BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

SOUTHERN ZONE, CHENNAI.

Original Application No.213 of 2015 (SZ)

C.P. Senthil

...Applicant

Vs

TNPCB,
Rep. by its Chairman,
Chennai and Ors.

....Respondents

STATUS REPORT ON THE ACTION TAKEN AND COMPLIANCE OF SEWAGE TREATMENT PLANT (STP) AT M/S. ELYSIUM PROPERTIES INDIA PVT. LLTD AS PER THE ORDERS OF THE HON'BLE NATIONAL GREEN TRIBUNAL (SZ), CHENNAI DATED: 17/09/2020

Filed by
Thiru.C. Kasirajan,
Advocate, Chennai.

Status report on the action taken and compliance of Sewage Treatment Plant (STP) at M/s. Elysium Properties India Pvt. ILtd as per the orders of the Hon'ble National Green Tribunal (SZ), Chennai dated: 17/09/2020

The Hon'ble National Green Tribunal (Southern Zone) in Application No.213 of 2015 vide its order 17/09/2020, inter alia that

"... The Tamilnadu Pollution control Board has been directed to serve the copy of the joint committee report to the counsel appearing for the 3rd respondent so that they can file their objection for the same to this Tribunal before the next hearing date.

The learned counsel appearing for the Pollution Control Board also submitted that they proposed to send a show cause notice to the 3rd respondent as to why the environmental compensation suggested by the committee should not be imposed and also for taking action against them for non-compliance of the directions issued by the joint committee in respect of operation of the STP in their unit.

They are directed to give sufficient opportunity to the 3rd respondent before passing final orders, so that any complaint regarding non –compliance of principles of natural justice to be raised by them in future can be avoided.

It is also submitted by the counsel appearing for the 3rd respondent that there is a Writ petition pending before the Hon'ble High Court of Madras as 10482/2018 against the order of the authority granting authorisation to the 3rd respondent for establishment of STP in question.

It is not relating to issue that is pending before this Tribunal.

The Pollution Control Board is directed to submit the further action taken report in this regard to this Tribunal with in a period of two months.

If third respondent wants to file any objection to the committee report, then they are at liberty to file the same as well.

The committee is directed to submit the report to this Tribunal on or before 26/11/2020 by e-filing along with necessary hard copies as per rules.

The Registry is directed to communicate this order to the members of the committee immediately by e-mail so as to enable them to comply with the direction.

"....For consideration of further report, post on 26/11/2020".

Hence the unit was inspected on 18/11/2020 and the following were observed,

1. The Sewage treatment plant was under operation.
2. The bar screen in the bar screen chamber was removed and not in operation before collection tank.
3. The unit has not utilized the existing equalization tank. The collection tank was used as collection cum equalization tank.
4. The equalization tank is not provided with full fledged coarse bubble diffusers as suggested by joint committee and it was partially provided for equalizing the wastewater.
5. The unit has removed all the bio- media in the aeration tank. It was informed that they have changed from MBBR technology to Conventional Activated Sludge Process.
6. The unit has provided Electromagnetic Flow meters at the inlet of the aeration tank and final treated water tank and the same was under operation.
7. The unit has provided the observation/ inspection platform for aeration tank to verify the physical working.
8. The clarifier/ Settling tank was not revamped and not provided with Observation/ inspection platform.
9. In the settling tank and filter feed tank carryover of bio sludge are floating which indicates the inadequate operation and maintenance of STP.
10. The unit has provided two sludge drying beds. No Sludge was present in the sludge drying beds.
11. The unit has not provided dual piping system to reuse the treated water for toilet flushing.
12. The unit has provided the provision of fresh water pipe to dilute the treated water in the final treated water tank.

The status of Compliance as on 18/11/2020 of findings of the joint committee as follows

No	***Findings of the committee (09-03-2017)***	***Compliance status as on 18-08-2020***	***Compliance status as on 18-11-2020***
1	The STP is meeting the standard consented parameters (BOD and TSS) of TNPCB and the NH_4-N reported at outlet is 11.26 mg/ L. The MLSS in the aeration tank is 58 mg/ L, which indicates the poor operation and maintenance of STP.	***Not Complied*** The analysis result of sample collected on 18-08-2020 shows that the parameters of the STP outlet are meeting the standard prescribed by TNPCB. However, BOD and COD values are reported to be higher in the aeration tank than the values reported in the raw sewage. BOD: COD ratio of raw sewage is usually 0.3 to 0.8, but in this case it is 0.16 which is very unusual. Ammonia content also was unusually high in the aeration tank. If the ammonia	***Not Complied*** The analysis result of sample collected on 04-11-2020 to 05-11-2020 reveals that except TSS of the STP outlet all the parameters are within the standards prescribed by TNPCB.

		concentration is > 1 mg/L, then a condition exists in the aeration tank that is limiting the complete conversion of the influent waste into bacterial cells. The nitrifying bacteria, which convert ammonia to nitrate, require adequate DO throughout the aeration tank environment. The above observations and the very poor MLSS in the aeration tank suggest serious flaws in the operation and maintenance of the STP. While collecting inlet sample from collection tank, the committee observed floating plastic bio-media rings, which implies that the water from the clarifier tank is pumped/ channelized to collection tank for dilution. The committee has pointed out the presence of plastic bio-media rings in clarifier tank in the 2017 report also. Bio-media is the active component of the aeration tank and it should be retained in the aeration/ bio-treatment tank for the optimal treatment of sewage. Presence of bio-media rings in clarifier/ collection tanks vouches to poor engineering/ design.	
2	The STP has facility of tertiary treatment which includes disinfection and polishing dual media filtration (pressure sand & activated charcoal filters), but treatment efficiency is very poor as the Total and Fecal Coliform counts are 79000 and 23000 MPN/ 100	TNPCB, District Office, Coimbatore could not sent the samples to TNPCB, Advanced Environmental Laboratory at Salem for total and fecal coliform (TC & FC) analysis due to prevailing COVID-19 pandemic situation.	The analysis result of treated water sample collected on 04-11-2020 to 05-11-2020 reveals that the Fecal Coliform counts are 84 MPN/100 ml which is within the standards prescribed by the CPCB.

	mL respectively.		
3	The existing STP is not constructed as per the engineering aspects and shall be augmented at the earliest for optimal and efficient treatment/ operation.	***Not Complied*** The STP has not augmented and is operating with the existing facility without any rectifications or augmentations.	***Not Complied*** So far the STP has not been augmented and is operating with the existing facility without any rectifications or augmentations.
4	The treatment components such as bar screen chamber, collection & equalization tanks, which are constructed below the ground level has to be provided with the facilities for periodic cleaning and removal of accumulated sludge.	***Not Complied*** It was informed that the sludge is been removed once in six months by the third party engaged for the operation & maintenance of the STP. However no documents were provided for verification. During inspection, the appearance of the STP clearly shows sludge is not scientifically managed. MLSS levels in the aeration tank suggest poor sludge generation due to poor operation of STP.	***Not Complied*** It was informed that the sludge is been removed once in six months by the third party engaged for the operation & maintenance of the STP. However no documents were provided for verification.
5	The equalization tank shall be provided with the coarse bubble diffusers for equalizing the wastewater before pumping into the aeration tank. Horizontal centrifugal, non- clog sludge, solids – handling pumps with open impellers shall be used which is more efficient and also reduces the noise pollution generated during operation. The pumps shall not be installed on tanks/ hollow space as it will amplify noise.	***Not Complied*** The equalization tank is not provided with coarse bubble diffusers for equalizing the wastewater. The location of the pumps is also not changed.	***Not Complied*** The unit has not utilized the existing equalization tank. The collection tank was used as collection cum equalization tank. The equalization tank is not provided with full fledged coarse bubble diffusers for equalizing the wastewater. The location of the pumps is also not changed.

6	Aeration tank shall be designed and operated properly so that the bio–media (floating plastic media) is not carried away by the sewage to the subsequent treatment units. A safe provision like observation platform shall be made for aeration tank to verify the physical working condition.	***Not Complied*** It was stated by the operator, that the technology presently adopted is conventional activated sludge process (ASP). However the floating bio-media rings were observed in raw sewage collection tank. The sludge recirculation to aeration tank for the maintaining MLSS in the aeration tank is also not provided. Observation/ inspection platform for the aeration tank is not provided to verify regulatory compliance and to assess the physical working condition.	The unit has removed all the bio- media in the aeration tank. It was stated that they have changed from MBBR technology to Conventional Activated Sludge Process. Observation/ inspection platform for the aeration tank is provided to verify regulatory compliance and to assess the physical working condition.
7	The clarifier shall be revamped completely and constructed & operated scientifically.	***Not Complied*** The clarifier is not revamped	***Not Complied*** The clarifier is not revamped
8	The sludge drying beds, filter press or sludge bio digester shall be incorporated to handle the excess sludge generated and not to divert the excess sludge to collection tank. Sludge/ MLSS return shall be scientifically managed with regular monitoring of aeration tanks parameters.	***Not Complied*** It was informed that two sludge drying beds are provided. The operator could not show sludge/ MLSS return arrangement. The MLSS in the aeration tank was very poor on the day of inspection. This again indicates that the STP is not operated scientifically.	***Not Complied*** It was informed that two sludge drying beds are provided but no sludge disposed in the sludge drying beds. No log book maintained regarding bio sludge disposal.
9	M/s Elysium shall be directed to engage a qualified firm/ agency for operating & maintaining the	***Complied*** M/s Elysium has engaged M/s. Eco Green Technology, Coimbatore for the operation &	M/s Elysium has engaged M/s. Eco Green Technology, Coimbatore for the operation &

	STP in consultation with TNPCB. The STP has to be operated regularly in a scientific manner to avoid septic conditions and resulting odour problems.	Maintenance of STP. However, operators are not well versed with the basics of operating an ASP based STP.	Maintenance of STP. However, operators are not well versed with the basics of operating an ASP based STP.
10	M/s Elysium shall also be directed to make all provision for avoiding the entry of storm water into the STP which hampers the regular and efficient operation of the treatment system.	No information provided by the operator on the issue of storm water entry into STP. However, the unit has provided storm water drain in and around the premises.	The unit has provided storm water drain in and around the premises. No information provided by the operator on the issue of storm water entry into STP.
11	The analysis of treated sewage shall be done periodically to know the performance of the STP and the results shall be submitted to TNPCB.	***Not complied***	***Not complied*** No results of treated sewage furnished to the Board.
12	A provision or dual piping system shall be installed in the gated community for utilizing the treated sewage for toilet flushing. The sewage treated shall be reused completely in the community and at no point of time discharged outside the premises.	***Not Complied*** Dual piping system is not installed for utilizing the treated sewage for toilet flushing though TNPCB has given specific condition to utilize 55KLD of treated sewage for toilet flushing. It is informed that the treated sewage is used for gardening inside the premises.	***Not Complied*** The unit has not provided dual piping system to utilizing the treated sewage for toilet flushing. It was informed that the entire swage of 90 KLD (35 KLD on land for irrigation +55 KLD Toilet fishing) was utilized for gardening. The unit has provided land of 1.2703 Hectare for gardening which is inadequate for the disposal of the entire sewage of 90 KLD as per the hydraulic loading rate of 35 KL/Hectare/Day.

Analysis results of samples collected from various unit processes on 04/11/2020 to 05/11/2020.

Parameters	*Inlet: sewage collection tank*	*Aeration tank*	*Outlet: after dual media filter*	*Discharge limit*
pH	7.23	7.32	7.47	5.5-9.0
TSS (mg/l)	114	94	44	30
BOD (mg/l)	58	16	<2	20
COD (mg/l)	344	56	8	-
Fecal Coliforms (MPN/100 ml)	1700	260	21	-
Total Coliforms (MPN/100 ml)	3300	700	84	-
NH_4-N (mg/l)	43.1	16.2	5.0	-
Total Nitrogen (mg/l)	0.12	16.1	9.82	-

It was ascertained from the observations of the unit M/s Elysium Properties India P Ltd, Flushing Meadows-Sewage Treatment Plant, SF No 36/1K & 37/6, Vellanaipatti Village, Annur Taluk, Coimbatore District on 18/11/20, the unit has not complied the most of the conditions mentioned in the joint committee report.

Regarding the imposing of environmental compensation to the unit, as per the order of the Hon'ble NGT show cause notice was issued to the unit vide Chairman's Proc.No. T11/TNPCB/LAW/LAWII/NGT/001621/CBN/Show Cause Notice/2020 dated: 21/11/2020 and directed to reply within 15 days.

24/11/20

Assistant Engineer,
Tamilnadu Pollution Control Board,
Coimbatore North

District Environmental Engineer,
Tamilnadu Pollution Control Board,
Coimbatore North

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Advocate for Respondent
Thiru. Kasirajan
Advocate, Chennai.

Date: 27.11.2020