TAMIL NADU POLLUTION CONTROL BOARD

Abstract

TNPCB - Instructions to the textile bleaching, dyeing and printing units who have provided / proposed to provide Zero Liquid Discharge system shall provide mechanical evaporator followed by Agitated Thin Film Dyer – Orders Issued - Reg.

B.P.No. 31 **Dated 30.07.2018**

Board Resolution No. 274-1-19, Dated 26.07.2018

ORDER

Zero Liquid discharge (ZLD) system completely eliminates the liquid discharge from a system by reducing the volume of wastewater that requires further treatment and producing a clean stream suitable for reuse and the provision of ZLD results in the reduction in the pollution of land and water bodies. The trade effluent generated from industries after primary, secondary and tertiary treatment is sent to Reverse Osmosis, Nano-Filtration, Mechanical Vacuum Re-compressor Evaporator/Multiple Effect Evaporator, Agitated Thin Film Dryer / Solar Evaporation Pan so as to meet ZLD.

As per orders of the Hon'ble High Court of Madras, TNPCB has made mandatory that all the textile processing units operating in Tamil Nadu to install Zero Liquid Discharge (ZLD). Accordingly the textile processing units in Tamil Nadu have provided ZLD plant either by way of Individual Effluent Treatment Plant (IETP) or Common Effluent Treatment Plant (CETP).

In the ZLD plant, the treatment of Reverse Osmosis (RO) plant rejects which is having high concentration of Total Dissolved Solids (TDS) is major concern. The CETPs and majority of the large scale units having IETP have provided Mechanical

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Evaporators followed by Solar Evaporation / Agitated Thin Film Dryer and recover salt in crystal form. This ensure zero liquid discharge.

Whereas the majority of small scale units and some of medium/large scale units who are having IETPs are directly discharging the final RO reject into solar evaporation. The solar evaporation pan occupies a huge land area. For disposal of 10 KL of RO reject, it requires minimum 2220 sq.m area of evaporation pan. More over during the rainy season, the solar pan overflows and the high TDS effluent pollute the ground water and the nearby water bodies. In some cases, it has been found that there are cracks in the solar pan/damages in HDPE liner which allows for seepage of high TDS effluent into the ground. Details of units having solar pan, ME & ATFD is given in Annexure-I. Cost estimate for establishing ME & ATFD for a 100 KLD trade effluent generating unit is given in Annexure-II. Accordingly, for 100 KLD trade effluent generating unit, the capital cost for establishment of ME&ATFD is Rs. 28 lakhs. Operating cost is Rs. 0.80/litre of RO reject. Overall operating cost including ETP, RO & RMS is Rs. 0.25 - 0.30 paise per litre of trade effluent.

The subject was discussed in the review meeting conducted by the Hon'ble Minister for Environment held on 17.07.2018 along with all the JCEEs (M) and all the DEEs at Head office. In the meeting it was unanimously recommended for directing all the textile bleaching, dyeing and printing units to go for ME & ATFD to meet ZLD and avoid solar evaporation pan.

Considering the above and in order to avoid environmental damages due to storing of high TDS effluent in solar evaporation pan, it was proposed to give the following direction:-

All the existing IETP textile bleaching, dyeing and printing units who have now provided solar evaporation pan for disposal of final RO reject shall switchover to mechanical evaporator followed by Agitated Thin Film Dryer within six months. On

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commissioning of the Mechanical evaporator and ATFD, the existing solar evaporation shall be completely dismantled and the area should be reclaimed for other beneficial use.

The subject was placed before the Board in the meeting held on 25.07.2018, and the Board vide Resolution No. 274-1-19 resolved to approve the proposal of instructing **all the existing IETPs of textile bleaching, dyeing and printing units generating effluent of more than 100 KLD** who have now provided solar evaporation pan for disposal of final RO reject to switch over to mechanical evaporator followed by Agitated Thin Film Dryer **within six months** and to dismantle the existing Solar Evaporation Pan completely after commissioning mechanical evaporator followed by Agitated Thin Film Dryer.

Sd/- D.Sekar
Member Secretary

To

All JCEEs (Monitoring), TNPCB
All DEEs, TNPCB

Copy to

ACEE, TNPCB, Chennai-32.
All JCEEs, TNPCB, Chennai-32.
BMS Section, TNPCB, Chennai-32.
PS to Chairman & PA to Member Secretary, TNPCB, Chennai-32.
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30/07/2018
For Member Secretary
30.7.18

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