



491



# TAMIL NADU POLLUTION CONTROL BOARD



## ABSTRACT

**TNPCB – FIXATION OF INLET QUALITY STANDARDS FOR THE TEXTILE COMMON EFFLUENT TREATMENT PLANTS (CETPs) HAVING ZERO LIQUID DISCHARGE (ZLD) SYSTEM AS PER THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE, GOVERNMENT OF INDIA NOTIFICATION S.O.4(E) DATED: 01.01.2016, BY THE TAMILNADU POLLUTION CONTROL BOARD - ORDERS - ISSUED.**

**B.P.No.46**

**Dated: 24.07.2024**

- Ref: 1. MoEF & CC vide Notification S.O.4(E) dated: 01.01.2016  
2. Board Resolution No. 294-2-3 dated 12.07.2024

## **ORDER**

In Tamilnadu, Textile bleaching and dyeing units are located in clusters at the Districts of Tiruppur, Karur, Salem, Namakkal, Erode, Coimbatore, and Kanchipuram. They have formed CETP Companies with the subsidies of Central and State Government and remaining by their own fund and borrowed loan from banks and they provided ZLD system to treat & dispose the wastewater/trade effluent generated from its member units. There are 20 Textile CETPs functioning in the State of Tamilnadu. Out of 19 CETPs in the offices of Tiruppur (North), Tiruppur (South) and Perundurai of TNPC Board, 18 CETPs are located at Tiruppur District and 1 CETP at Perundurai Taluk of Erode District and have established the Zero Liquid Discharge (ZLD) system consisting of Reverse Osmosis and Reject Management System.

The Government of India, MoEF & CC vide Notification S.O.4(E) dated: 01.01.2016 followed by CPCB vide letter dated 07.03.2023 has instructed SPCBs to prescribe Inlet Quality Standards for the wastewaters received from their member units by the CETP and general parameters such as pH, Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Fixed Dissolved Solids (TDS) and specific parameters such as Ammoniacal-Nitrogen and Heavy metals by each of the CETPs, according to the design of CETPs and local needs & conditions prevailing in the area of location.

Moreover, during Performance Audit conducted by the CPCB, Delhi on 20.05.2019 & 21.05.2019 in the office of TNPCB, Chennai, it was observed that the inlet quality standards for CETPs, was not fixed by TNPCB and instructed to fix the same.

In this regard, in order to fix Inlet Quality Standards for Common Effluent Treatment Plants, Board entrusted the work to M/s.The South India Textile Research Association, Coimbatore to carry out study for fixing inlet quality standards for all 20 Textile CETPs, as per MoEF Notification dated 01.01.2016 and furnish the same.

Subsequently, SITRA, Coimbatore has furnished "Draft Report on the Study on Fixing of Inlet Quality Standards for the CETPs in Tamil Nadu – March 2021" for 19 CETPs. Based on the report, SITRA has recommended the values for inlet quality of effluents for 38 Nos. of General and specific parameters to 19 Textile CETPs and furnished the following recommendations for minimizing the effluent load:-

**a) Suggestions to processing member units of the CETPs**

- Use low liquor ratio machines and replace old technology machinery from time to time.
- Use chemicals which have bio-degradability greater than 70% and are eco-friendly in nature.
- Establish standard operating procedures for dyeing, bleaching and other processes.
- Implement strict process and quality control measures to minimize reprocessing.
- Try to adopt bio-scouring instead of chemical methods of scouring wherever possible.
- Use salt free dyeing techniques viz., cationization prior to dyeing, Cold Pad Batch techniques, etc and minimize the TDS levels in the effluents.
- Use dyes which have an exhaustion rate of 75 to 80% and above. Ensure that the remnant colour value in the effluent is as minimum as possible.
- Carryout testing of incoming chemicals and dyestuffs prior to use in the dyeing unit.
- Where necessary, third party testing may be used for checking of incoming quality of raw materials.



493



## TAMIL NADU POLLUTION CONTROL BOARD



- Try to reuse the wash liquors for other processes to minimize the water consumption further.
- Explore alternate technologies viz., super critical carbon dioxide for dyeing of synthetic materials, plasma pre-treatment, dyeing with natural dyes, etc.

### b) Suggestions to CETPs, which receives waste water and further treated as per the CETPs design

- Collect homogenous effluents after stabilization from member mills, if possible.
- Use of chlorine or other oxidizing agents which can destroy the colour of effluents without generating much of solid waste may be explored.
- Avoid using chemicals such as Coagulating & flocculating agents, polymers, etc as they would result in large amount of solid waste.
- Combination of chemical and biological methods of effluent treatment seems to give better results in terms of efficacy of the treatment and cost of effluent treatment.
- By proper decolourisation and pre-treatment, the purity and usability of brine solution recovered salt obtained from subsequent treatments can be enhanced.
- Instead of using blowers for aeration, use of combination of oxygen cylinders and blowers may be explored to reduce the power consumption.
- All the critical parameters shall be monitored and recorded at each stages of effluent treatment.
- Testing of effluents each month by third party testing labs may increase the confidence in operational efficiency.
- Storage yards of recovered salts, other solid wastes may be well protected and frequently monitored.
- Have constant interaction with the member mills with regard to use of chemicals which can hamper the effluent treatment process.
- Newer technologies available for effluent treatment may be adopted to reduce the cost of treatment.

In view of the above, the Board has requested the DEEs of Tiruppur(North), Tiruppur(South) and Perundurai to furnish their remarks and recommendations on the said report, to the Board and the respective DEEs have furnished their remarks, to the Board.

Based on that, a comparative statement showing the design parameters of the 19 Textile CETPs obtained from the DEEs of Tiruppur(North & South) and Perundurai, as per their Detailed Project Report and Inlet Quality Standards for parameters furnished by SITRA was prepared and discussed before the Virtual meeting held on 30.03.2023 at the TNPC Board with SITRA and representatives of 19 CETPs. Later, the DEEs of Tiruppur(North), Tiruppur(South) and Perundurai were requested to communicate the above said statement to each CETPs of their jurisdiction and to obtain their concurrence after making corrections by way of conducting meeting with them and then furnish the report to the Board.

Accordingly, the DEEs of Tiruppur(North & South) and Perundurai have furnished the details of Inlet Quality Standards to be fixed for the 19 Textile CETPs and the same are furnished as ANNEXURE, which contains pH, BOD (3 days), COD, TSS, FDS (here TDS), Chlorides & Sulphates as General Parameters and Specific Parameters as Alkalinity and Total Hardness (for Perundurai CETP alone) applicable to their member units of CETPs.

Further, the TNPCB have mentioned outlet standards as Inland Surface Water Standards for all CETPs, while issuing Consent to Operate of the TNPCB even though the CETPs have installed ZLD system, the permeate from membranes and condensate from MEE are supplied back to member units, for their utilization in bleaching and dyeing process. The remaining in ATFD to get mixed salt, thus achieves Zero Liquid Discharge.

It is also submitted that under Section 17 of Water (Prevention and Control of Pollution) Act, 1974 as amended permit the SPCB to lay down effluent standards, to be complied with by persons while causing discharge of sewage or sullage or both and to lay down, modify or annul effluent standards for the sewage and trade effluents and due compliance of MoEF & CC Notification S.O. 4(E) dated: 01.01.2016.



## TAMIL NADU POLLUTION CONTROL BOARD



Hence, in due compliance of the above, it was decided to place the subject before the Board to fix the Inlet Quality Standards as in **ANNEXURE** which contains pH, BOD (3 days), COD, TSS, FDS (here TDS), Chlorides & Sulphates as General Parameters for all 19 CETPs (Textile Bleaching and Dyeing units) & member units and Specific Parameters as Alkalinity and Total Hardness for Perundurai CETP and its member units alone in addition to these General Parameters, so that the effluents can be treated subsequently in CETPs, which have installed and operating Zero Liquid Discharge System consisting of RO, RMS and ATFD system and achieving ZLD system.

The subject was placed before the Board meeting held on 12.07.2024. The Board in its Resolution No.294-2-3 dated 12.07.2024 has resolved to approve to fix Inlet Quality Standards as in **ANNEXURE** which contains pH, BOD (3 days), COD, TSS, FDS (here TDS), Chlorides & Sulphates as General Parameters for all 19 CETPs (Textile Bleaching and Dyeing units) & member units and Specific Parameters as Alkalinity and Total Hardness for Perundurai CETP and its member units alone in addition to these General Parameters, so that the effluents can be treated subsequently in CETPs, which have installed and operating Zero Liquid Discharge System consisting of RO, RMS and ATFD system and achieving ZLD system.

*J. J. J. J.*  
25/7/2024  
For Chairperson

### To

1. All Joint Chief Environmental Engineers (Monitoring),  
Tamil Nadu Pollution Control Board
2. All District Environmental Engineers,  
Tamil Nadu Pollution Control Board
3. All Environmental Engineers (Flying Squad),  
Tamil Nadu Pollution Control Board

### Copy to

1. The Additional Chief Environmental Engineer,  
Tamil Nadu Pollution Control Board,  
Chennai-32.

*Deef*  
25/7/2024

2. All Joint Chief Environmental Engineers,  
Tamil Nadu Pollution Control Board,  
Chennai-32.
3. PS to Chairperson & PA to Member Secretary,  
Tamil Nadu Pollution Control Board,  
Chennai-32.
4. BMS Section,  
Tamil Nadu Pollution Control Board,  
Chennai-32.
5. File

Chennai-32  
11/11/20

## Annexure

### Inlet Quality Standards fixed for 19 Textile CETPs

S. No	Name of CETPs	Treatment System	Inlet Parameters						
			pH	Total Suspended Solids	Total Dissolved Solids	Biological Oxygen Demand	Chemical Oxygen Demand	Chlorides	Sulphates
1.	M/s. Andipalayam Common Effluent Treatment Plant Pvt. Limited, Tiruppur	ZLD	9-11	200-250	9000-10000	400-600	1500-2000	1000-1600	3500-4500
2.	M/s. Angeripalayam Common Effluent Treatment Plant Limited, Tiruppur	ZLD	9-11	100-300	9000-12000	300-400	1000-1800	3000-4000	3500-5000
3.	M/s. Chinnakkarai Common Effluent Treatment Plant Private Limited, Tiruppur	ZLD	8-10	150-350	9500-10500	250-350	1400-1600	1600-2000	2900-3500
4.	M/s. Eastern Common Effluent Treatment Company Private Limited, Tiruppur	ZLD	9-11	100-200	9000-10000	400-500	1600-1800	800-1000	4000-5000
5.	M/s. Kallikadu Common Effluent Treatment Plant Private Limited, Tiruppur	ZLD	8.5-11	200-300	6000-10000	300-400	1000-1600	3000-4000	400-1800
6.	M/s. Kasipalayam Common Effluent Treatment Plant Private Limited, Tiruppur	ZLD	9-10	150-200	9000-10000	500-600	1800-2000	1000-1200	4000-5000
7.	M/s. Mangalam Common Effluent Recycling Technologies India (P) Ltd, Tiruppur	ZLD	9-11	400-600	10000-11500	500-600	1600-1800	1000-1600	4500-6000
8.	M/s. Mannarai Common Effluent Treatment Plant (P) Limited, Tiruppur	ZLD	8.5-11	150-300	9000-10000	400-500	1600-1800	1200-1500	5000-6000
9.	M/s. Park Common Effluent Treatment Plant Private Ltd, Tiruppur	ZLD	8.5-9.5	350-450	9000-10000	350-450	1500-1800	5000-6000	500-1000
10.	M/s. Rayapuram Common Effluent Treatment Plant Pvt Ltd, Tiruppur	ZLD	8-10	150-250	9000-10000	250-350	1200-1600	1000-1800	3800-5300

11.	M/s. Sirupooluvapatti Common Effluent Treatment Plant Private Limited, Tiruppur	ZLD	9.5-10.5	150-200	10000-11000	300-400	1400-1800	900-1100	4500-5500
12.	M/s. S.Periyapalayam Common Effluent Treatment Plant Private Limited, Tiruppur	ZLD	8-10	150-200	9000-10000	200-300	1200-1600	900-1000	4000-5000
13.	M/s. Tiruppur Murugampalayam Common Effluent Treatment Company Pvt. Ltd, Tiruppur	ZLD	9-11	100-200	10000-11000	400-500	1600-1800	1500-2000	4500-5000
14.	M/s. Veerapandi Common Effluent Treatment Plant Limited, Tiruppur	ZLD	9-11	150-200	10000-11000	300-400	1600-1800	800-1000	4000-5000
15.	M/s. Vettuvapalayam Common Effluent Treatment And Recycling Plant Private Limited. (Bleaching Unit), Tiruppur	ZLD	9.5-10.5	100-200	3000-4500	300-400	1000-1200	1200-1800	400-500
16.	M/s.Arulpuram Common Effluent Treatment Company Pvt Ltd, Tiruppur	ZLD	9-11	150-300	10000-11000	400-600	1600-1900	1200-2000	4000-5000
17.	M/s.Kunnankalpalayam Common Effluent Treatment Plant Private Limited, Tiruppur	ZLD	9-10	200-300	9500-10500	500-600	1800-2000	1500-1900	3000-4000
18.	M/s.Karaipudur Common Effluent Treatment Plant Pvt. Ltd, Tiruppur	ZLD	9-11	300-400	9000-11000	80-100	1400-1800	800-1000	4000-5000
19.	M/s.Perundurair Common Effluent Treatment Plant (Textiles), Perundurair	ZLD -Wash Water	7-11	300-400	2100-3000	500-900	1000-1800	ALKALINITY 1500	TOTAL HARDNES S 200-300
		ZLD -Dye Bath	7-12	500-800	35000-55000	700-900	1400-2000	ALKALINITY 1500-9000	TOTAL HARDNES S 300-500

*J. Arundhan*  
25/07/2024

For Chairperson

*Deep*  
25/07/2024