REPORT OF JOINT INSPECTION-CUM- MONITORING OF COMMON EFFLUENT TREATMENT PLANT (CETP) VAPI INDUSTRIAL AREA, GUJARAT

1. BACKGOUND

Hon'ble National Green Tribunal, Principal Bench, New Delhi passed order on 11.01.2019 in Original Application (OA) NO. 95 of 2018 in the matter of Aryavart Foundation Vs. M/s Vapi Green Enviro Ltd. (CETP, Vapi) & Ors. The matter was regarding discharge of untreated/partially treated trade effluent by more than 500 industrial units in Vapi industrial cluster into River Damanganga. There are non-compliances of the industries, CETP Vapi, and pollution is causing threat to aquatic life in River Damanganga and in the Arabian Sea.

In the said matter vide order dated 11.01.2019, Hon'ble NGT has given various directions to execute different tasks and formation of committees for execution of these tasks as per the para no. 55 of the order.

As per the para no. 55 (iv), it was directed to CPCB to undertake jointly with GPCB extensive surveillance and monitoring of CETP at regular interval of three months and submit its report to this Tribunal.

In this regard, three rounds of monitoring / sampling have been carried out jointly by CPCB and GPCB during February, May and August 2019 and the detailed reports were submitted to Hon'ble NGT, Principle Bench New Delhi.
Fourth round of joint monitoring was carried out on 15.11.2019 by following officials of CPCB and GPCB.

1. Dr. N. Semwal, Scientist B – CPCB, RD Vadodara
2. Shri Mayank Nimbark, JLA – CPCB, RD Vadodara
3. Shri Jaimin Rana, AEE – GPCB, RO Office Vapi

The details about CETP is already given in the first report submitted to Hon'ble NGT. The other current observations are as follows.

All units of CETP were operational during visit. The outlet flow was 2090 M^3/hour during visit, making it about 50.16 MLD against the installed capacity of 55 MLD.

2. MONITORING

Six effluent samples were collected during monitoring, (1) Equalization tank (2) Overflow of primary clarifier-1 (3) Overflow of primary clarifier-2 (4) Overflow of secondary clarifier-1 (5) Overflow of secondary clarifier-2 and (6) Final outlet. Analysis results are given in the table below.

	pH	TSS	FDS	COD	BOD	NH_3-N	Phenol	S^{-2}	CN^-	O&G
Inlet standard	6.5-8.5	300	2100	1000	400	50	1.0	2.0	0.2	10
Inlet Equalization tank	7.17	**400**	**6196**	**1377**	**538**	23.72	**13.86**	**2.79**	0.1	3.09
Overflow of primary clarifier-1	7.34	164	5602	741	175	15.49	--	0.74	--	--
Overflow of primary clarifier-2	7.28	152	5608	795	192	15.21	--	0.70	--	--
Overflow of secondary clarifier-1	6.87	66	7978	231	37	20.94	--	0.27	--	--
Overflow of secondary clarifier-2	6.71	62	6956	259	43	25.68	--	0.47	--	--
Final outlet	7.00	72	**7820**	249	**35**	20.79	0.25	0.47	0.057	0.91
Outlet standard	6.5-8.5	100	2100	250	30	50	1.0	2.0	0.2	10

3. OBSERVATIONS:

- The above analysis results shows that the influent is not meeting the inlet prescribed norms for most of the parameters except pH, NH_3-N and CN^-.
  The final outlet is not meeting the prescribed standards for FDS (7820 > 2100) and BOD (35 > 30) parameters.

- The OCEMS value and laboratory analysis results for COD at inlet are not comparable, however, at outlet the values are nearby. Therefore it can be concluded that the OCEMS has not been properly maintained and calibrated, especially at inlet.

	Total Nitrogen (PPM)	NPOC (PPM)	COD (PPM)
Inlet	77.08	322	807
Outlet	48.91	88	220

- As per record provided by CETP, average high COD effluent received in CETP is 3986 KL/Month (132 KLD) against installed capacity of 200 KLD during August to October 2019. It is informed that about 50% of MEE feed is converted into condensate and rest 50% concentrate is fed to the Spray Dryer. During August to October 2019, average feed in Spray Dryer is 1516 KL/Month (50.55 KLD) and average salt generation is 178 MT/Month (5.96 MT/Day).

- Average ETP sludge generation during August to October 2019 is 1894 MT/Month (20.58 MT/Day). As per record, 22300 MT of ETP sludge is presently stored in the premises of the CETP. It is informed that presently the CHWTSDF site is not accepting the waste due to monsoon season and tentatively they will start accepting the waste from November end. The hazardous waste storage shed and sludge drying beds were observed full during visit.

- GPCB has issued closure direction under section – 33(A) of the Water (P & CP) Act 1974 vide letter dated 24.05.2019 to M/s VGEL (CETP) Vapi and amended further on 11.06.2019 which was subsequently revoked from time to time with latest revocation order on 23.12.2019 which is valid up to three months from date of issue of order i.e. up to 22.03.2020.

- The CETP is in the process of installing Jet Mixers in the equalization tank for increasing the mixing efficiency. Ten Jet Mixers have been installed in equalization tank 1 &2 and it is informed that 10 more will be installed in equalization tank 3.

4. RECCOMENDATIONS:

- The CETP needs to dispose-off the sludge and salt on priority to CHWTSDF.
- The CETP needs to regulate the discharge of member units to meet the inlet standard as most of the analyzed parameters are not meeting the inlet standards.
- CETP should up-grade treatment system / put more efforts in operation for meeting with outlet norms.
- Proper calibration and continual maintenance of OCEMS, especially at inlet needs to be done to ensure reliable results of monitored parameters.
- List of defaulting industries should be regularly (monthly) shared with GPCB for taking suitable action against these industries.

Dr. Nirpendra Semwal
Scientist B

Jaimin Rana
AEE