



ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ
PUNJAB POLLUTION CONTROL BOARD

No. 4378

Dated 28/07/2021

To

The Consultant (Judicial),
Hon'ble National Green Tribunal,
New Delhi.

Subject :- Original Application no. 682/2019 titled as Beant Singh Bajwa Vs The State of Punjab Respondent(s).

Reference:- PPCB letter no. 4360 dated 26.07.2021.

In continuation to Board's letter under reference, it is submitted as under:-

In compliance of Hon'ble NGT order dated 24.6.2020 regarding acting upon the recommendations of Joint Committee comprising Central Pollution Control Board, Punjab Pollution Control Board & Deputy Commissioner, Barnala, Environment Study of M/s Trident Ltd., (HTD) and M/s Trident Ltd., (PCD) was awarded to NIT, Jalandhar & CPPRI, Saharanpur respectively by Punjab Pollution Control Board in consultation with Central Pollution Control Board.

As already informed vide email dated 26.7.2021, the institutes have now submitted Environment Audit Study reports of M/s Trident Ltd, in respect of both units namely Towel Division (HTD) and Paper & Chemical Division (PCD). The observations/recommendations given in the Environment Audit Reports are attached as detailed below:

Sr. No.	Name of Institute conducting Environmental Audit	Name of industry/unit	Annexure
1.	National Institute of Technology, Jalandhar	M/s Trident Ltd. (HTD)	I
2.	Central Pulp and Paper Research Institute, Saharanpur	M/s Trident Ltd. (PCD)	II

A perusal of reports reveal that both the industries/units are achieving effluent and emission standards as prescribed by the Board for such type of units. However, in respect of Paper Division, the industry is required to achieve emission norm of 75 mg/Nm³ as per stipulation of Environmental Clearance granted by MoEF & CC and the industry is presently achieving SPM in the range of 102-129 mg/Nm³ (average 116 mg/Nm³). The industry has already been directed by the Board to upgrade its existing APCD so as to achieve the norm of 75 mg/Nm³.

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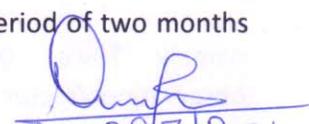
In this regard, the industry had earlier submitted proposal alongwith timelines for the upgradation of existing APCDs as tabulated below:

Sr. No.	Name of the Unit/Section	Proposed timelines
1	Recovery I	30.9.2021
2	Recovery II	30.11.2021
3	Cogeneration Plants 2 & 3	15.5.2021

The industry vide letter dated 27.4.2021 has informed that technical offers from 3 suppliers on the Electro Stating Precipitator (ESP) upgradation have been received and the progress has been hampered due to the prevailing pandemic scenario. The industry requested to extend the target timelines to September, 2022.

As per Environment Audit reports, both the industrial units are mainly complying with Pollution Control norms. However, some additional upgradation/improvements have been suggested in the Environment Audit reports. The reports are to be reviewed and finalized jointly by the Committee constituted by Hon'ble NGT comprising Central Pollution Control Board, Punjab Pollution Control Board and Deputy Commissioner, Barnala. Thereafter, the industries will be asked to submit time lines to implement the recommendations.

In view of the above, it is again requested that a time period of two months may be granted to submit the final report, please.


28/7/2021
Environmental Engineer

Annexure-I

Observations & Recommendations given by National Institute of Technology, Jalandhar in draft Environment Audit report of M/s Trident Ltd. (HTD), Vill. Dhaula, Tehsil & Distt. Barnala.

Observations

- The Home Textile Division (HTD) has fairly a well-equipped ETP for processing the textile effluent, and it is working satisfactorily to reduce the BOD load of the effluent to about 94%. There is no chemical treatment adopted to reduce the pollutant load. Since the pollutant load of the effluent is not so high and the final treated effluent characteristics discharged from ETP are well within the limit set by statutory body, there is no need for chemical treatment because the excess use of chemicals requires high cost and results into difficult solid waste and sludge management.
- The ETP was designed on the basis of 10000 KLD of effluent, but the current effluent discharge was observed to be 3600 KLD on the day of visit. The major player for the satisfactory operation of the ETP is the extended aeration period provided to the effluent, although the process parameters like MLSS, MLVSS and F/M are not found to be in the optimum range for the perfect operation of the activated sludge process.
- If the effluent quantity is not upto the ETP designed value, the current discharged quantity should be run in a reduced capacity of the ETP (using a part of the ETP) to save space & running cost, and to maintain the process parameters in an optimum fashion. The remaining part of the ETP may be utilized for a particular process effluent having higher pollutant load and which requires longer residence time.
- The result of the testing data shows that the final discharged effluent has some amount of color, which cannot be removed fully either by activated sludge process or activated carbon bed used as a tertiary treatment. The carbon bed should be cleaned properly, and it should be regenerated or replaced as and when required.
- The air requirement was calculated to be 3050 m³/h. The ETP has 04 numbers of air blowers with capacity of 3750 m³/h each. Therefore, the air blowers should be used judiciously as per requirement to save the electrical cost.
- The maximum MLSS was found to be around 1800 mg/l. It should be around 3000 mg/l for optimum working of the ETP as far as quality of effluent and consumption of energy & time is concerned. Therefore, it requires an increase in the amount of recycled biomass.
- The F/M ratio was found to be 0.08, which is on the lower side of the desired range of 0.05-3.0 for optimum working. The F/M ratio may be enhanced by outside source of nutrient such as Urea, DAP etc.
- The Hydraulic Residence Time (HRT) in the Aeration Tanks was found to be 100 h, while the designed criteria is 54 h. The high HRT may lead to more consumption of electrical energy and time for the desired results. So, only the required capacity of the aeration tanks should be used, whenever the discharged effluent is low in quantity.
- The HRT in Lamella clarifier was found to be 6 h, which should be around 2.5 h as per design criteria. The prolonged detention in the clarifier may favour sludge rising and poor sludge settlement due to de-nitrification and anaerobic biodegradation. It may also cause odour problems.

Recommendations:

- Despite the fact that the treated effluent is complying the regulations of the statutory body, the discharge of the colored effluent may cause aesthetical unpleasantness. Moreover, it is highly objectionable to the general public. So, in the current scenario, the emphasis should be given to develop more efficient microbial mass for de-colorization of effluent in the activated sludge process. A further study may be conducted from the Central/State government institutes of national importance such as IITs, NITs etc. to assess the application of microbial consortia/dedicated pure culture/tertiary treatment for de-colorization of the effluent.
- The raw water requirement of the HTD is mainly met from the withdrawal of groundwater. As per test reports of the groundwater, it contains a high level of TDS (900-1000 mg/l). The high level of TDS in raw water would ultimately lead to higher TDS in the treated effluent affecting its quality for plantation and drainage. The replacement of the source of water from groundwater to other source with better quality of water (such as surface water) could help in further reduction of pollutant load of the treated effluent.
- In the absence of RO & MEE system, the other safe ways of disposal of effluent should be explored. The HTD is currently disposing only 3000 KLD of its treated effluent onto 48.5 acres of land for plantation. The industry should look into the possibility of enhancement of the plantation area (land requirement, type of plants, piping network, watering depth etc.) for more utilization of the treated effluent for plantation in an effective manner to eventually achieve zero liquid discharge (ZLD) to the drain. The option of providing some portion of the treated effluent to nearby farmers for irrigation of the cash crops should also be given a thought. Further, a detailed hydrogeological study of the area around the industry should be conducted from the Central/State government institutes of national importance such as IITs, NITs and NIH etc. on yearly basis to know the impact and footprints of the industrial effluent (used for plantation) onto the groundwater and soil of the locality. The hydrogeological study would also suggest effective remedial measures to meet any adverse impact of the use of the industrial effluent on the aquifers and soil, if any.

Annexure-II**Observations & Recommendations given by Central Pulp & Paper Research Institute (CPPRI), Saharanpur, U.P.in draft Environment Audit report of M/s Trident Ltd. (PCD) Vill. Dhaula, Tehsil & Distt. Barnala.****Conclusions:**

- Trident Ltd — Paper & Chemical Division(PCD), is contributing significantly in terms of growth and development of the regional economy procuring the agro residues (wheat straw), eucalyptus and poplar from the local farmers as well as providing direct and indirect employment to the local people.
- The mill's management commitment for environmental compliance and sustainability is reflected by the adoption of various state of art cleaner technologies for improving product quality, reduction in fresh water consumption and consequently waste water discharge and pollution load , maximum utilization of treated effluent back into the process and for land application , availability of Electrostatic Precipitators at all stacks , availability of OCEMS at Final Discharge Outlet and ESP outlet for 24X 7 monitoring of quality of treated effluent discharged into the drain and utilized for irrigation as well as level of particulates emitted from the boilers.
- The mill has adopted state of art technologies and equipments like continuous digester, twin roll press, oxygen delignification and chlorine dioxide bleaching, UASB reactor, chemical recovery systematic etc. These technologies have significantly contributed in reducing the environmental footprint including water footprint of the mill.
- The mill's approach of segregation the effluent streams into high pollution load stream and low pollution load stream and treating the former through anaerobic treatment followed by post treatment through conventional aerobic treatment based on activated sludge process has significantly contributed to satisfactory performance of ETP in terms of reduction in pollution load and achieving environmental compliance.
- The mill has provided flow meters at all the major pipelines, bore-well, final discharge etc. which helps in monitoring and optimizing the fresh water consumption.
- The ground water quality at the selected locations is also satisfactory in context of the specified norms indicating that no adverse impact of mill on ground water quality.
- The quality of treated effluent has been found in compliance with the prescribed discharge norms.
- The quality of treated effluent (specially SAR) is suitable for land application of treated effluent.

Recommendations :

- The mill has adopted several water conservation strategies to reduce the fresh water consumption. The level of mill's fresh water consumption is similar to contemporary agro based writing and printing paper mills. However, looking into the reported fresh water consumption bench marks, the mill has still a scope to reduce fresh water consumption by further 3-4 m³/t paper and mill may explore areas for the same. For example 100% utilization of foul condensate in pulp mill can help in reducing water consumption by 1m³/t paper while installation of disc filter at PM1 can facilitate reduction in fresh water consumption by 1.5 -2.0 m³/t paper.
- The mill is advised to have sub monitoring of its treated effluent being utilized in its plantation area to have proper water balance.
- The mill may explore installation of appropriate technology for the recovery of white rejects (centricleaner rejects) coming from paper machine for further improving performance of the ETP.
- The mill needs to immediately upgrade / retrofit the existing UASB reactor as the mill is not able to utilize the biogas generated as the gas collection and distribution system have corroded developing leakages. This is resulting in an estimated loss of Rs 60-70 lakhs/ annum.
- The mill may should reduce the suspended solids level in primary clarifier overflow through use of coagulants and flocculants to further improve the performance of existing ETP.
- The mill may install a coagulation and flocculation system before primary clarifier to improve its performance.
- The mill is advised to make a proper boundary of existing equalization tank and make provision of air supply for homogenizing the effluent.
- The mill is advised to install poly disc filter (PDF) at Paper Machine 1 also for increased fiber recovery and reuse / recycled of paper machine backwater.
- The treated effluent quality meets the stipulated norms. However, the mill needs to adopt appropriate technology to reduce the colour.
- The mill is advised to get the OCEMS at final discharge and ESP outlet calibrated on periodical basis.
- The SPM level in the stack emissions are lower than stipulated norms of 150 mg/Nm³. However, in context of the EC norms of 75 mg / Nm³ for SPM, the mill need to look into optimization of its boiler operation / ESP operation or Upgrade ESPs to comply with the new norms.
- Though the mill has appropriate facilities and trained & experienced manpower for environmental monitoring and analysis the mill may get quarterly / half yearly / yearly environmental monitoring done from a third party / independent institution.