



**CENTRAL POLLUTION CONTROL BOARD  
ZONAL OFFICE (SOUTH)  
BENGALURU**

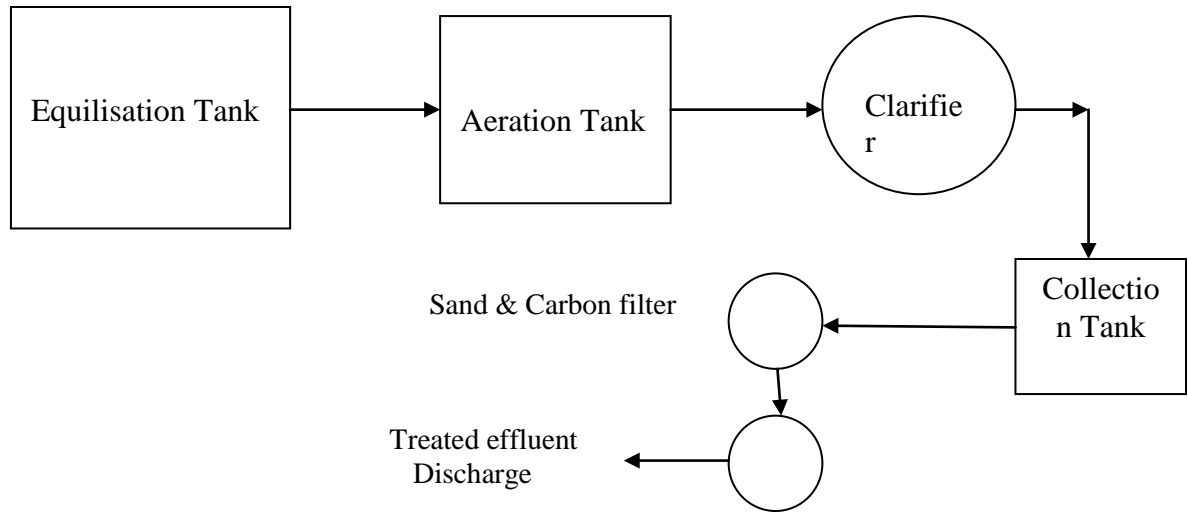
**Monitoring Report of M/s Kinfra Small Industries Park (KSIP), Common Effluent Treatment Plant, Nellad, Kerala**

<b>1.</b>	Name/ address of CETP/ company	M/s Kinfra Small Industries Park Common Effluent Treatment Plant Nellad - 686712 Kerala
<b>2.</b>	Area occupied by CETP (plot area)	40 Cent
<b>3.</b>	Total no. of staff (including operational & skilled persons)	3 nos.
<b>4.</b>	Contact person (Name, Designation, and Contact No, FAX, e mail)	Sh. Mathew George Project Manager 0484 - 2767849
<b>5.</b>	Operating agency	M/s Envirochem Laboratories (P) Kalamassery, Cochin 683 104
<b>6.</b>	Status of CETP	Operational (only secondary Treatment)
<b>7.</b>	Consent & Authorization	Applied on 28.06.2012.
<b>8.</b>	Industrial area/estate (s) connected to CETP	KINFRA small Industries Park, Nellad
<b>9.</b>	Type of industries in the connected industrial areas	
	Industrial area/estate	Type of industries
	KSIP	Food
		Non Food
	Number of member industries of CETP	
	23 nos.	
<b>10.</b>	Method of collection of effluent (pipeline/tanker)	Pipeline
<b>11.</b>	Details of flow meters	No flow meters
<b>12.</b>	Treatment capacity	400 m <sup>3</sup> /day
<b>13.</b>	Wastewater treated	100 m <sup>3</sup> /day
<b>14.</b>	Wastewater if bypassed in CETP from treatment:	No

15. Treatment units and dimensions			
Name of the unit	Numbers	Dimension	Capacity, m <sup>3</sup>
Screen Chamber	1	1.5m x 0.5m x 1.5m LD + 0.3m FB	1.125
Equalization tank	1	8.0m x 8.0m x 3.0 m LD + 0.5m FB	224.00
Aeration tank	1	8.0m x 7.0m x 4.0 m LD + 0.5m FB	252.00
Clarifier	1	5.0m Ø x 3.0m SWD x 0.3m FB	59.00
Sludge Collection tank	1	2.0m Ø x 2.0m SWD x 0.3m FB	6.28
Treated water Tank	1	5.0m x 5.0m x 2.5 m LD + 0.3m FB	62.5
Pressure sand filter	1		20.0 cu.m/hr
Activated carbon filter	1		20.0 cu.m/hr
16. Details of chemicals used	Only Biological treatment. No chemicals used		
17. Excess Biological Sludge Management System	Nil. The unit has one filter press.		
18. Conveyance system for disposal of treated wastewater	Pipeline		
19. Method of Treated wastewater disposal	Land		
20. Capital cost	Rs.93.91 lakhs		
21. Operational cost	Rs.45,000.00( Operational monthly AMC charges)+ Avg. monthly Electricity charges(Rs.50,000.00)		
22. Inspection Team	Sh. R. Rajkumar, Sc C Sh. Deepesh V, SSA Sh. S. Seenivel Raj, JLA		
23. Date of Inspection	20/08/2014		

#### Observations:

- The CETP is commissioned in an Industrial park developed by KINFRA. The Industrial Park has 22 nos. food and 28 nos. non-food industries in which 23 (22 food and 1 non-food) units are member of CETP.
- The CETP has only secondary treatment of installed capacity 400 m<sup>3</sup>/day in which about 100 m<sup>3</sup>/day of effluent is being received. The member units of CETP are not having primary treatment facility.
- The treatment system in the CETP has only biological treatment (Fig. 1). The CETP consists of equilisation tank, aeration tank, clarifier, sand & carbon filter and filter press.



**CETP Flow Chart**

- The samples were collected at different stages of the treatment unit. The characteristics of the effluent are shown below.

Parameters	Designed inlet norms	Equalization tank	After Clarifier (Collection Tank)	Final Outlet	Standards
<b>pH</b>	6-8	6.5	7.3	7.2	<b>6.5 – 8.5</b>
<b>TSS</b>	600	160	38	16	<b>100</b>
<b>TDS</b>	-	510	428	1434	<b>2100</b>
<b>BOD</b>	250 - 275	137	02	60	<b>30</b>
<b>COD</b>	-	333	54	74	<b>250</b>
<b>O &amp; G</b>	-	--	-	0.4	<b>10</b>
<b>Aeration Tank</b>		<b>MLSS</b>	9970		

\* All values are in mg/l except pH

- The treated effluent quality in case of TDS & BOD is not meeting the stipulated norms and discharged on land for gardening.
- The operation & maintenance of CETP is not satisfactory. The mixing aerator in equilisation tank and effluent pumping pump to aeration tank was found not working at time of inspection. So no flow was observed in the treatment units.



**Equilisation Tank**

- It was informed that sludge is not produced so far, which is practically not possible and the analysis result of MLSS shows that the excess sludge from aeration tank is also not being removed periodically.



**Aeration Tank**

- It was informed that the member units are not having primary treatment facilities so the inlet load to CETP is more than the designed. Since the generation quantity is less than the design, the treatment is carried out by flow rate adjustment to CETP.
- The analysis result shows less load at inlet because the sample was collected from the top of the equilisation tank due to non-availability of the sampling arrangement and non-working of pump.
- No flow meters were installed at inlet and outlet of CETP.
- No proper access was available to the treatment unit due to plant growth, which is not removed and shows the poor maintenance.



**View of Treatment units**

**Recommendations:**

- Treated effluent quality should meet the stipulated parameter norm within the limit before discharge.
- Operation & Maintenance of CETP needs to be improved to have proper treatment and to have stand by pumps & mixing aerators for regular continuous operation.
- Primary treatment facility needs to be commissioned in CETP as per the inlet pollution load or KSPCB shall be directed to issue the notice to the member units to install primary treatment facility.
- Flow meters shall be installed at inlet and outlet of CETP.
- Treated effluent shall be reused/ recycled to achieve Zero Liquid Discharge.
- Regular cleaning/maintenance should be carried out all over the plant for proper safe access to treatment units.

(R. Rajkumar)  
Scientist C