 7.32    | 612                    | 1                | 0.3          | 147                       | 292                       | 3             | 11                             | 205  | 85            | 17       | 4                            | 0.8                 | 210                                | 46                   | 23                     | 20            | 74          | 422                         | 405                     | 5                           | <0.005         | <0.002     | 7              | 0.2           | B         |  |
| 5    | Pettavathalai            | 7.1      | 7.88    | 627                    | 1                | 0.2          | 137                       | 273                       | 4             | 6                              | 217  | 85            | 17       | 3                            | 0.7                 | 211                                | 43                   | 23                     | 24            | 73          | 424                         | 406                     | 5                           | <0.005         | <0.002     | 8              | 0.2           | B         |  |
| 6    | Kumbakonam               | 6.8      | 7.85    | 553                    | 1                | 0.2          | 123                       | 259                       | 7             | 7                              | 187  | 60            | 16       | 4                            | 0.7                 | 169                                | 30                   | 21                     | 16            | 56          | 349                         | 333                     | 28                          | <0.005         | <0.002     | 6              | 0.2           | B         |  |
| 7    | Mayiladurai              | 7.3      | 7.87    | 451                    | 0.5              | 0.4          | 110                       | 207                       | 4             | <1                             | 163  | 43            | 16       | 3                            | 0.7                 | 156                                | 30                   | 19                     | 15            | 41          | 289                         | 269                     | 15                          | 0.1            | <0.002     | 5              | 0.2           | B         |  |
| 8    | Sathyamanagalam          | 7.3      | 7.48    | 207                    | 1                | 0.2          | 119                       | 239                       | 3             | 4                              | 79   | 24            | 16       | 2                            | 0.5                 | 86                                 | 22                   | 8                      | 8             | 17          | 145                         | 136                     | 7                           | <0.005         | <0.002     | 3              | 0.2           | B         |  |
| 9    | Kalingalayan Canal (B5)  | 5.8      | 7.79    | 410                    | 1                | 0.4          | 129                       | 273                       | 3             | 7                              | 156  | 41            | 17       | 46                           | 0.6                 | 147                                | 34                   | 15                     | 18            | 34          | 260                         | 251                     | 4                           | <0.005         | <0.002     | 4              | 0.2           | B         |  |
| 10   | Kalingalayan Canal (B10) | 4.6      | 7.64    | 484                    | 2                | 0.2          | 207                       | 356                       | 3             | 3                              | 165  | 60            | 21       | 4                            | 1.3                 | 155                                | 38                   | 14                     | 19            | 47          | 304                         | 293                     | 4                           | <0.005         | <0.002     | 4              | 0.3           | C         |  |
| 11   | Thirumanimuthar          | 1.0      | 7.69    | 2459                   | 33               | 1.6          | 247X10 <sup>4</sup>       | 427X10 <sup>6</sup>       | 17            | 9                              | 621  | 416           | 131      | 30                           | 4.8                 | 487                                | 78                   | 71                     | 37            | 293         | 1956                        | 1368                    | 16                          | 17             | 0.1        | 28             | 0.2           |           |  |
| 12   | Vasista                  | 0.1      | 7.51    | 2583                   | 224              | 1.4          | 318X10 <sup>6</sup>       | 471X10 <sup>6</sup>       | 34            | 40                             | 751  | 353           | 480      | 58                           | 6.9                 | 626                                | 92                   | 97                     | 42            | 233         | 1521                        | 1436                    | 133                         | 17             | 0.07       | 127            | 0.2           |           |  |
| 13   | Sarabanga                | 0.7      | 7.52    | 2581                   | 69               | 1.6          | 138X10 <sup>5</sup>       | 141X10 <sup>5</sup>       | 21            | 15                             | 552  | 483           | 207      | 31                           | 5.2                 | 451                                | 98                   | 50                     | 65            | 344         | 1553                        | 1493                    | 70                          | 23             | 0          | 55             | 0.2           |           |  |
|      | *Tolerance Limit         | 6.94     | 6.5-8.5 |                        | 3                |              | 200                       | 500                       |               |                                |  |               |          |                              |                     |                                    |                      |                        |               |             |                             |                         |                             |                |            |                |               |           |  |
|      |                          | 6.94     | 6.0-9.0 |                        | 3                | 50           | 2000                      | 5000                      | -             | -                              | -  | 600           | -        | -                            | -                   | -                                  | -                    | -                      | -             | 400         | -                           | -                       | -                           | -              | -          | -              | 1.5           | C         |  |

\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

B-Outdoor bathing (organised)

C-Drinking water source after conventional treatment and disinfection

mg/L-milligram per liter  
MPN-Most probable number

## ANNEXURE-IX

### TAMIRAPARANI RIVER WATER QUALITY (UNDER MINARS PROGRAMME) 2012-2013

| S.NO | Name of stations   | 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 | Phenothaline Alkalinity mg/L | Total Alkalinity as CaCO <sub>3</sub> mg/L | Chloride mg/L | COD mg/L | Total Kjeldahl Nitrogen mg/L | Ammonia-N, as N mg/L | Hardness as CaCO <sub>3</sub> 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          | 7.37     | 7.33    | 162                  | 2                | 0.07         | 32                        | 98                        | 14            | <1                           | 31   | 14            | 26       | 2                            | 1                    | 21                                 | 4                    | 2                      | 7             | 13          | 55                          | 37                      | 17                          | <0.005         | <0.002     | 2              | <0.1          | B         |
| 2    | Cheranmadevi       | 7.0      | 7.32    | 117                  | 2                | 0.4          | 46                        | 133                       | 18            | 16                           | 40   | 21            | 22       | NA                           | 5                    | 35                                 | 8                    | 3                      | 9             | 17          | 69                          | 46                      | 22                          | 0.03           | <0.002     | 2              | <0.1          | B         |
| 3    | Kokirakulam        | 6.5      | 7.32    | 163                  | 4                | 0.6          | 100                       | 264                       | 20            | <1                           | 45   | 21            | 43       | NA                           | 5                    | 50                                 | 11                   | 4                      | 11            | 22          | 93                          | 60                      | 21                          | 0.05           | <0.002     | 3              | <0.1          | B         |
| 4    | Murapanadu         | 7.4      | 7.34    | 286                  | 5                | 0.1          | 28                        | 90                        | 15            | <1                           | 129  | 21            | 12       | 3                            | 16                   | 69                                 | 13                   | 5                      | 20            | 48          | 163                         | 101                     | 14                          | <0.005         | <0.002     | 2              | 1             | B         |
| 5    | Thiruvaidaimanudur | 7.2      | 6.94    | 99                   | 3                | 0.2          | 43                        | 128                       | 15            | <1                           | 34   | 18            | 35       | 2                            | 2                    | 22                                 | 5                    | 1                      | 8             | 12          | 60                          | 39                      | 18                          | 0.01           | <0.002     | 2              | <1            | B         |
| 6    | Ambasamudram       | 7.3      | 7.11    | 87                   | 2                | 0.1          | 28                        | 92                        | 12            | <1                           | 28   | 16            | 25       | 3                            | 3                    | 19                                 | 4                    | 2                      | 7             | 13          | 51                          | 32                      | 17                          | <0.005         | <0.002     | 2              | <0.1          | B         |
| 7    | Authoor            | 7.5      | 7.74    | 3260                 | 16               | 0.1          | 71                        | 173                       | 23            | <1                           | 469  | 928           | 73       | NA                           | 2                    | 479                                | 95                   | 29                     | 50            | 263         | 2161                        | 1968                    | 22                          | 0.09           | <0.002     | 51             | <0.1          |           |
| 8    | Eral               | 7.0      | 7.13    | 498                  | 5                | 0.1          | 53                        | 124                       | 19            | <1                           | 246  | 50            | 25       | 3                            | 21                   | 136                                | 28                   | 14                     | 28            | 67          | 282                         | 235                     | 22                          | 0.07           | 8          | 5              | <0.1          | B         |
| 9    | Kallidai Kurichi   | 7.3      | 7.21    | 129                  | 4                | 0.3          | 33                        | 95                        | 13            | <1                           | 42   | 18            | 39       | 3                            | 1                    | 37                                 | 8                    | 4                      | 8             | 11          | 77                          | 48                      | 30                          | 0.01           | <0.002     | 2              | <0.1          | B         |
| 10   | Srivaikuntam       | 7.4      | 6.82    | 345                  | 11               | 0.1          | 38                        | 102                       | 14            | <1                           | 145  | 29            | 42       | 3                            | 2                    | 83                                 | 17                   | 8                      | 13            | 28          | 201                         | 159                     | 15                          | 0.04           | <0.002     | 4              | <0.1          | B         |
| 11   | Vellakovil         | 6.4      | 7.36    | 210                  | 4                | 0.5          | 78                        | 231                       | 22            | <1                           | 50   | 23            | 32       | 2                            | 3                    | 58                                 | 11                   | 5                      | 12            | 20          | 105                         | 67                      | 24                          | 0.07           | <0.002     | 4              | <0.1          | B         |
| 12   | Sivalaperi         | 6.7      | 7.35    | 206                  | 4                | 0.7          | 81                        | 239                       | 23            | <1                           | 52   | 26            | 37       | 2                            | 3                    | 62                                 | 12                   | 5                      | 13            | 22          | 116                         | 75                      | 25                          | 0.06           | <0.002     | 4              | <0.1          | B         |
|      | *Tolerance Limit   | 5        | 6.5-8.5 |                      | 3                | -            | 200                       | 500                       | -             | -                            | -  | -             | -        | -                            | -                    | -                                  | -                    | -                      | -             | -           | -                           | -                       | -                           | -              | -          | -              | 1.5           | B         |

\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

B-Outdoor bathing (organised)

mg/L-milligram per liter

MPN-Most probable number

**ANNEXURE-X**  
**PALAR & VAIGAI RIVER WATER QUALITY (UNDER MINARS PROGRAMME) 2012-2013**

| S.NO | Name of stations | 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 CaCO <sub>3</sub> mg/L | Chloride mg/L | COD mg/L | Total Kjeldahl Nitrogen mg/L | Ammonia-N, as N mg/L | Hardness as CaCO <sub>3</sub> 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           | 5.8      | 7.39    | 1467                   | 5.7              | 0.06         | 2                         | 7                         | 2             | <1                             | 430  | 288           | 48       | <0.56                        | <0.56                | 392                                | 101                  | 34                     | 24            | 84          | 1026                        | 358                     | 6                           | <0.005         | <0.002     | 98             | 0.8           | C         |
| 2    | Palar            | 7        | 8       | 901                    | 2                | 0.55         | 263                       | 512                       | 2             | 13                             | 271  | 77            | 14       | 10                           | 3                    | 160                                | 36                   | 18                     | 51            | 125         | 627                         | 495                     | 3                           | 0.24           | 0.17       | 9              | 1             | C         |
|      | *Tolerance Limit | 4        | 6.0-9.0 |                        | 3                | 50           | 2000                      | 5000                      | -             | -                              | -  | 600           | -        | -                            | -                    | -                                  | -                    | -                      | 400           | -           | 1500                        | -                       | -                           | -              | -          | -              | 1.5           | C         |

\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

C-Drinking water source after conventional treatment and disinfection

mg/L-milligram per liter

MPN-Most probable number

# ANNEXURE-XI

## LAKE WATER QUALITY (UNDER MINARS PROGRAMME) 2012-2013

| S.NO             | Name of stations | 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 | Phenolphthaleine 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                | Udhagamandalam   | 4.8      | 7.27    | 454                    | 16               | 0.32         | 7889                      | 13689                     | 13            | <1                               | 125                            | 52            | 67           | 8                            | 1                   | 123                    | 35                   | 9                      | 5             | 37          | 276                         | 257                     | 24                          | <0.005         | <0.002     | 13             | 0.19          |           |   |
| 2                | Kodaikanal       | 5.7      | 7.01    | 272                    | 6                | 0.87         | 46                        | 92                        | 17            | 9                                | 86                             | 38            | 37           | 16                           | <0.56               | 81                     | 18                   | 10                     | 14            | 28          | 179                         | 150                     | 18                          | <0.005         | <0.002     | 5              | 0.59          | B         |   |
| 3                | Yercaud          | 6.3      | 7.58    | 305                    | 3                | 0.48         | 369                       | 638                       | 18            | 4                                | 140                            | 41            | 26           | 5                            | 1                   | 105                    | 30                   | 8                      | 3             | 28          | 199                         | 189                     | 43                          | <0.005         | <0.002     | 8              | 0.20          | C         |   |
| 4                | Veeranam         | 6.8      | 8.49    | 736                    | 1                | 0.51         | 148                       | 286                       | 4             | 8                                | 151                            | 124           | 21           | 3                            | 1                   | 156                    | 22                   | 24                     | 26            | 112         | 452                         | 438                     | 7                           | <0.005         | <0.002     | 5              | 0.22          | B         |   |
| 5                | Poondi           | 6.7      | 8.29    | 609                    | 3                | 0.15         | 1041                      | 3005                      | 6             | 10                               | 135                            | 74            | 21           | 10                           | 3                   | 87                     | 20                   | 9                      | 43            | 93          | 419                         | 332                     | 15                          | 0.04           | 0.1        | 10             | 0.58          | C         |   |
| 6                | Red Hills        | 7.3      | 8.08    | 689                    | 2                | 0.30         | 2074                      | 4196                      | 6             | 5                                | 126                            | 82            | 21           | 13                           | 3                   | 92                     | 19                   | 11                     | 41            | 82          | 482                         | 336                     | 18                          | 0.1            | 0.0        | 8              | 0.54          | C         |   |
| 7                | Ponur            | 7.1      | 8.44    | 606                    | 4                | 0.09         | 2399                      | 4180                      | 8             | 6                                | 111                            | 89            | 27           | 12                           | 4                   | 82                     | 22                   | 6                      | 28            | 68          | 397                         | 307                     | 14                          | 0.2            | 0.1        | 12             | 0.11          | C         |   |
| 8                | Puliccate        | 6.3      | 7.79    | 46874                  | 9                | 0.08         | 321                       | 726                       | 3             | 13                               | 112                            | 17018         | interference | 13                           | 3                   | 5289                   | 516                  | 914                    | 2273          | 9347        | 33986                       | 27975                   | 502                         | 0.5            | 0.2        | 398            | 0.67          |           |   |
| *Tolerance Limit |                  | 5        | 6.5-8.5 |                        | 3                | -            | 200                       | 500                       | -             | -                                | -                              | -             | -            | -                            | -                   | -                      | -                    | -                      | -             | -           | -                           | -                       | -                           | -              | -          | -              | -             | 1.5       | B |
|                  |                  | 4        | 6.0-9.0 |                        | 3                | 50           | 2000                      | 5000                      | -             | -                                | -                              | 600           | -            | -                            | -                   | -                      | -                    | -                      | 400           |             | 1500                        | -                       | -                           | -              | -          | -              | -             | 1.5       | C |

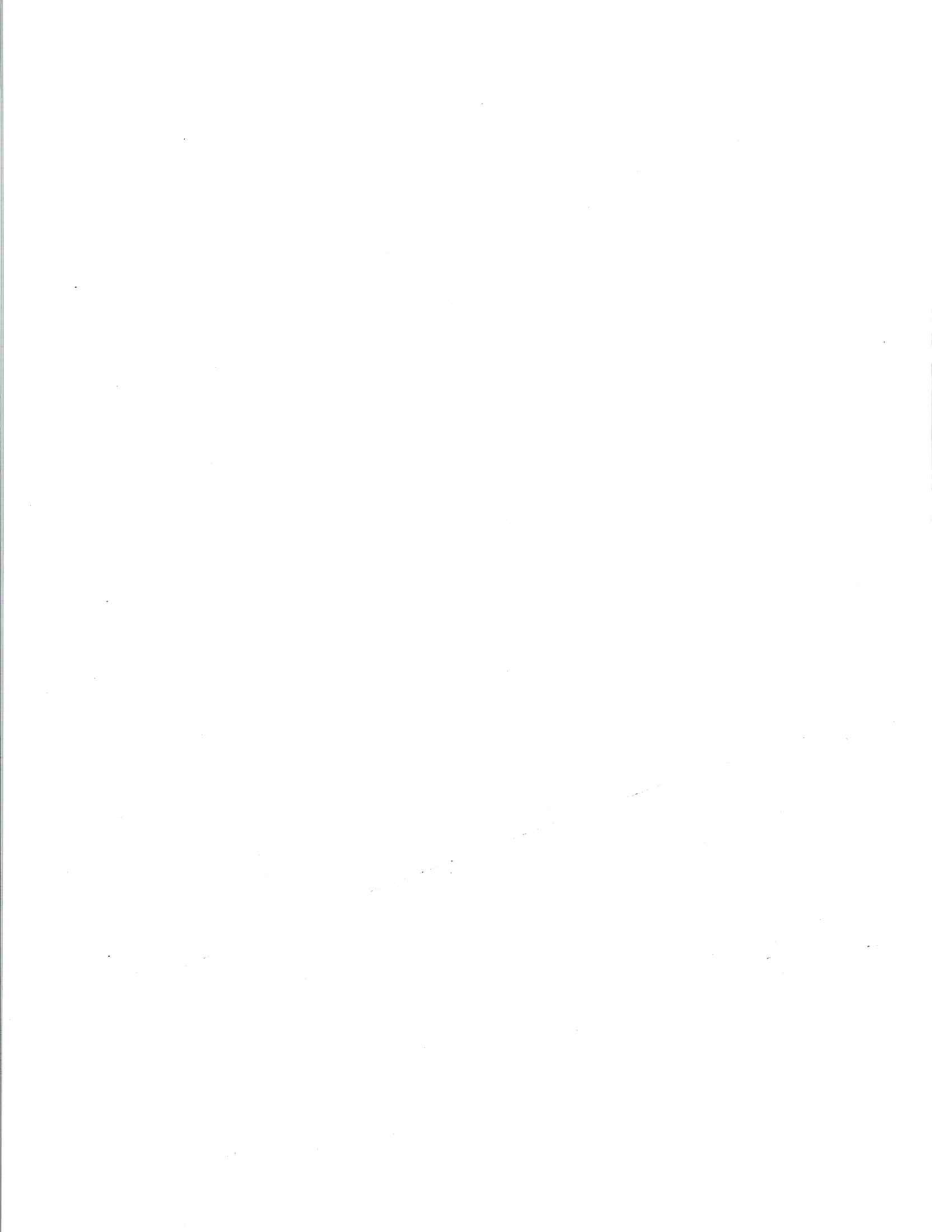
\*CPCB-GEMS / MINARS Water quality criteria

DBU Class-Designated Best Use

B-Outdoor bathing (organised)

C-Drinking water source after conventional treatment and disinfection

mg/L-miligram per liter  
MPN-Most probable number



# **ACCOUNTS**



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**AUDITOR'S REPORT TO THE MEMBERS OF THE  
TAMILNADU POLLUTION CONTROL BOARD  
FOR THE YEAR ENDED 31<sup>st</sup> MARCH 2013**

We have audited the attached Balance Sheet of Tamil Nadu Pollution Control Board as at March 31, 2013 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.13.48 lakhs 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 30.04 lakhs 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.529.61 crores due from Thermal Stations and local bodies turn to be remitted to the Ministry of Environments and Forest, Government of India.
- d. The Internal Audit is not functioning as no Internal Audit report for the year under audit was produced.

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, 2013,

(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 2013 and

(c) In the case of the Income and Expenditure account of the excess of Income over Expenditure for the year ended 31st March 2013.

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

Date: 27-12-2013  
Place: Chennai

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

**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>   |                   |                      |
| 98870295.96          | a. Bank   | 176244977.26      |                      |
| 700.00               | b. Cash   | -                 |                      |
| 10512.00             | c. Funds in Transit   | 200000.00         | 176444977.26         |
|                      | <b>B. GRANTS RECEIVED</b>   |                   |                      |
| -                    | a. From Government  | -                 |                      |
| -                    | b. From other Agencies  | -                 |                      |
| -                    | c. Schemes  |                   | -                    |
|                      | <b>C. FEES</b>  |                   |                      |
| -                    | a. Consultant Registration Fees   | -                 |                      |
| 551265.00            | b. Cost of Application  | 411350.00         |                      |
| 532060755.50         | c. Consent Fees   | 610356740.16      |                      |
| 69158410.00          | d. Cess Collection  | 81995947.00       |                      |
| 6550.00              | e. Fees for handling H. Waste   | -                 | 692764037.16         |
|                      | <b>D. Services &amp; Rental Charges</b><br>(Lab Analysis Charges Sch - A) |                   | 102085901.00         |
| 99207828.00          |   |                   |                      |
| 414864324.00         | <b>E. INTEREST ON INVESTMENT</b>  |                   | 314006656.92         |
|                      | <b>F. MISCELLANEOUS</b>   |                   |                      |
| 3894428.30           | a. Others (Schedule-B)  | 4351676.00        |                      |
| 59009989.00          | b. Cess Re-imburement   | -                 | 4351676.00           |
| <b>1277635057.76</b> | <b>C/o</b>  |                   | <b>1289653248.34</b> |

Chennai - 600 032  
Date: 27/12/2013

# ANNUAL STATEMENT OF ACCOUNT

year ended 31 March 2013.

(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>                  |                   |     |                      |     |
| 1085413.00          |     | a. Assets - Land and Building                  | 12000000.00       |     |                      |     |
| 4273836.00          |     | b. Laboratory Equipment                        | 18384083.00       |     |                      |     |
| -                   |     | c. Vehicles                                    | 277812.00         |     |                      |     |
| 490582.00           |     | d. Furniture                                   | 1882184.00        |     |                      |     |
| 585213.00           |     | e. Office Appliance                            | 2382158.00        |     |                      |     |
| 84444.00            |     | f. Library Books                               | 277813.00         |     |                      |     |
| -                   |     | g. Electrical Installation                     | -                 |     |                      |     |
| -                   |     | h. Computer                                    | 531,197.00        |     | 35785247.00          |     |
|                     |     | <b>B. REVENUE EXPENDITURE</b>                  |                   |     |                      |     |
|                     |     | <b>A. ADMINISTRATIVE</b>                       |                   |     |                      |     |
| 278205810.00        |     | a. Salaries                                    | 358878375.97      |     |                      |     |
| 58359950.00         |     | b. Pension & Gratuity Contribution             | 43304137.00       |     |                      |     |
| 11319653.00         |     | c. Surrender Leave Salary                      | 10789352.00       |     |                      |     |
| 1643409.00          |     | d. Bonus                                       | 1539545.00        |     |                      |     |
| 1904673.00          |     | e. Medical Expenses                            | 1718791.00        |     | 416230200.97         |     |
|                     |     | <b>B. BOARD LABORATORY</b>                     |                   |     |                      |     |
| 163271.00           |     | a. Running Expenses of Lab.                    | 219029.00         |     |                      |     |
| 2630277.00          |     | b. Lab. Chemicals etc.,                        | 815863.00         |     | 1034892.00           |     |
|                     |     | <b>C. RUNNING &amp; MAINTENANCE OF VEHICLE</b> |                   |     | 8949704.86           |     |
| 7586405.00          |     |  |                   |     |                      |     |
|                     |     | <b>D. SCHEME</b>                               |                   |     | 0.00                 |     |
| 199350.00           |     |  |                   |     |                      |     |
| <b>368532286.00</b> |     | <b>C/o</b>                                     |                   |     | <b>462000044.83</b>  |     |

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

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

| PREVIOUS<br>YEAR     | RECEIPTS                           | TOTAL OF<br>SUB HEAD | TOTAL OF<br>MAJOR HEADS |
|----------------------|------------------------------------|----------------------|-------------------------|
| Rs. Ps.              |                                    | Rs. Ps.              | Rs. Ps.                 |
| 1277635057.76        | <b>B/F</b>                         |                      | 1289653248.34           |
|                      | <b>G. DEPOSITS &amp; ADVANCES</b>  |                      |                         |
| 1431200.00           | a. Earnest Money Deposit           | <b>1883200.00</b>    |                         |
| 573899.00            | b. Security Deposist               | <b>27600.00</b>      |                         |
| 461660.00            | c. Advance to Staff ( Sch. - C)    | 845235.00            |                         |
| 1941170138.00        | d. Short Term Deposit              | 3758597573.00        | 3761353608.00           |
| 378493858.00         | <b>H. OTHERS (Schedule - D)</b>    |                      | 970312688.81            |
| 775500000.00         | <b>I. WAYS &amp; MEANS ADVANCE</b> |                      | -                       |
| <b>4375265812.76</b> | <b>Total</b>                       |                      | <b>6021319545.15</b>    |

Chennai - 600 032

Date: 27/12/2013

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

S.d/-  
**S. Nazir Hussain BBA.,**  
**Financial Adviser**

S.d/-  
**A.V. Venkatachalam, I.F.S.,**  
**Member Secretary**

# ANNUAL STATEMENT OF ACCOUNT

year ended 31 March 2013.

(Prevention and control of Pollution) rules 1983.

| PREVIOUS YEAR        | PAYMENTS  | TOTAL OF SUB HEAD |     | TOTAL OF MAJOR HEADS |                      |
|----------------------|---|-------------------|-----|----------------------|----------------------|
|                      |   | Rs.               | Ps. | Rs.                  | Ps.                  |
| 368532286.00         | <b>B/F</b>                                      |                   |     |                      | 462000044.83         |
|                      | <b>E. MAINTENANCE &amp; REPAIRS</b>             |                   |     |                      |                      |
| 2962970.00           | a. Buildings                                    | 3798462.00        |     |                      |                      |
| 82219.00             | b. Furniture & Fixture                          | 75405.00          |     |                      |                      |
| 879737.00            | c. Scientific instruments                       | 643035.85         |     |                      |                      |
| 736840.00            | d. Office Appliance                             | 821676.00         |     |                      |                      |
| 817422.00            | e. Electrical Installation                      | 1192558.00        |     |                      |                      |
| 0.00                 | f. Insurance of Assets                          | 44382.00          |     |                      |                      |
| 103137.00            | g. Other Assets                                 | 243370.00         |     | 6818888.85           |                      |
|                      | <b>F. FEES TO CONSULTANTS &amp; SPECIALISTS</b> |                   |     |                      | 101210.00            |
| 70581.00             |   |                   |     |                      |                      |
| 826292.00            | <b>G. LAW CHARGES</b>                           |                   |     |                      | 2306728.00           |
|                      |   |                   |     |                      |                      |
| 2206.00              | <b>H. AUDIT FEES</b>                            |                   |     |                      | 11563.00             |
|                      |   |                   |     |                      |                      |
| 231957500.50         | <b>I. MISCELLANEOUS (Schedule-E)</b>            |                   |     |                      | 183040493.50         |
|                      |   |                   |     |                      |                      |
| 81668175.00          | <b>C. CESS REMITTANCE</b>                       |                   |     |                      | 96739333.00          |
|                      |   |                   |     |                      |                      |
| 9824448.00           | <b>D. ADVANCE (Schedule - F)</b>                |                   |     |                      | 9022404.00           |
|                      |   |                   |     |                      |                      |
| <b>25500000.00</b>   | <b>E. WAYS &amp; MEANS ADVANCE</b>              |                   |     |                      | 750000000.00         |
|                      |   |                   |     |                      |                      |
|                      | <b>F. DEPOSITS</b>                              |                   |     |                      |                      |
| 2717089829.00        | a. Short Term Deposits                          | 3912075763.00     |     |                      |                      |
| 757767193.00         | b. Others (Schedule - G)                        | 25619200.00       |     | 3937694963.00        |                      |
|                      |   |                   |     |                      |                      |
|                      | <b>G. CLOSING BALANCE</b>                       |                   |     |                      |                      |
| 176244977.26         | a. Bank   | 573582901.97      |     |                      |                      |
|                      | b. Cash   | 1015.00           |     |                      |                      |
| 200000.00            | c. Funds in Transit                             | -                 |     | 573583916.97         |                      |
|                      |   |                   |     |                      |                      |
| <b>4375265812.76</b> | <b>Total</b>                                    |                   |     |                      | <b>6021319545.15</b> |

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

S.d/-

Dr.D.Karthikeyan IAS.,  
Chairman

S.d/-

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

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

| PREVIOUS<br>YEAR     | EXPENDITURE |   | TOTAL OF<br>SUB HEAD |     | TOTAL OF<br>MAJOR HEADS |     |
|----------------------|-------------|---|----------------------|-----|-------------------------|-----|
|                      | Rs.         | Ps.   | Rs.                  | Ps. | Rs.                     | Ps. |
|                      |             | <b>A. Administrative</b>                                      |                      |     |                         |     |
| 157858195.00         |             | a. Pay of officers and<br>Pay of Establishment                | 185098420.00         |     |                         |     |
| 135028007.00         |             | b. Allowance & Honororia (Schedule-H)                         | 194460615.42         |     |                         |     |
| 179643373.00         |             | c. Contribution to Gratuity &<br>Provision for Pension        | 222487408.00         |     |                         |     |
| 36408185.00          |             | d. Surrender Leave Salary                                     | 27366841.00          |     | 629413284.42            |     |
| 2974145.48           |             | <b>B. Running Expenses of Labs.</b>                           |                      |     | 2544830.94              |     |
| 7754810.00           |             | <b>C. Running and Maintenance<br/>of Vehicle (Schedule-I)</b> |                      |     | 9643502.86              |     |
| 28400.00             |             | <b>D. Maintenance and Repairs</b>                             |                      |     |                         |     |
| 471891.00            |             | a. Furniture & Fixtures                                       | 36546.00             |     |                         |     |
| 1043842.00           |             | b. Lab. Equipments & Instruments                              | 748411.00            |     |                         |     |
| 807196.00            |             | c. Office Appliance & Others                                  | 1223387.00           |     |                         |     |
| 2820495.00           |             | d. Electrical Installation                                    | 1247437.00           |     |                         |     |
|                      |             | e. Building   | 4380554.00           |     | 7636335.00              |     |
| 84732.00             |             | <b>E. Fees to Consultants<br/>and Specialists</b>             |                      |     | 108955.00               |     |
| 1231550.00           |             | <b>F. Law Charges</b>   |                      |     | 3417951.00              |     |
| 56180.00             |             | <b>G. Fees for Audit</b>                                      |                      |     | 56180.00                |     |
| 226850314.50         |             | <b>H. Miscellaneous (Schedule-J)</b>                          |                      |     | 185548972.13            |     |
| 13398355.00          |             | <b>I. Depreciation</b>  |                      |     | 14202964.00             |     |
| 1889812.00           |             | <b>J. Prior Period Adj.Account</b>                            |                      |     | 4054.00                 |     |
| 501839775.50         |             | <b>K. Excess of income over Exp.trf to B/S</b>                |                      |     | 661192711.58            |     |
| <b>1270189258.48</b> |             | <b>Total</b>  |                      |     | <b>1513769740.93</b>    |     |

Chennai - 600 032

Date: 27/12/2013

S.d/-  
K.Chitra B.Com,MBA,FCA.,  
Senior Manager (F&A)

S.d/-  
S. Nazir Hussain BBA.,  
Financial Adviser

S.d/-  
A.V. Venkatachalam, I.F.S.,  
Member Secretary

# ANNUAL STATEMENT OF ACCOUNT

ended 31st March 2013.

(Prevention and control of Pollution) rules 1983.

| PREVIOUS YEAR        |     | INCOME   | TOTAL OF SUB HEAD |      | TOTAL OF MAJOR HEADS |                      |
|----------------------|-----|--|-------------------|------|----------------------|----------------------|
| Rs.                  | Ps. |  | Rs.               | Ps.  | Rs.                  | Ps.                  |
| -                    | -   | <b>A. Grants received</b>                            |                   |      |                      |                      |
| -                    | -   | a. From Government                                   |                   | -    |                      |                      |
| -                    | -   | b. From other Agencies                               |                   | -    |                      |                      |
|                      |     | <b>Less: Amount utilised for Capital Expenditure</b> |                   | -    |                      |                      |
|                      |     | Net Grant available for Revenue Expenditure          |                   | -    |                      | -                    |
| 715219314.80         |     | <b>B. Fees (Schedule-K)</b>                          |                   |      |                      | 941134787.16         |
| 98972938.00          |     | <b>C. Services &amp; Rental Charges (Schedule-L)</b> |                   |      |                      | 101238245.00         |
| 4322528.30           |     | <b>D. Miscellaneous Receipts</b>                     |                   |      |                      |                      |
| 59009989.00          |     | a. Others (Schedule-M)                               | 6787007.00        |      |                      | 6787007.00           |
|                      |     | b. Cess Reimbursement                                |                   | 0.00 |                      |                      |
| 359953062.00         |     | <b>E. Interest on Investment</b>                     |                   |      |                      | 463736727.00         |
| 32711426.38          |     | <b>F. Prior Period Adj.Account</b>                   |                   |      |                      | 872974.77            |
| <b>1270189258.48</b> |     | <b>Total</b>   |                   |      |                      | <b>1513769740.93</b> |

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

S.d/-  
Dr.D.Karthikeyan IAS.,  
Chairman

S.d/-  
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   |                   |             |                      |                |
| 54526922.18    |     | i. Grants received from Govt. for capital exp. upto the yr.2004-05.                   | 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. Less: Amount transferred to Depreciation Fund                                     |                   | -           |                      | 54526922.18    |
|                |     | b. Excess of Income over Expenditure  |                   |             |                      |                |
| 3093478920.33  |     | i. As on 01.04.12   | 3579605398.83     |             |                      |                |
| 501839775.50   |     | ii. Add: Surplus during the year  | 661192711.58      |             |                      |                |
|                |     |   | 4240798110.41     |             |                      |                |
| (15713297.00)  |     | iii. Less: Amount transferred to Depreciation Fund                                    |                   | 14202964.00 |                      | 4226595146.41  |
|                |     | <b>B. EARMARKED FUND</b>  |                   |             |                      |                |
| 1210245390.00  |     | a. Pension Fund (Schedule-N)  | 1467869088.00     |             |                      |                |
| 389020751.18   |     | b. Depreciation Fund (Sch-N)  | 426564960.18      |             |                      |                |
| 133126168.00   |     | c. E.L. encashment Fund (Sch-N)   | 150538753.00      |             |                      |                |
| 3363250.00     |     | d. CETP Development Fund  | 3363250.00        |             |                      | 2048336051.18  |
|                |     | <b>C. OTHER DEPOSITS</b>  |                   |             |                      |                |
| 74639703.23    |     | a. Deposits for supply & works (Schedule -O)  | 80319664.23       |             |                      |                |
|                | -   | b. Refundable P.G. Deposits   |                   | -           |                      |                |
| 3729000.00     |     | c. Eco Devlpt. Measure Deposit  | 3729000.00        |             |                      | 84048664.23    |
|                |     | <b>D. AMOUNT DUE</b>  |                   |             |                      |                |
| 4785386504.02  |     | a. Cess Payable   | 5325385804.72     |             |                      |                |
|                | -   | Less: Cess unrecoverable  |                   | -           |                      | 5325385804.72  |
| 22305829.00    |     | b. Other Liability (Schedule -P)  |                   |             |                      | 45499152.00    |
| 10255948916.44 |     | <b>C/o</b>  |                   |             |                      | 11784391740.72 |

# ANNUAL STATEMENT OF ACCOUNT

31st March 2013.

(Prevention and control of Pollution) rules 1983.

| PREVIOUS YEAR |     | ASSETS                                      | TOTAL OF SUB HEAD |     | TOTAL OF MAJOR HEADS |     |
|---------------|-----|---|-------------------|-----|----------------------|-----|
| Rs.           | Ps. |   | Rs.               | Ps. | Rs.                  | Ps. |
| 12149358.65   |     | <b>A. FIXED ASSETS</b>                      | 12149358.65       |     |                      |     |
| 52010909.00   |     | a. Land Development                         | 64010909.00       |     | 76160267.65          |     |
|               |     | b. Buildings Under Construction             |                   |     |                      |     |
| 57688070.43   |     | <b>B. OTHER ASSETS</b>                      |                   |     | 77054568.43          |     |
|               |     | a. As per Form XV                           |                   |     |                      |     |
|               |     | b. Stock in hand:                           |                   |     |                      |     |
| 804333.90     |     | i. Lab Chemicals                            | 1225281.24        |     |                      |     |
| 726837.94     |     | ii. Glassware                               | 820770.82         |     |                      |     |
| 106212.90     |     | iii. Misc. Stores                           | 205926.27         |     |                      |     |
| 1646079.29    |     | iv. Filter Paper                            | 1332925.38        |     | 3584903.71           |     |
|               |     | <b>C. SUNDRY DEBTORS</b>                    |                   |     |                      |     |
| 3862777771.44 |     | a. Cess Receivable                          | 4220260349.14     |     |                      |     |
| 925232221.80  |     | i. From Industries                          | 1106768958.80     |     |                      |     |
|               |     | ii. From Local Bodies                       | 5327029307.94     |     |                      |     |
|               |     | <b>Less: Cess unrecoverable</b>             |                   | -   | 5327029307.94        |     |
| 20000.00      |     | b. Amount Receivable - PWD                  |                   |     | 20000.00             |     |
| 7484077.00    |     | c. Project Study - Receivable               |                   |     | 7112878.00           |     |
| 750000000     |     | d. Ways and Means Advance Receivable        |                   |     | 240905994.99         |     |
|               |     | <b>D. ADVANCES &amp; DEPOSITS</b>           |                   |     |                      |     |
| 418418307.15  |     | a. Misc. amounts recoverable (Schedule - R) | 477635324.15      |     |                      |     |
| 17938434.00   |     | b. Advance to Staffs (Schedule - S)         | 17527176.00       |     |                      |     |
| 2315854.00    |     | c. Deposits (Schedule - T)                  | 2326073.00        |     | 497488573.15         |     |
| 6109318467.50 |     | <b>C/o</b>                                  |                   |     | 6229356493.87        |     |

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

| PREVIOUS<br>YEAR          | LIABILITIES  | TOTAL OF<br>SUB HEAD | TOTAL OF<br>MAJOR HEADS   |
|---------------------------|--|----------------------|---------------------------|
| Rs. Ps.<br>10255948916.44 | B/f  | Rs. Ps.              | Rs. Ps.<br>11784391740.72 |
| 264956.98                 | E. ENVIRONMENTAL IMPACT STUDY                        |                      | 264956.98                 |
| 363689109.00              | F. INCOME RECEIVED IN ADVANCE<br>(Schedule - Q)      |                      | 462547788.80              |
| 21498500.00               | G. SUBSIDIES FOR COMMON<br>EFFLUENT TREATMENT PLANTS |                      | 21498500.00               |
| 1189893.34                | H. ENVIRONMENTAL EDUCATION<br>FUND RESERVE           |                      | 1189893.34                |
| 500000.00                 | I. EMERGENCY RESPONSE CENTRE                         |                      | 500000.00                 |
| 692000.00                 | J. C P C B GREEN BELT                                |                      | 692000.00                 |
| 1930077.00                | K. SCHEMES   |                      | 1930077.00                |
| 924250.00                 | L. SPONSORSHIP FOR SCHEMES                           |                      | 924250.00                 |
| 750000000                 | M. WAYS AND MEANS ADVANCE<br>PAYABLE                 |                      | 0.00                      |
| <b>11396637702.76</b>     | <b>Total</b>   |                      | <b>12273939206.84</b>     |

Chennai - 600 032

Date: 27/12/2013

S.d/-  
K.Chitra B.Com,MBA,FCA.,  
Senior Manager (F&A)

S.d/-  
S. Nazir Hussain BBA.,  
Financial Adviser

S.d/-  
A.V. Venkatachalam, I.F.S.,  
Member Secretary

# ANNUAL STATEMENT OF ACCOUNT

31st March 2013.

(Prevention and control of Pollution) rules 1983.

| PREVIOUS YEAR  | ASSETS   | TOTAL OF SUB HEAD  | TOTAL OF MAJOR HEADS     |
|--|--|--|--------------------------|
| Rs. Ps.<br>6109318467.50   | B/f  | Rs. Ps.<br>6229356493.87   | Rs. Ps.<br>6229356493.87 |
| 1210245390.00<br>389020751.18<br>133126168.00<br>3363250.00<br>3375118698.82 | <b>E. INVESTMENTS</b><br>1. Pension Fund Investment<br>2. Depreciation Fund Investment<br>3. EL Encashment Fund Inv.<br>4. CETP Develop. Fund Investment<br>5. Other term deposits | 1467869088.00<br>426564960.18<br>150538753.00<br>3363250.00<br>3422662744.82 | 5470998796.00            |
| 176244977.26<br>-<br>200000.00   | <b>F. CASH &amp; BANK BALANCE</b><br>a. Balance with Banks<br>b. Cash in Hand<br>c. Funds under Transit  | 573582901.97<br>1015.00  | 573583916.97             |
| 11396637702.76   | <b>Total</b>   |  | 12273939206.84           |

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

S.d/  
Dr.D.Karthikeyan IAS.,  
Chairman

S.d/  
P.T. Jayakumar [M.No. 200239 ]  
Partner

**FORM - XV**

**ANNUAL STATEMENT OF ACCOUNTS - FIXED ASSETS AS ON 31st MARCH 2013.**  
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 01/04/2012 |    | Additions and Adjustment during the year |    | Total              |    | Depreciation       |    | Closing Balance on 31/03/2013 |    | Cumulative Depreciation on 31/03/2013 |    |
|---------|--------------------------|----------------------|-------------------------------|----|--|----|--------------------|----|--------------------|----|-------------------------------|----|---------------------------------------|----|
|         |                          |                      | Rs.                           | P. | Rs.                                      | P. | Rs.                | P. | Rs.                | P. | Rs.                           | P. | Rs.                                   | P. |
| 1       | Building                 | 10.00%               | 21407930.20                   |    | 0.00                                     |    | 21407930.20        |    | 2140793.00         |    | 19267137.20                   |    | 106751211.60                          |    |
| 2       | Computer                 | 60.00%               | 1160391.13                    |    | 7126430.00                               |    | 8286821.13         |    | 1348023.00         |    | 6938798.13                    |    | 27210230.00                           |    |
| 3       | Electrical Installations | 15.00%               | 3249836.68                    |    | 0.00                                     |    | 3249836.68         |    | 487476.00          |    | 2762360.68                    |    | 6550601.11                            |    |
| 4       | Furniture & Fixture      | 10.00%               | 5663107.31                    |    | 2221677.00                               |    | 7884784.31         |    | 637258.00          |    | 7247526.31                    |    | 21092377.23                           |    |
| 5       | Lab Equipment            | 33.33%               | 8391361.65                    |    | 19263264.00                              |    | 27654625.65        |    | 5096603.00         |    | 22558022.65                   |    | 100609025.64                          |    |
| 6       | Library Books            | 10.00%               | 1651917.93                    |    | 279013.00                                |    | 1930930.93         |    | 172139.00          |    | 1758791.93                    |    | 5616079.03                            |    |
| 7       | Office Appliance         | 10.00%               | 6726693.08                    |    | 2872064.00                               |    | 9598757.08         |    | 825702.00          |    | 8773055.08                    |    | 18932056.14                           |    |
| 8       | Vehicle                  | 33.33%               | 9436832.45                    |    | 1807014.00                               |    | 11243846.45        |    | 3494970.00         |    | 7748876.45                    |    | 41415856.13                           |    |
|         | <b>Total</b>             |                      | <b>57688070.43</b>            |    | <b>33569462.00</b>                       |    | <b>91257532.43</b> |    | <b>14202964.00</b> |    | <b>77054568.43</b>            |    | <b>328177436.88</b>                   |    |

Chennai - 600 032  
Date: 27/12/2013

for Velu & Co., FR.NO : 004589 S  
Chartered Accountants

S.d/- S.d/- S.d/- S.d/-  
K.Chitra B.Com,MBA,FCA. S. Nazir Hussain BBA., A.V. Venkatachalam, I.F.S., Dr.D.Karthikeyan IAS., P.T. Jayakumar [M.No. 200239]  
Senior Manager (F&A) Financial Adviser Member Secretary Chairman Partner

**SCHEDULE FORMING PART OF  
RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2013.**

**RECEIPTS**

**SCHEDULE - A  
Services & Rental Charges**

| SL.No | DESCRIPTION                | Rs.                 | Ps. |
|-------|----------------------------|---------------------|-----|
| 1     | Air Ambient Quality Survey | 58414404.00         |     |
| 2     | Analysis Charges           | 40042850.00         |     |
| 3     | Bio Medical Management     | 913450.00           |     |
| 4     | Cess Appeal Fees           | 1450.00             |     |
| 5     | GEMS / MINARS / NAMP       | 2643347.00          |     |
| 6     | Noise Leavel Measurement   | 61400.00            |     |
| 7     | Others                     | 9000.00             |     |
|       | <b>TOTAL</b>               | <b>102085901.00</b> |     |

**SCHEDULE - B  
MISCELLANEOUS RECEIPTS**

| SL.No | DESCRIPTION                    | Rs.               | Ps. |
|-------|--------------------------------|-------------------|-----|
| 1     | Environment Training Institute | 1679835.00        |     |
| 2     | Interest on Loans & Advance    | 137813.00         |     |
| 3     | Miscellaneous Income           | 296521.00         |     |
| 4     | Others                         | 2718.00           |     |
| 5     | Prior period Adustment account | 221942.00         |     |
| 6     | Public Hearing                 | 1946637.00        |     |
| 7     | Right to Information Fees      | 45880.00          |     |
| 8     | Sale of legal Books            | 20330.00          |     |
|       | <b>TOTAL</b>                   | <b>4351676.00</b> |     |

**SCHEDULE FORMING PART OF  
RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2013.**

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

| SL.NO | DESCRIPTION             | Rs.              | Ps. |
|-------|-------------------------|------------------|-----|
| 1     | Computer Advance        | 131450.00        |     |
| 2     | Festival Advance        | 4600.00          |     |
| 3     | Leave Travel Concession | 1996.00          |     |
| 4     | Others                  |                  |     |
| 5     | Temporary Advance       | 665872.00        |     |
| 6     | Tour Advance            | 36121.00         |     |
| 7     | Vehicle Advance         | 5196.00          |     |
|       | <b>TOTAL</b>            | <b>845235.00</b> |     |

**SCHEDULE - D  
ADVANCES AND DEPOSITS**

| SL.NO | DESCRIPTION                             | Rs.                 | Ps. |
|-------|---|---------------------|-----|
| 1     | Cess received in advance                | 21414204.20         |     |
| 2     | Consent Fees received in advance        | 419506112.60        |     |
| 3     | Analysis Fees Advance                   | 2976460.00          |     |
| 4     | AAQS Fees Advance                       | 51300.00            |     |
| 5     | Others - Court Deposit                  | 4414200.00          |     |
| 6     | Miscellaneous Deposit                   | 80380.00            |     |
| 7     | SEIAA/SEAC                              | 12776027.00         |     |
| 8     | Noyal River Ayacutdars Protection Assn. | 509094005.01        |     |
|       | <b>TOTAL</b>                            | <b>970312688.81</b> |     |

**SCHEDULE FORMING PART OF  
RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2013.**

**PAYMENT  
SCHEDULE - E  
MISCELLANEOUS**

| SL.NO | DESCRIPTION                       | Rs.                 | Ps. |
|-------|-----------------------------------|---------------------|-----|
| 1     | AAQS Expenses                     | 335396.00           |     |
| 2     | Advertisement & Publicity         | 610552.00           |     |
| 3     | Appellate Authority Expenses      | 360650.00           |     |
| 4     | Bank interest and commission      | 78454.50            |     |
| 5     | Board Meeting Expenses            | 982155.00           |     |
| 6     | Contract Charges / Wages          | 20898066.00         |     |
| 7     | Conveyance                        | 1053337.00          |     |
| 8     | Electricity / Water Charges       | 7688781.00          |     |
| 9     | Entertainment                     | 94244.00            |     |
| 10    | Environmental Pavilion Expenses   | 98180.00            |     |
| 11    | ETI Expenses                      | 870653.00           |     |
| 12    | Family Benefit Fund               | 128298.00           |     |
| 13    | Financial Assistance for projects | 552868.00           |     |
| 14    | Land Maintenance Expenses         | 174462.00           |     |
| 15    | Leave Travel Concession           | 614389.00           |     |
| 16    | Miscellaneous Expenses            | 409497.00           |     |
| 17    | Newspaper & periodicals           | 287078.00           |     |
| 18    | Office Expenses                   | 2374213.00          |     |
| 19    | Outstanding Expenses              | 2464998.00          |     |
| 20    | Petty Cash Expenses               | 722931.00           |     |
| 21    | Pollution Awareness Expenses      | 114986175.00        |     |
| 22    | Postage / Telegram                | 1460780.00          |     |
| 23    | Printing and Stationery           | 3951629.00          |     |
| 24    | Property tax                      | 784090.00           |     |
| 25    | Project Study Receivable          | 844838.00           |     |
| 26    | Rent                              | 7263321.00          |     |
| 27    | Staff Welfare Expenses            | 3682192.00          |     |
| 28    | Telephone and Telex               | 3355476.00          |     |
| 29    | Trade Fair                        | 50426.00            |     |
| 30    | Training and Seminar              | 944365.00           |     |
| 31    | Travelling expenses               | 4854135.00          |     |
| 32    | Turn duty and Overtime Allow.     | 63864.00            |     |
|       | <b>TOTAL</b>                      | <b>183040493.50</b> |     |



**SCHEDULE FORMING PART OF  
RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2013.**

**PAYMENT**

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

| <b>SL.NO</b> | <b>DESCRIPTION</b>        | <b>Rs.</b>        | <b>Ps.</b> |
|--------------|---------------------------|-------------------|------------|
| 1            | Festival Advance          | 1301414.00        |            |
| 2            | Handloom Advance          | 197570.00         |            |
| 3            | Leave Travel Concession   | 175183.00         |            |
| 4            | Marriage Advance          | 10000.00          |            |
| 5            | Motor Vehicle Advance     | 3133421.00        |            |
| 6            | Other Advance             | 4000.00           |            |
| 7            | Personal Computer Advance | 294500.00         |            |
| 8            | Temporary Advance         | 3658043.00        |            |
| 9            | Tour Advance              | 200273.00         |            |
| 10           | Pay Advance               | 48000.00          |            |
|              | <b>TOTAL</b>              | <b>9022404.00</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    | 22014315.00        |            |
| 2            | Telephone Deposit       | 6366.00            |            |
| 3            | Earnest Money Deposit   | 1322000.00         |            |
| 4            | Other Advance/Deposit   | 2000.00            |            |
| 5            | Rent Advance            | 480000.00          |            |
| 6            | Retention Money Deposit | 22278.00           |            |
| 7            | Security Deposit        | 73806.00           |            |
| 8            | National Green Tribunal | 1698435.00         |            |
|              | <b>TOTAL</b>            | <b>25619200.00</b> |            |

**SCHEDULE FORMING PART OF  
RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2013.**

EXPENDITURE

**SCHEDULE - H  
ALLOWANCES AND HONORARIA**

| SL.NO | DESCRIPTION                                 | Rs.                 | Ps. |
|-------|---|---------------------|-----|
| 1     | Allowances                                  | 172817022.42        |     |
| 2     | Bonus                                       | 1535545.00          |     |
| 3     | Contributory Pension Scheme                 | 1056039.00          |     |
| 4     | Health Insurance / Family benefit fund exp. | 391185.00           |     |
| 5     | Leave Travel Concession Expenses            | 753340.00           |     |
| 6     | Medical Reimbursement                       | 1731365.00          |     |
| 7     | Pay Commision Arrears                       | 10882007.00         |     |
| 8     | Special Provident Fund-Board's Contribution | 200000.00           |     |
| 9     | Travelling Expenses                         | 5020009.00          |     |
| 10    | Turn Duty and Overtime Allowances           | 74103.00            |     |
|       | <b>TOTAL</b>                                | <b>194460615.42</b> |     |

**SCHEDULE - I  
RUNNING AND MAINTENANCE OF VEHICLES**

| SL.NO | DESCRIPTION  | Rs.               | Ps. |
|-------|--------------|-------------------|-----|
| 1     | Fuel         | 5988685.86        |     |
| 2     | Hire Charges | 1068500.00        |     |
| 3     | Insurance    | 607732.00         |     |
| 4     | Repairs      | 1978585.00        |     |
|       | <b>TOTAL</b> | <b>9643502.86</b> |     |

**SCHEDULE FORMING PART OF  
RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2013.**

EXPENDITURE

**SCHEDULE - J  
MISCELLANEOUS**

| SL.NO | DESCRIPTION                               | Rs. | Ps.                 |
|-------|---|-----|---------------------|
| 1     | Air Ambient Quality Survey Expenses       |     | 560546.00           |
| 2     | Advertisement & Publicity                 |     | 615549.00           |
| 3     | Appellate Authority Expenses              |     | 1882042.00          |
| 4     | Bank Charges                              |     | 27395.13            |
| 5     | Board Meeting / Other meeting Expenses    |     | 1583705.00          |
| 6     | Contract Charges / Wages                  |     | 23330951.00         |
| 7     | Conveyance Expenses                       |     | 1163321.00          |
| 8     | Electricity & Water Charges               |     | 9864235.00          |
| 9     | Entertainment Expenses                    |     | 341505.00           |
| 10    | Environmental Pavilion Expenses           |     | 98180.00            |
| 11    | Environmental Training Institute Expenses |     | 1086669.00          |
| 12    | Expenses of audit                         |     | 13715.00            |
| 13    | Financial Assistance to Projects          |     | 1357743.00          |
| 14    | Insurance of Assets                       |     | 44382.00            |
| 15    | Land Maintenance Expenses                 |     | 177207.00           |
| 16    | Newspaper and Periodicals                 |     | 337845.00           |
| 17    | Office Expenses                           |     | 3149216.00          |
| 18    | Pollution Awareness Expenses              |     | 116000442.00        |
| 19    | Postage Expenses                          |     | 1573744.00          |
| 20    | Printing & Stationery                     |     | 4240809.00          |
| 21    | Property Tax and Rates                    |     | 784090.00           |
| 22    | Public hearing expenses                   |     | 1456424.00          |
| 23    | Rent on Buildings                         |     | 7755301.00          |
| 24    | Staff Welfare Expenses                    |     | 2712676.00          |
| 25    | Sundries                                  |     | 414026.00           |
| 26    | Telephone Expenses                        |     | 3521643.00          |
| 27    | Trade Fair Expenses                       |     | 61594.00            |
| 28    | Training and Seminar Expenses             |     | 1424017.00          |
|       | <b>TOTAL</b>                              |     | <b>185548972.13</b> |

**SCHEDULE FORMING PART OF  
RECEIPTS AND PAYMENTS ACCOUNT  
FOR THE YEAR ENDED ON 31st MARCH 2013.**

INCOME

**SCHEDULE - K  
FEES**

| SL.NO | DESCRIPTION   | Rs.                 | Ps.       |
|-------|---------------|---------------------|-----------|
| 1     | Consent Fees  | 940723437.16        |           |
| 2     | Consent Forms |                     | 411350.00 |
|       | <b>TOTAL</b>  | <b>941134787.16</b> |           |

**SCHEDULE - L  
SERVICES AND RENTAL CHARGES**

| SL.NO | DESCRIPTION                | Rs.                 | Ps.      |
|-------|----------------------------|---------------------|----------|
| 1     | Air Ambient Quality Survey | 58459248.00         |          |
| 2     | Analysis Charges           | 40074250.00         |          |
| 3     | NAAQM / NAMP / GEMS        | 2643347.00          |          |
| 4     | Noise level survey fees    |                     | 61400.00 |
|       | <b>TOTAL</b>               | <b>101238245.00</b> |          |

**SCHEDULE - M  
MISCELLANEOUS**

| SL.NO | DESCRIPTION                                | Rs.               | Ps.      |
|-------|--|-------------------|----------|
| 1     | Bio-Medical Waste Authorisation Fees       | 915700.00         |          |
| 2     | Cess Appeal Fees                           |                   | 1450.00  |
| 3     | Environmental Training Inst. - Course fees | 1679835.00        |          |
| 4     | Fees for Right to Information              | 46186.00          |          |
| 5     | Hazardous Waste Authorisation Fees         | 9000.00           |          |
| 6     | Interest on Loans & Advance                | 445990.00         |          |
| 7     | Miscellaneous Income                       | 258838.00         |          |
| 8     | Profit on sale of assets                   |                   | 1928.00  |
| 9     | Public Hearing                             | 3407750.00        |          |
| 10    | Sale of Books                              |                   | 20330.00 |
|       | <b>TOTAL</b>                               | <b>6787007.00</b> |          |

**SCHEDULE FORMING PART OF BALANCE SHEET  
AS ON 31st MARCH 2013.**

**SCHEDULE-N  
EARMARKED FUND**

**PENSION FUND ACCOUNT**

| SL.NO | DESCRIPTION                           | AMOUNT               |
|-------|---------------------------------------|----------------------|
| 1     | Opening balance as on 01-04-12        | 1210245390.00        |
|       | Add: Interest @ 6%                    | 72614723.00          |
|       |                                       | 1282860113.00        |
|       | Less: Disbursement from fund          |                      |
|       | a) Pension disbursed by Corp. Office  | 19579202.00          |
|       | b) Pension disbursed by Units         | 8327219.00           |
|       |                                       | 27906421.00          |
|       | Add: Contribution to the Fund         | 1254953692.00        |
|       | <b>Closing balance as on 31-03-13</b> | <b>212915396.00</b>  |
|       |                                       | <b>1467869088.00</b> |

**EARN LEAVE ENCASHMENT FUND**

| SL.NO | DESCRIPTION                           | AMOUNT              |
|-------|---------------------------------------|---------------------|
| 2     | Opening balance as on 01-04-12        | 133126168.00        |
|       | Add: Interest @ 6%                    | 7987570.00          |
|       |                                       | 141113738.00        |
|       | Less: Disbursement from fund          |                     |
|       | a) Disbursement to retirees-Board     | 5430806.00          |
|       | b) Disbursement to retirees-Units     | 1758610.00          |
|       |                                       | 7189416.00          |
|       | Add: Contribution to the Fund         | 133924322.00        |
|       | <b>Closing balance as on 31-03-13</b> | <b>16614431.00</b>  |
|       |                                       | <b>150538753.00</b> |

**DEPRECIATION FUND ACCOUNT**

| SL.NO | DESCRIPTION                           | AMOUNT              |
|-------|---------------------------------------|---------------------|
| 3     | Opening balance as on 01-04-12        | 389020751.18        |
|       | Add: Interest @ 6%                    | 23341245.00         |
|       |                                       | 412361996.18        |
|       | Add: Current year's Depreciation      | 14202964.00         |
|       | <b>Closing balance as on 31-03-13</b> | <b>426564960.18</b> |

**SCHEDULE FORMING PART OF BALANCE SHEET  
AS ON 31st MARCH 2013.**

LIABILITIES

**SCHEDULE - O  
OTHER DEPOSITS**

| SL.NO | DESCRIPTION              | Rs.                | Ps. |
|-------|--------------------------|--------------------|-----|
| 1     | Earnest Money Deposit    | 2180300.00         |     |
| 2     | Deposit- Court           | 75409590.23        |     |
| 3     | Miscellaneous Deposits   | 238994.00          |     |
| 4     | Retention Money Deposits | 619637.00          |     |
| 5     | Security Deposits        | 1871143.00         |     |
|       | <b>TOTAL</b>             | <b>80319664.23</b> |     |

**SCHEDULE - P  
OTHER LIABILITIES**

| SL.NO | DESCRIPTION                       | Rs.                | Ps. |
|-------|-----------------------------------|--------------------|-----|
| 1     | Others                            | 1694034.00         |     |
| 2     | SEIAA Payable                     | 12555512.00        |     |
| 3     | Outstanding Liability             | 27384923.00        |     |
| 4     | Pay Roll Liabilities              | 3384823.00         |     |
| 5     | Staff Claim Payable               | 199825.00          |     |
| 6     | Tax Deducted at Source (Officers) | 258105.00          |     |
| 7     | Tax Deducted at Source (Others)   | 21930.00           |     |
|       | <b>TOTAL</b>                      | <b>45499152.00</b> |     |

**SCHEDULE - Q  
INCOME RECEIVED IN ADVANCE**

| SL.NO | DESCRIPTION                  | Rs.                 | Ps. |
|-------|------------------------------|---------------------|-----|
| 1     | Cess Fees                    | 23194000.20         |     |
| 2     | Consent Fees                 | 436326028.60        |     |
| 3     | Analysis charges             | 2976460.00          |     |
| 4     | Air Ambient Quality Services | 51300.00            |     |
|       | <b>TOTAL</b>                 | <b>462547788.80</b> |     |

**SCHEDULE FORMING PART OF BALANCE SHEET  
AS ON 31st MARCH 2013.**

**ASSETS**

**SCHEDULE - R  
MISCELLANEOUS ADVANCES**

| <b>SL.NO</b> | <b>DESCRIPTION</b>      | <b>Rs.</b>          | <b>Ps.</b> |
|--------------|-------------------------|---------------------|------------|
| 1            | Advance to Suppliers    | 16683549.00         |            |
| 2            | Interest Receivable     | 455928170.00        |            |
| 3            | Land Advance            | 1348501.00          |            |
| 4            | Other Advance (Imprest) | 5000.00             |            |
| 5            | Rent Advance            | 1895272.15          |            |
| 6            | NGT - Receivable        | 1774832.00          |            |
|              | <b>TOTAL</b>            | <b>477635324.15</b> |            |

**SCHEDULE - S  
ADVANCES TO STAFF**

| <b>SL.NO</b> | <b>DESCRIPTION</b>                | <b>Rs.</b>         | <b>Ps.</b> |
|--------------|-----------------------------------|--------------------|------------|
| 1            | Festival Advance                  | 992600.00          |            |
| 2            | Handloom Advance                  | 135430.00          |            |
| 3            | LTC Advance                       | 36190.00           |            |
| 4            | Marriage Advance                  | 21405.00           |            |
| 5            | Motor Vehicle Advance             | 10375855.00        |            |
| 6            | Other Advance (Cellphone Advance) | 1200.00            |            |
| 7            | Personal Computer Advance         | 5343196.00         |            |
| 8            | Temporary Advance                 | 500610.00          |            |
| 9            | Tour Advance                      | 120690.00          |            |
|              | <b>TOTAL</b>                      | <b>17527176.00</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                 | 986608.00         |            |
| 3            | Gas Deposit (Miscellaneous deposit) | 3000.00           |            |
| 4            | Telephone & Telex Deposit           | 1040913.00        |            |
|              | <b>TOTAL</b>                        | <b>2326073.00</b> |            |

## Notes Forming Part of the Accounts for the year ended 31<sup>st</sup> March 2013.

### 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 up to 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 conducted regularly and the Internal Audit Report 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.13,48,501/- which is yet to be capitalized pending registration.

**f) Advance to suppliers:**

Rs 30,04,269/- 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.           |
|----------------------------|---------------|
| i) Thermal Power Stations. | 418.95 crores |
| iv) Local bodies           | 110.68 crores |

**h) Income Tax:**

No Provision for Income Tax has been made. The Board has applied for exemption u/s 10(46) of the Income Tax Act of 1961 and the notification is awaited.

**i) Project Study Receivable:**

Rs.71,12,878/- 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>                  | 31-03-2013    |
| <b>Employee Profile</b>                   |               |
| Age of Retirement                         | 58 / 60 years |
| No. of Employees                          | 611           |
| Total monthly relevant salary for pension | 2,33,52,674/- |
| No. of pensioners                         | 95            |
| Total monthly pension                     | 15,09,317/-   |
| No. of family pensioners                  | 46            |
| Total monthly family pension              | 4,85,197/-    |

**Assumptions as per AS 15R**

|  |       |
|--|-------|
| Discount rates as per Para 78                        | 8.00% |
| Salary escalation fixed as per Para 83-91 and 120(1) | 4.00% |
| Pension Escalation Rate ( DA Increase)               | 7.00% |
| Attrition rate fixed                                 | 1.00% |

|                                    |                    |
|------------------------------------|--------------------|
| <b>Funding mechanism</b>           | Earmarked deposits |
| <b>Present value of obligation</b> | 146,78,69,088/-    |

**k) Earn Leave Encashment Fund:**

The assumptions for valuation are as under:

**Date of Valuation** 31-03-2013

**Employee Profile**

|  |               |
|--|---------------|
| Age of Retirement                                  | 58 / 60 years |
| No. of Employees                                   | 611           |
| Total monthly relevant salary for leave encashment | 2,33,52,674/- |
| Average Age  | 50.80         |
| Average past service                               | 22.30         |
| No. of leave days (EL)                             | 1,46,640      |
| Decrement adjusted /estimated future service       | 7.00          |

**Assumptions as per AS 15R**

|   |        |
|---|--------|
| Discount rates as per Para 78                         | 8.00%  |
| Expected rate of return computer as per Paras 107-109 | 0.00%  |
| Salary escalation fixed as per Para 83-91 and 120(1)  | 4.00%  |
| 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% |

**Funding mechanism** Earmarked deposits

**Present value of obligation** 15,05,38,753/-

**L) Contingent Liability:**

1. Claim towards professional charges of Rs.6,00,000/- which is disputed by the Board and hence not provided for.
2. 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%.

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

**N) 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.24.10 crores is due from NRAPA.

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

Nil

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

**Date:27-12-2013**

**Place: Chennai**

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