



Speed-Post

File No –B-751 (439)/Textile/WQM-II/CPCB/2017-18

Date: 10/12/2018

To

**The Regional Director (North)
Regional Directorate, Lucknow
PICUP Bhawan, Ground Floor
Vibhuti Khand, Gomti Nagar
Lucknow- 226010 (UP)**

Subject: Verification of implementation/compliance status of M/s Kanpur Texel Pvt. Ltd., Dada Nagar Kanpur to CPCB directions issued dated 04.09.2018 –reg.

Sir,

This has reference to CPCB revocation directions F. No. B-751 (439)/Textile/WQM-II /CPCB/2017-18/10346; dated: 04.09.2018 issued under Section 5 of Environment (Protection) Act, 1986 to the Unit M/s Kanpur Texel Pvt Ltd, 12-B/3, Co-op Industrial Area, Dada Nagar, Kanpur. As per directions the Unit is required to implement the recommendations of adequacy report and same to be verified within 60 days. A copy of the CPCB directions dated 04.09.2018 and adequacy assessment report submitted by the Unit is enclosed for your reference.

It is therefore requested that the verification of current implementation status of adequacy report submitted by the Unit along with ETP performance assessment may be arranged at the earliest by a team from Regional Directorate, Lucknow and report may be submitted within 15 days of this letter.

A. Vidyarthi
10/12/18

(Dr. A.K. Vidyarthi)
Additional Director &
In-Charge, WQM-II

Enclosure- As above



केन्द्रीय प्रदूषण नियंत्रण बोर्ड

CENTRAL POLLUTION CONTROL BOARD

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT OF INDIA

Speed Post

File No. B-751 (439)/Textile/WQM-II/CPCB/2017-18

Date: 30-08-2018

04-09-2018

To,

M/s Kanpur Texel (P) Limited,
12-B-3, Dadanagar,
Kanpur City, Uttar Pradesh

DIRECTION UNDER SECTION 5 OF THE ENVIRONMENT (PROTECTION) ACT, 1986

WHEREAS, the Textile, Dyeing & Bleaching industries have been identified as one the Grossly Polluting Industries (GPI) which have been discharging effluents directly or indirectly on land and into water, having potential threat to cause adverse effect on land and the ambient water quality; and

WHEREAS, there is a need to inculcate habit of self-monitoring within the industries for complying with the prescribed standards and this can be achieved by the methods like installing online effluent and emission monitoring devices; and

WHEREAS, M/s Kanpur Texel (P) Limited, 12-B-3, Dadanagar, Kanpur City, Uttar Pradesh (hereafter referred to as the 'Unit') is textile processing unit (dyeing and bleaching);

WHEREAS, the unit was inspected on 05.01.2018 by a joint team of CPCB and UPPCB official to verify the compliance status and found the Unit is not meeting with the prescribed effluent discharge standard w.r.t. BOD-220 mg/l (as against standard 30 mg/l) and COD-478 mg/l (as against standard 250 mg/l) at ETP outlet; and

WHEREAS, CPCB issued closure direction dated 12.03.2018 under section 5 of the Environment (protection) Act, 1986 to the unit; and

WHEREAS, the unit replies dated 23.03.2018, 10.07.2018, 25.07.2018, 26.07.2018, 09.08.2018 and 13.08.2018 were examined and following observations are made:

1. The unit has closed all manufacturing operation from 23.03.2018
2. The unit has upgraded its ETP system.
3. The unit has submitted Adequacy report from NPC. As per adequacy report, the ETP for the maximum wastewater generation 20388.5 liters (wastewater generated plus filtrate from sand drying beds and 10% of safety factor) in the month of Jan 2018 is adequate and efficient to treat wastewater generated.
4. The unit has sending online monitoring system to M/s Errand Enterprises Pvt. Ltd. Delhi for calibration. The unit has ensured calibration of OCEMS during the running dyeing operations.
5. The unit will be cross check results offline and online after re-calibration of the online system as suggested.
6. The unit will be carried out study and discuss the methodology of keeping ETP in running condition for sustaining life of active biomass in the treatment system and implement required changes.

AND WHEREAS, CPCB constituted a three-member committee vide office order dated 27.09.2017 having representative from CPCB, MoEF &CC and NMCG for examination and recommendation for revocation of the closure direction issued by CPCB; and

M/s Kanpur Texel (P) Limited, 12-B-3, Dadanagar, Kanpur City, Uttar Pradesh

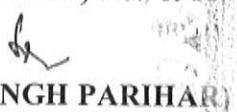
WHEREAS, the three-member committee in its meeting held on 23.08.2018 examined the replies of the Unit and recommended that

- (i) The recommendations of the adequacy report should be implemented properly.
- (ii) An implementation report be submitted before this committee after inspection by CPCB within 60 days from start of operation.

AND NOW, THEREFORE, in exercise of powers vested under Section 5 of the Environment (Protection) Act, 1986, the following directions are being issued to the unit.:-

- (i) The unit shall resume operation and shall treat their effluent to meet the effluent discharge standards as notified under Environment (Protection) Rules, 1986.
- (ii) The unit shall ensure continuous connectivity with CPCB server.

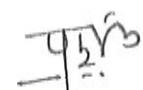
In case of default in compliance with the above directions, CPCB will be constrained to initiate action without any further notice, in accordance with the provisions of the Environment (Protection) Act, 1986.


(S. P. SINGH PARIHAR)
CHAIRMAN

31/8/18

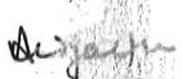
Copy to:

- | | |
|--|--|
| 1. Chairman, Uttar Pradesh Pollution Control Board Building No. TC-12V, Vibhuti Khand, Gomati Nagar, Lucknow | :[For kind information] |
| 2. Joint Secretary (CP Division). Ministry of Environment, Forests & Climate Change, Indra Paryavaran Bhavan, Jor Bagh Road, New Delhi - 110 003 | :[For kind information] |
| 3. The Regional Director, Regional Directorate (North), Central Pollution Control Board, PICUP Bhawan, Vibhuti Khand, Gomati Nagar, Lucknow | :[To ensure compliance of the directions] |
| 4. The District Magistrate District- Kanpur Uttar Pradesh | :[For implementation and compliance of the direction] |
| 5. The Superintendent Engineer Uttar Pradesh Power Corporation Limited, District- Kanpur, Uttar Pradesh-208022 | : [With the direction to re-connect power supply to the unit] |
| 6. The Incharge IT Division, CPCB, Delhi | : [For uploading the direction into CPCB website] |
| 7. Master copy (Textile), WQM-II Division, CPCB, Delhi | : |


(PRASHANT GARG)
MEMBER SECRETARY

0/c

Page 2 of 2



**REPORT
ON
ADEQUACY ASSESSMENT OF EFFLUENT
TREATMENT PLANT ON PHYSICAL BASIS FOR
THE CLOSED UNIT**

For
**M/s KANPUR TEXEL (P) Ltd.
12-B-3, Dadanagar, Co-Op Industrial Estate
Kanpur - 208022
July 2018**

Prepared by



National Productivity Council

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STUDY TEAM

Mr. Ujjwal Narayan, Assistant Director

Ms. Preeti Gangwar, Assistant Director



Table of Contents

| | | |
|------------|---|-----------|
| 1.0 | Introduction..... | 3 |
| 2.0 | Production Process | 3 |
| 3.0 | Wastewater Generation | 5 |
| 4.0 | Existing Effluent Treatment Plant (ETP) | 5 |
| 5.0 | Adequacy Assessment of Effluent Treatment Plant..... | 8 |
| 6.0 | Summary of Adequacy of ETP | 10 |
| 7.0 | Treated Water Characteristics | 11 |
| 8.0 | Suggestions..... | 11 |
| 9.0 | Conclusions..... | 12 |
| | Annexure | 13 |



1.0 Introduction

The unit M/s Kanpur Texel Private Limited situated in Co-Op Industrial Estate, Dada Nagar Kanpur is engaged in processing of Natural & Man-made yarns to produce Narrow Woven Fabrics (N.W.F.) via braided or twisted on machines. The unit produces finished NWF for sale in Indian market as well as for export. According to UPPCB, the Unit has consent for industrial wastewater discharge limit is 20 KL/day.

The Unit was inspected on 5th Jan 2018 by the joint team of CPCB and UPPCB officials. In view of the analysis results of the samples collected in inspection; the value of COD & BOD noncompliance with the CPCB directions. The unit can be permitted for the operation only after the complying with the number of recommendations/suggestions as mention in closure direction dated 9th March 2018.

M/s Kanpur Texel (P) Ltd. approached the National Productivity Council for carrying out the Adequacy Assessment of their Effluent Treatment Plant (ETP) on Physical basis. Subsequently, NPC consultants have carried out the field study on 20th July 2017.

The unit has set up its own Effluent Treatment Plant (ETP) to treat their wastewater generated from different sources so that the treated water quality meets the Prescribed Discharge Standards.

2.0 Production Process

Natural and Man Made yarns are woven, braided or twisted on machines to produce desired narrow fabric. The production process is shown in fig.1



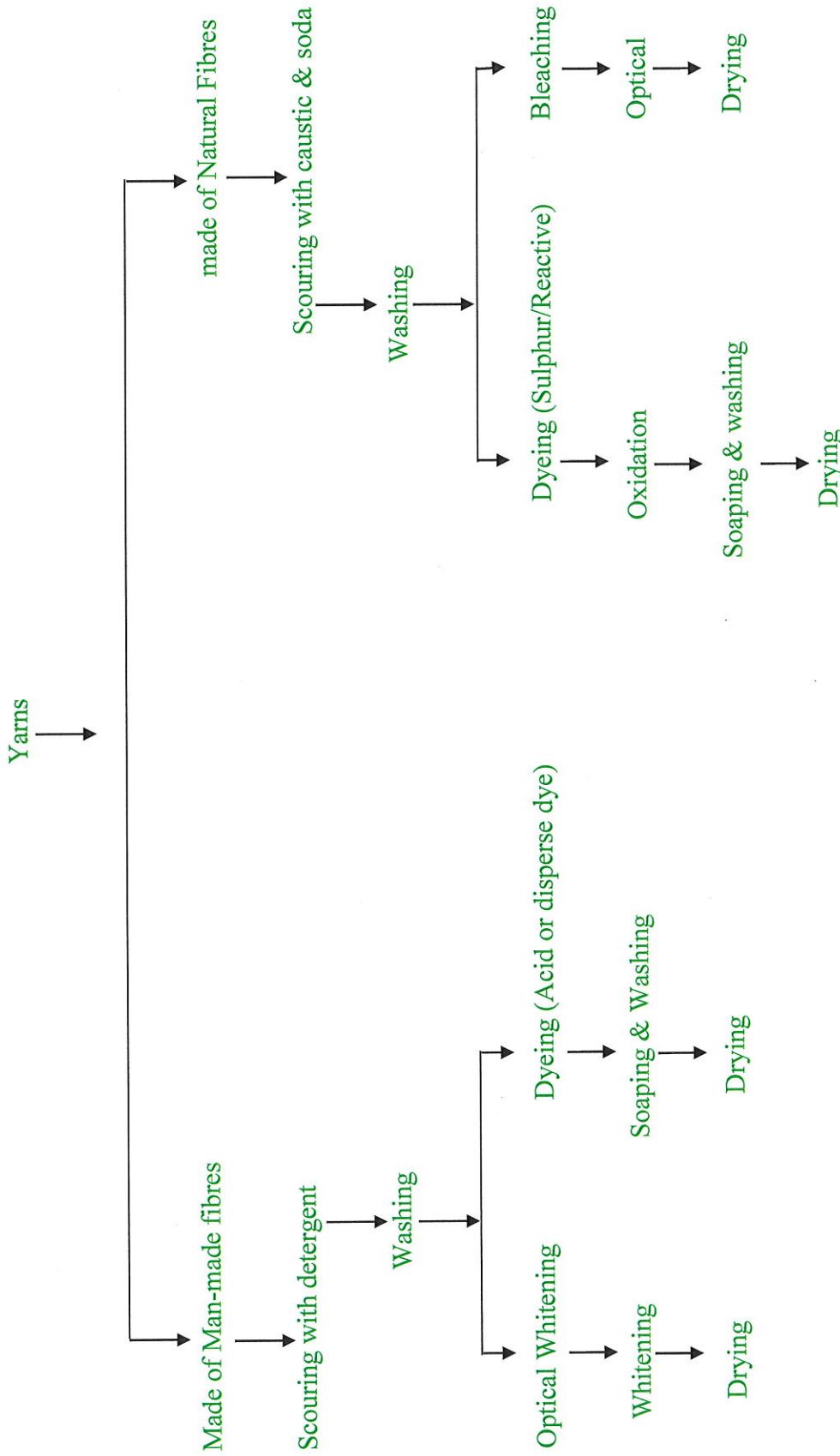


Fig. I Flowchart of Production Process



87

3.0 Wastewater Generation

Quantity of wastewater generated has been assessed based on:

- the data of daily wastewater generation available with the unit when the plant was running. As per record available with the unit, the average waste water generation is 15.47 to 17.09 KL/day in 3 months logged data and the maximum quantity of wastewater generated during the month of Jan 2018, has been found to be 18.5 KL/day (as on 06.01.2018).

Based on above consideration, the higher value of 18.5 KL/day of wastewater generation has considered for the adequacy assessment of the Effluent Treatment Plant of the unit.

4.0 Existing Effluent Treatment Plant (ETP)

The unit has installed Effluent Treatment Plant to treat the wastewater. The wastewater treated in a continuous operation. The wastewater from different sources is collected in a holding cum equalization tank by gravity through screening process. The collected wastewater then sent to reaction tank by pump where Lime, Alum and poly added by dosing pumps to neutralize the pH and maintain physical characteristics of wastewater. Agitator is provided for the proper mixing of chemicals. The wastewater overflows from reaction tank and came into the primary tube settler. The wastewater overflows into open channel and sent to Aeration tank. Where air (or oxygen) injected through diffuser in the mixed liquor by maintaining the F/M ratio and MLSS. Alive bacteria of sludge is again used in aeration to utilize this bacteria. After that the wastewater transferred to secondary tube settler to allow the biological flocs to settle down, thus separating the biological sludge from the clear treated water. The settled sludge is taken to sludge drying bed by gravity from both the tube settlers. The filtrate from the sludge dry bed recycled to the Equalization tank. The treated water from secondary tube settler overflows to the clear water tank and discharged to the municipal drain via dual media filter and colour removal filter. For disposed-off the generated sludge by the unit is collected through the TSDF facility. The unit has Membership of Bharat oil and Waste Management Ltd.

The schematic diagram of existing ETP is shown in Fig - 2. The details of components of ETP are given in Table - 1.



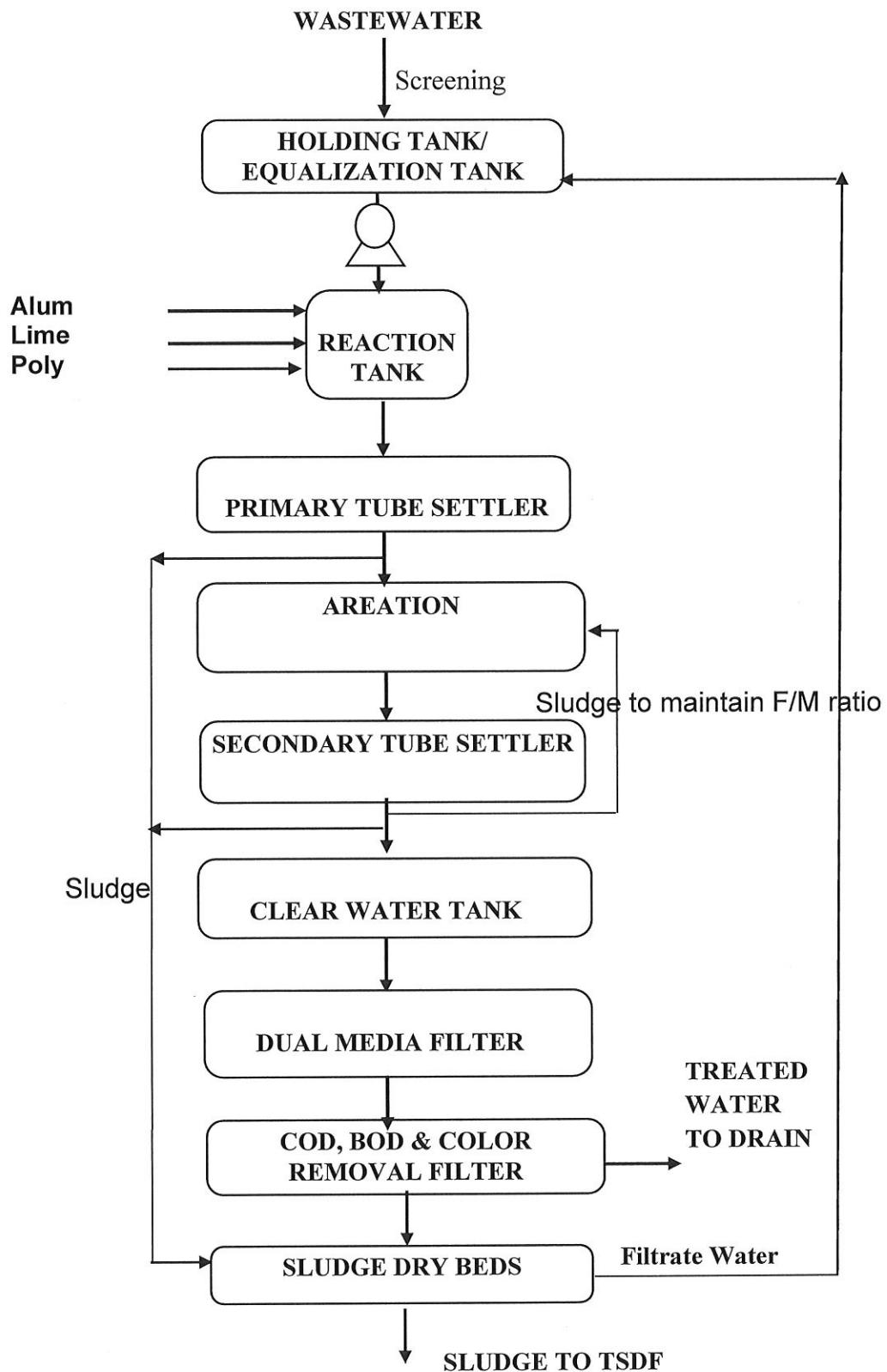


Fig: 2 Flow Diagram of ETP

Table:- 1 The details of components of ETP

| Dimensions for ETP Components | Effective Capacity |
|--|---------------------------|
| <u>Collection Tank /Equalization Tank -</u> 6.20 m (L) x 5.4 m (W) x (2.28+ 0.5) m (Deff.+ F.B.) =16.08 | 76.34 m ³ |
| <u>Reaction Tank</u> 1.1 m (L) x 1.4 m (W) x 1.05 m (D) | 1.617 m ³ |
| <u>Primary Tube Settler</u> Upper Trapezoidal Part: 1.05 m (L) ;1.16 m (H) ; 1.27 m (A); 0.7 m (A); Volume =1.19 m ³ Middle Cuboid Part : 1.01 m (L) x 1.07 m (W) x 1.28 m (D); Volume = 1.38 m ³ Outlet Super latent Part: 0.4 m (L) x 0.41 m (W) x 0.9 m (D); Volume = 0.144 m ³ | 2.714 m ³ |
| <u>Aeration Tank</u> 3.4 m (L) x 2.4 m (W) x (3.5+ 0.5) m (Deff.+ F.B.) | 28.56 m ³ |
| <u>Secondary Tube Settler</u> Upper Trapezoidal Part: 1.05 m (L) ;1.16 m (H) ; 1.27 m (A); 0.7 m (A); Volume =1.19 m ³ Middle Cuboid Part : 1.01 m (L) x 1.07 m (W) x 1.28 m (D); Volume = 1.38 m ³ Outlet Super latent Part: 0.4 m (L) x 0.41 m (W) x 0.9 m (D); Volume = 0.144 m ³ | 2.714 m ³ |
| <u>Sludge drying bed - 2 nos.</u> 2 m (L) x 1.24 m(W) x 0.90 m (D) = 2.48*2 m² | 4.96 m ² |



5.0 Adequacy Assessment of Effluent Treatment Plant

Based on the pollution load on ETP and required capacity of its each component, adequacy of respective component of existing ETP has been assessed below.

5.1 Basic Parameters

| | | |
|--|---------|-------|
| Hours of work a day | 12 | L/day |
| Operating Hours of Wastewater generated based on 3.0 Assessment | 10 | hrs |
| Estimated volume of filtrate from sludge drying beds to holding tank | 18500 | L/day |
| Total wastewater to be treated | 35 | L/day |
| Design volume of wastewater (with 10 % factor of safety) | 18535 | L/day |
| Designed Flowrate for the operation of | 20388.5 | L/day |
| | 2.03885 | KL/hr |

5.2 Holding cum Equalization Tank

| | | |
|---|---------|--------------------|
| Total Quantity of wastewater | 20388.5 | Litres |
| Total Quantity of wastewater in KL/day | 20.3885 | KL/day |
| Volume of Holding Cum Equalization Tank | 13.17 | m ³ |
| Designed Flow | 2.03885 | m ³ /hr |
| HRT | 6.45952 | hrs |
| Retention Time Required | 2 to 3 | hrs |
| Total Capacity Required | 5.09713 | m ³ |
| Total Capacity Available | 76.33 | m ³ |

Hence, Holding / Collection Tank is Adequate.

5.3 Reaction Tank

| | | |
|--|--------------------------------|----------------|
| Wastewater average flow | 20388.5 | L/day |
| | 2038.85 | L/hr |
| Volume of the chemicals to be added | 602 | L |
| Wastewater flow per hour in m ³ with chemical dosing system | 2.09905 | m ³ |
| Residence time required for chemical reaction | 15 to 20 mins or 0.3 to 0.4 hr | |



Report on Adequacy Assessment of Effluent Treatment Plant at M/s Kanpur Texel (P) Ltd., Kanpur

| | | |
|---------------------------------|--------------|-------|
| Total Capacity Required | 0.62972 | m^3 |
| Total Capacity Available | 0.875 | m^3 |

Hence, Reaction Tank is Adequate.

5.4 Primary Tube Settler

| | | |
|---|--------------|-----------|
| Wastewater required to be settled per Day | 20990.5 | L/day |
| | 2.09905 | m^3/hrs |
| Residence time required for Tube settler | 0.5 | hrs |
| Total Capacity Required | 1.04953 | m^3 |
| Total Capacity Available | 2.714 | m^3 |

Hence, Primary Tube settler is Adequate.

5.5 Aeration Tank

| | | |
|--|--------------|-----------|
| Wastewater required to be Treated per Day | 20990.5 | L/day |
| | 2.09905 | m^3/hrs |
| Residence time required for Aeration Tank (8-12 hrs) | 10 | Hrs |
| Total Capacity Required | 20.9905 | m^3 |
| Total Capacity Available | 28.56 | m^3 |

Hence, Aeration Tank is Adequate

5.6 Secondary Tube Settler

| | | |
|---|--------------|-----------|
| Wastewater required to be settled per Day | 20990.5 | L/day |
| | 2.09905 | m^3/hrs |
| Residence time required for Tube settler | 0.5 | hrs |
| Total Capacity Required | 1.04953 | m^3 |
| Total Capacity Available | 2.714 | m^3 |

Hence, Primary Tube settler is Adequate.



5.7 Sludge Drying Beds

| | | |
|--|-------------|----------------------|
| Sludge generated (As per Authorization given by UPPCB) | 2 | Kg/day |
| (considering 4% solids in the sludge) | 50 | L/day |
| For 5 days drying cycle as told by Unit (with 0.6 m of sludge application depth) | | |
| Area of sludge drying beds required | 0.41667 | m ² |
| Area available | 4.96 | m³ |

Hence, Sludge Drying Beds are Adequate.

Note: The sludge Dry beds are outside the factory premises.

5.8 Dual Media filter and Colour Removal filter

Dual Media Filter is used for removal of suspended solids, turbidity and Colour Removal filter to remove colour.

5.9 Sludge Storage Area

The unit is having sludge storage area

6.0 Summary of Adequacy of ETP

The component wise adequacy of ETP is summarised in **Table - 2**.

Table: 2 Summary of component-wise Adequacy

| Section | Component | Status |
|----------------|--|---------------|
| 5.2 | Holding /Equalization Tank | Adequate |
| 5.3 | Reaction Tank | Adequate |
| 5.4 | Primary Tube Settler | Adequate |
| 5.5 | Aeration | Adequate |
| 5.6 | Secondary Tube Settler | Adequate |
| 5.7 | Sludge Drying Beds | Adequate |
| 5.8 | Dual Media filter and Color Removal filter | Adequate |



Therefore, the ETP is adequate to treat the wastewater generated from the unit.

7.0 Treated Water Characteristics

As per record available in inspection report attached with CPCB directions, officials of UPPCB & CPCB on 05.01.2018 carried out joint inspection of the Unit to verify the compliance status and following observations of sample of ETP Outlet collected are given in Table – 3.

Table: 3 Analytical results of Treated Wastewater Samples

| Wastewater Sampling Point | pH | TSS mg/l | COD mg/l | BOD mg/l | O&G mg/l | T-Cr mg/l |
|---------------------------------|---------|-------------|-------------|-------------|-------------|--------------|
| Out of ETP / Treated Wastewater | 7.11 | 28.2 | 478 | 220 | <5 | <0.2 |
| Prescribed Standards by UPPCB | 6.5-9.0 | 100 | 250 | 30* | 10 | 2.0 |

It can be seen from the above analysis results that the unit is non complying with discharge norms with respect to BOD and COD as prescribed standards.

8.0 Suggestions

- ✓ The dosing of Urea and DAP in Aeration tank should be done for reducing the BOD and COD content.
- ✓ The unit is required to keep the unit in continuous operation for sustain life of active Biomass in the activated sludge process
- ✓ The unit should ensure proper calibration of online continuous effluent monitoring system and also advised that the manual monitoring of treated effluent at regular interval shall be performed.
- ✓ Kindly ensure the naming of each components of ETP.



9.0 Conclusions

As per the adequacy assessment carried out for the ETP under section 5.0 of this report. The Effluent Treatment Plant at M/s Kanpur Texel (P) Ltd., Kanpur for the maximum wastewater generation of 20388.5 liters (wastewater generated plus filtrate from sludge drying beds and 10 % of safety factor) in the month of Jan 2018 is adequate and efficient to treat wastewater generated. The unit should ensure efficient treatment of wastewater.

However the BOD and COD is higher (from table 3) as per the prescribed standard, the unit should ensure efficient treatment of wastewater by follow the above recommendations described in section 8.0.



Annexure



Fig. 1. Aeration Tank

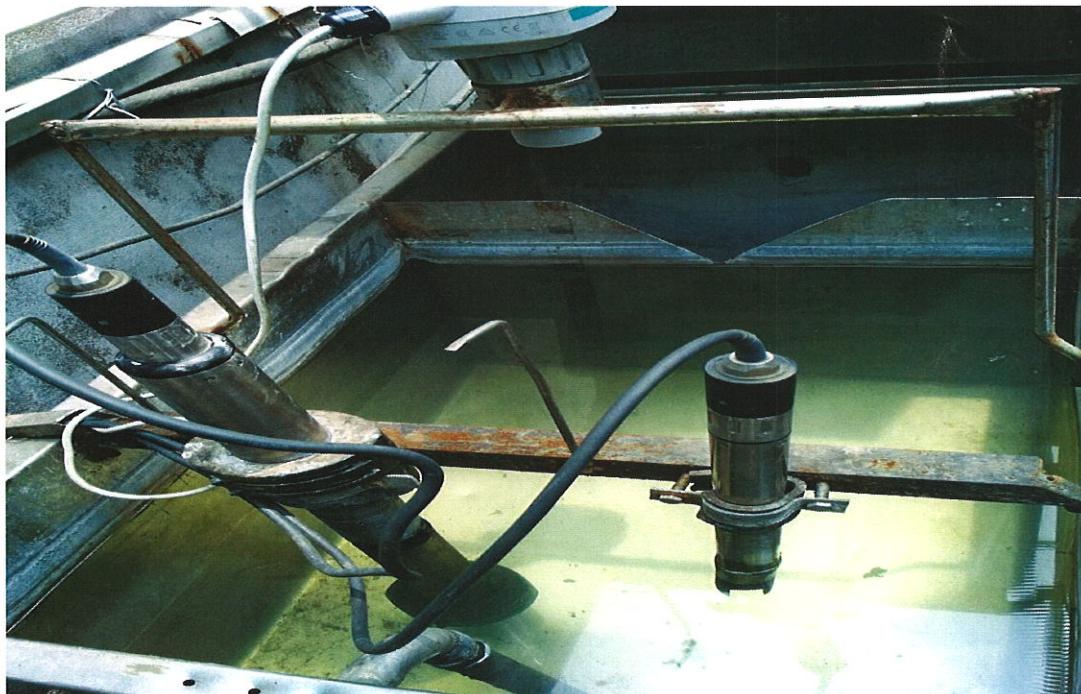


Fig.2 Outlet Chamber

Report on Adequacy Assessment of Effluent Treatment Plant at M/s Kanpur Texel (P) Ltd., Kanpur



Fig 3. Secondary Tube Settler