1317

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH AT NEW DELHI

ORIGINAL APPLICATION NO 530 /2023

IN THE MATTER OF-:

ANUJ KUMAR

PETITIONER

VERSUS

STATE OF UTTARAKHAND & ORS.

RESPONDENTS

INDEX

Sr.No	Particulars	Annexure	Page No.
1	Objection against joint committee Report submitted on 24.01.2024		1-7
2	Affidavit		8
3	Photographs	A1	9-10
4	Order of Honble NGT OA 896/2019	A2	11-13
5	Direction issued on dated 24/02/2015 to State pollution control board	A3	14-17
6	Report Filed By CPCB in OA 682/2019	A4	18-86

DATE 28/10/24

PRAKASH PANDEY

PLACE Haridwar

COUNSEL FOR THE APPLICANT

E- MAIL –advprakashpande@gmail.com

Mobile No 7805008055/8871849683

1318

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH AT NEW DELHI

ORIGINAL APPLICATION NO 530 /2023

IN THE MATTER OF-:

ANUJ KUMAR

PETITIONER

VERSUS

STATE OF UTTARAKHAND & ORS.

RESPONDENTS

OBJECTION ON BEHALF ON APPLICANT TO REPORT OF CPCB THE CPCB DATED 22.07.2024

Applicant respectfully submitted that

1. That Applicant has filed OA Against respondent no 7 & 8 sugar mills(Distillery unit) situated in tehsil lascar ,Dist Haridwar not complying the mandatory terms and condition of consent granted by Uttarakhand state pollution control Board and violating direction of CPCB
2. That the report dated 22.07.2024 has been filed by the Central Pollution Control Board (CPCB) stating the status of compliance/non-compliance by the Respondent no 7 , CPCB filed report by supressing crucial facts and concealing vital information with regard to the compliance of environmental norms by respondent unit as mention in point no 3 ,That the covert and malafide intent shown in factual status report filed by CPCB to save the polluters respondent no 7 unit .

That here point wise objection is mentioned to the point no 3, wherein CPCB has mentioned the status of complying or non-complying of recommendation made by CPCB

3. Objection to S No 1

Recommendation Provision of laying out a closed conduit pipe line at Laksar drain (which is currently flowing as open channel) starting from 500 meters upstream (u/s) to 500 meter downstream (d/s) of unit shall be made by the unit under supervision of UKPCB to rule out any possibility of discharge of treated/untreated effluent into drain

Status of Compliance – not mentioned

Objection by Applicant - wrong recommendation made by CPCB which could not be possible ,
Hon'ble NGT in Case of **OA 896/2019 , Teluram Versus State of Uttarakhand**
Which was filed for violation of environmental norms by the M/s R.B.N.S. Sugar Mills Ltd. and M/s R.B.N.S. Sugar Mills Ltd. (Distillery Unit) at Laksar, District Haridwar, Uttarakhand below recommendation made in that order

A retaining wall to be made along the Laksar drain within unit premises to prevent any liquid discharge and surface run off in to Laksar drain." **(Annexure 2 page 11-13**
But this is not folwed till now reason is that if retaining wall constructed it would not be possible for respondent no 7 to discharge outside plant premises

4. Objection to S No 2-4

Recommendation:
It shall be the responsibility of the unit to maintain the quality of Laksar drain at downstream of the unit in sync with the quality at upstream of the unit.
Based on the analysis results, the quality of Laksar drain near Akhoda Kalan village (1.68 Kms*) shows Deteriorated Condition, therefore, the possibility of effluent mixing with sewage in drain cannot be ruled out.

Status of Compliance Complying

Objection by Applicant - still polluted water discharging through pipe to nala

5. Objection to S No 5-6-7

Recommendation:

- The unit had 3 lagoons of total capacity of 5222 m3 which were found fully filled with raw spent wash/ bio-methanated spent wash

having total solids percentage less than 17% even during monsoon season and as these lagoons are located adjacent to Laksar drain hence there is potential of spillage/ overflow/ discharge of spent wash in the Laksar drain. This is the violation of CPCB direction dated 07.12.2015.

- The unit shall consume the concentrate spent wash stored in lagoons of capacity 1925m3 and 1375 m3 in dryer in environmentally sound manner thereafter, unit shall dismantle 02 lagoons.
- As per the consent, w.e.f. 01.01.2024 the unit is permitted to have lagoon capacity only to store 07 days equivalent of concentrated spent wash generated, however the unit is having excess lagoon capacity in violation of Consent condition.
- The unit was storing Bio-methanated spent wash (BMSW)/ raw spent wash in lagoons with solid content <30%, which is in violation of CPCB direction dated 07.12.2015

Status of Compliance- Complying

Objection by Applicant- CPCB misrepresented fact lagoon is permissible to the industry which is using incineration boiler technology as per direction of CPCB dated 07/12/2015, respondent unit till now not adopted technology of incineration boiler

6. Objection to S No 8

Recommendation:

The unit is discharging its distillery effluent from bio-composting/lagoons and sugar effluent in to the Laksar drain, which is the violation to Zero Liquid Discharge (ZLD)/discharge condition resulting in high pollution level of BOD (626 mg/l) and COD (1638 mg/l) which is about 17% higher than the upstream water quality of the drain.

Status of Compliance- Complying

Objection by Applicant CPCB Misrepresented fact

Distillery spent wash is flowing through Nala

As mention in point no 3 that is violating the guideline issued on 24/02/2015 (**Annexure A 3 page 14-17**

7. Objection to S No 9,10,11

Recommendation.

- In bio-compost yard, the covered shed was damaged and improper. Ready bio-compost was found stored in damaged covered shed. Also, the leachate collection drain and pits were not observed around the periphery of bio-compost yard for leachate management.
  Also, the unit had not constructed any boundary wall near the compost yard. This is the violation of CPCB bio-compositing SOP.
- The unit shall dispose all the stored ready bio-compost and press mud in bio-compost yard by adapting appropriate scientific method under the supervision of UKPCB within two months and after that the unit shall clean the bio-compost area and shall submit photographic evidence to UKPCB.

Status of Compliance- Partial Compliance

Objection by Applicant Bio Compost lying on open area which is full of polluted water (Photographs attached as **Annexure A 1 page 9-10**

8. Objection to S No 12

Recommendation

The unit shall prepare adequacy and performance assessment report of ZLD scheme for molasses based distillery as unit has expanded its production capacity from 60 KLPD to 120 KLPD and has installed spray dryers as ZLD system

9. Objection to S No 13

Recommendation

The unit shall comply with the consent conditions issued by UKPCB and shall ensure that no fresh concentrated spent wash shall be disposed through bio-composting and entire spent wash shall be totally disposed through spray dryer.

Objection by Applicant- Complying

Objection by Applicant committee has not stated correct fact , respondent no 7 is still violating the CPCB DIRECTION 07/12/2015 AND SPCB DIRECTION Dated 13/03/2015
Committee has not speak correct fact that ZLD can not achieve through spray dryer while in other case OA 682/2019 , CPCB issue below direction regarding ZLD

3.1.1 Distillery industry

The molasses based Distilleries generate large volume of high strength effluent called “spent wash”, which is one of the

recalcitrant effluent having extremely high COD (80,000-1,20,000 mg/l), BOD (40,000-60,000 mg/l), SS, inorganic solids, low pH, strong odour and dark brown colour.

In distillery, disposal of large volume of waste water is a serious concern. Further wastewater characteristic makes it impossible to achieve the prescribed standard including removal of color through conventional technology and without high level of dilution. CPCB has adopted

a policy of ZLD in Ganga basin in 2015 which is logical evolution of zero spent-wash discharge specified under CREP action plan in 2003.

Technologies available/adopted for achieving ZLD in distillery are, namely, (i) Anaerobic digestion (ii) Reverse Osmosis (RO) (iii) Multiple effect evaporation (MEE) followed by drying /incineration of concentrated spent-wash through (i) Spray dryer / Rotary dryer (ii) Slop fired boiler. The bio-composting of concentrated spent wash is also adopted by various distilleries.

The suggested technological options for achieving ZLD in Ganga basin industries include either of the two routes:

(a) R.O & MEE or MEE only followed by Bio-composting Or Evaporation – Concentration using appropriate tech. such as MEE followed by Incineration boiler.

(b) Advanced process technologies (cont. fermentation, multi pressure distillation, integrated evaporation etc.) for reduction of spent wash to 6-8 KL/KL followed by evaporation-concentration and incineration using tech. such as MEE & Incineration boiler.

(Annexure A 4 page 24

10. Objection to S No 23

Recommendation

The unit shall maintain the proper record of ash disposal in low lying area. Logbooks were collected by the inspection team regarding Ash generation and disposal for duration 01.12.2024 – 30.04.2024.

Objection by Applicant- No guideline issued for proper storage, disposal of ash , no recommendation made

Fact neither consider by committee nor recommended

11. Ground water polluted up to 5 KM of surrounding area , no step taken to cure this problem
12. Untreated water continuously discharging through Nala , no step taken to stop it
13. Green belt area not developed, other industry photo attached
14. Respondent unit has not complied order issued in case of OA 896/2019 , dated 03/02/2021, by Hon'ble NGT, committee has not utter any word regarding this.
15. While calculating Environmental Compensation against respondent unit ,noncompliance of direction issued in case of 593/2017 , order dated 31/08/2018 by Hon'ble NGT, less EC imposed .
16. Page No 1075 of of inspection report averred about Green Belt Area, but non complied
17. Respondent unit discharging polluted water which further polluted ganga river, next year Jan 2025 prayagraj Kumbha Mela will began.
18. Photos presented by committee and photos presented by company both are same photographs of green belt area, actually that does not exist in ground.

PRAYER

That Hon'ble Tribunal may be pleased to reject report dated 22.07.24, order to inquiry of compliance status of company by any independent committee

DATE 28/10/24 **PRAKASH PANDEY**

PLACE Haridwar **COUNSEL FOR THE APPLICANT**

1324 SR No. 839/24
Time 11.30 AM/PM

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH AT NEW DELHI

ORIGINAL APPLICATION NO 530/2023

IN THE MATTER OF-:

ANUJ KUMAR

PETITIONER

VERSUS

STATE OF UTTARAKHAND & ORS.

RESPONDENTS

AFFIDAVIT

I ANUJ KUMAR S/O RICHHPAL SINGH Aged 37 Years R/O VILL KEHRA LASKAR , HARIDWAR, UTTARAKHAND do hereby solemnly affirm on oath as under

1. That ,I am the applicant in the instant case and fully conversant with the facts of the case and hence, competent to swear on this affidavit.
2. That ,i am filing the objection along with annexure against the inspection/compliance verification report dated 22.07.2024 filed by CPCB, before the Hon'ble Tribunal the Contents from Para 1 to last have been drafted on my instruction and the same have been explained to me by my counsel.
3. That ,i have been read and understood the contents and based on the documents filed along with this .

DEPONENT

VERIFICATION

I, The above named deponent do hereby verify that the contents of the paras above are true and correct and no material fact has been concealed.

Signed and verified on this 28 Day of October 2024 at Roorkee

DEPONENT

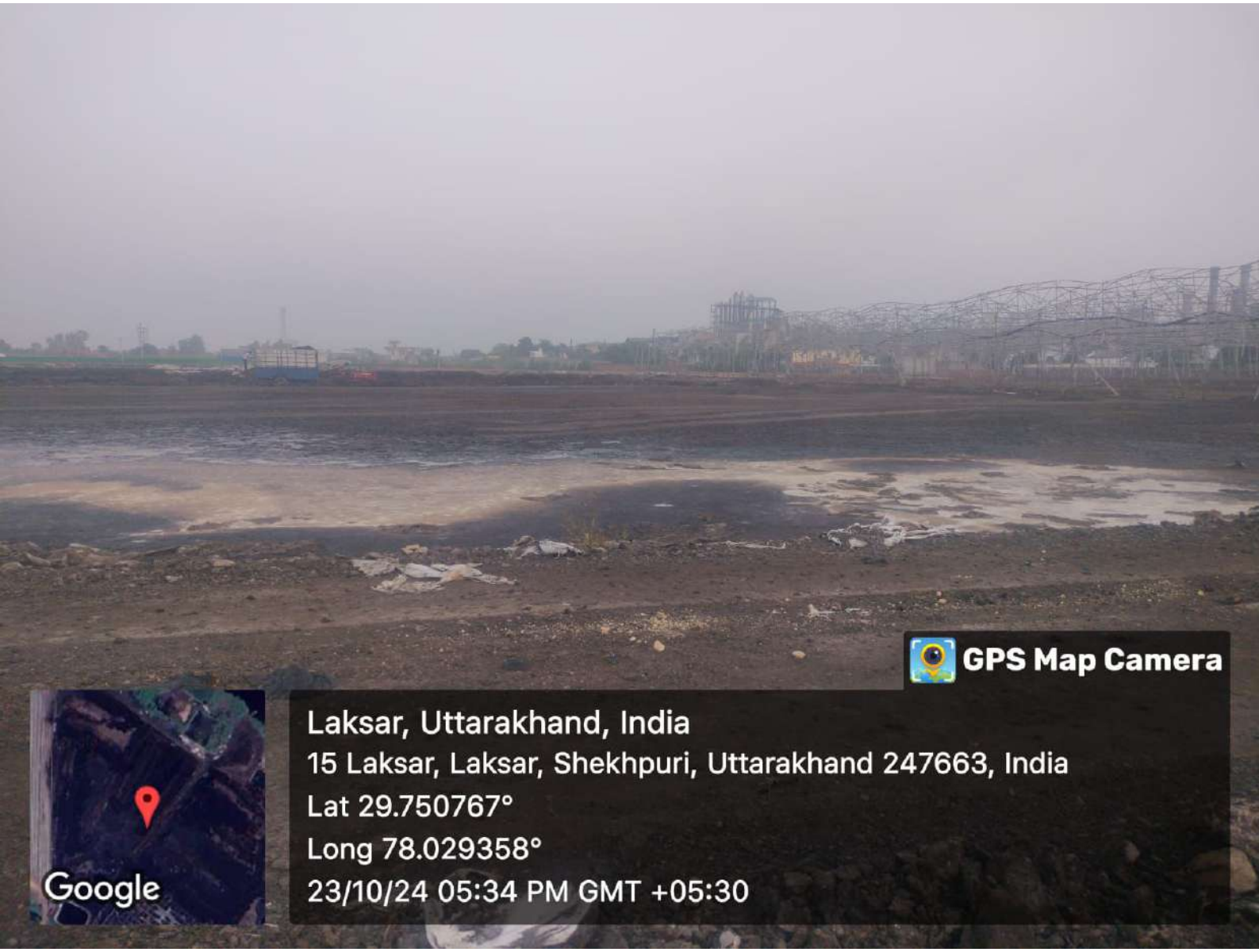
ATTESTED & VERIFIED
28/10/2024
Rajendra Prasad Sharma
Advocate & Notary
Roorkee Distt. Haridwar (U.K.)
Reg No: 1857/2001

IDENTIFIED BY
IVER SHARMA
Advocate
Civil Court, Roorkee
Regd No.- 560/2009

1325

Annexure A1

1326


GPS Map Camera
Laksar, Uttarakhand, India
15 Laksar, Laksar, Shekhpuri, Uttarakhand 247663, India
Lat 29.750767°
Long 78.029358°
23/10/24 05:34 PM GMT +05:30
Google

Item No. 05 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 896/2019

(With report dated 16.10.2020)

Teluram Applicant

Versus

State of Uttarakhand Respondent(s)

Date of hearing: 03.02.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Respondent(s): Mr. Atif Suhrawardy, Advocate for CPCB
Mr. Mukesh Verma, Advocate for UEPPCB

ORDER

1. Vide order dated 30.10.2019 an action taken report was sought from Uttarakhand Pollution Control Board ("State PCB") with reference to the allegation of violation of environmental norms by the M/s R.B.N.S. Sugar Mills Ltd. and M/s R.B.N.S. Sugar Mills Ltd. (Distillery Unit) at Laksar, District Haridwar, Uttarakhand.

2. The matter was last considered on 19.06.2020 in the light of report of the State PCB dated 27.02.2020 which was found to be incomplete. Following order was passed:

> *"3. We find that the report is incomplete and neither the deficiencies earlier found which led to closure nor the remedial steps taken are mentioned. The source of water used in both the units is not mentioned. It is not clear how the Unit is drawing ground water when the area is over-exploited, critical or semi-critical. If ground water is being drawn steps be taken to stop it and recover compensation as laid down vide orders of this Tribunal, including order dated 11.9.2019 in OA 176/2015 (Shailesh Singh).*
>
> *4. Let a further report be furnished by the joint Committee of CPCB and State PCB within two months by e-mail at judicial-*

ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The Nodal agency will be the CPCB for compliance and coordination."

3. Accordingly, the State PCB has filed its further report dated 16.10.2020 alongwith the compliance status report as follows:

"xxx ……xxx……xxx……

Subsequently, to deliberate upon the issue of EC to be levied on the unit for illegal extraction of ground water and to finalize the Joint Committee report to be filed in Hon'ble NGT, a meeting was again convened on 05.10.2020 through video conferencing with representatives from CPCB, CGWA and UKPCB. Based on the detailed deliberations held, following decisions were made:

1. *UK.PCB would ask District Collector and CGW A to calculate and levy EC as per the Hon'ble NGT order dated 26.08.2019 in the matter of Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors., OA. No. 593 of 2017, which authorizes District Collector/ CGWA to levy EC for illegal extraction of ground water. UKPCB is requested to send a copy of the letter to CPCB for information.*
2. *UK.PCB was asked to provide the updated compliance status of the unit.*
3. *CGWA was requested to calculate the Environmental Compensation to be levied on the industry in accordance to the water consumption and illegal extraction of ground water.*

Minutes of meeting are attached as (Annexure -VII)

As per the decisions taken in the meeting, UKPCB vide its letter dated 6.10.2020 (Annexure -Vlll) has asked CGWA and District Magistrate to calculate EC for illegal extraction of ground water by the unit and intimated CPCB about the same.

Also, as recommended, UKPCB vide e-mail dated 07.10.2020 has submitted the updated compliance status of the unit through which it is informed that in context to the public complaint against the M/s RBNS Sugars Mills Ltd., (Distillery unit) inspection of the unit was undertaken on 18th September, 2020 to verify the compliance status in the presence of officials of local administration and residents of nearby village. Key observations & recommendations of the inspection report (Annexure -IX) are as follows:

- *The unit was not in operation at the time of inspection.*
- *Seepage from bio-compost yard was observed to outside of boundary wall across the bio-composting Area/Yard. Water samples have been collected by the team and submitted for lab analysis. The analysis results are awaited.*
- *Leachate collection pits and movable leachate collection pumps were provided in the bio-compost yard for re-collection of leachates.*

- *Laksar drain is passing within the unit's premises specially near Molasses storage tanks and spent wash storage lagoons. No bypass arrangement was observed.*
- *Since Laksar drain is passing within unit premises; there is possibility of discharge of surface run off of unit premises into Laksar drain.*

Recommendations:

- *A buffer Zone between bio composting yard & Boundary wall of bio composing yard to be made by development of green belt.*
- *A dedicated pumping & piping arrangement to be made at bio composting yard to recollect the leachate & other liquid discharge through catchment drain/ collection pit & recycled to spent wash sump at bio composting yard, specifically in rainy season.*
- *A retaining wall to be made along the Laksar drain within unit premises to prevent any liquid discharge and surface run off in to Laksar drain."*

4. In view of above, further remedial action may be taken for enforcement of environmental norms by the State PCB, in coordination with other concerned authorities, following due process of law. Since the statutory authorities have to exercise their statutory powers, it is not necessary for the Tribunal to hear the alleged violator.

The application is disposed of.

A copy of this order be forwarded to the State PCB by e-mail for compliance.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

February 03, 2021
Original Application No. 896/2019
A

~~Speed Post~~ 1330

B-400(S)/Technical/PCI-III/2014-15

February 24, 2015

To,

The Chairman,
(Uttar Pradesh, Bihar, West Bengal, Jharkhand & Uttarakhand, Haryana, Chhattisgarh, Madhya Pradesh and UT of Delhi)

Direction under section 18(1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 to ensure water conservation and water management from Sugar Manufacturing Units

WHEREAS, among others, under Section 17 of the Water (Prevention and Control of Pollution) Act, 1974, one of the functions of the State Pollution Control Board (SPCB)/Pollution Control Committee (PCC), constituted under the Water (Prevention & Control of Pollution) Act, 1974 is to plan a comprehensive programmed for prevention, control of abatement of pollution of streams and wells located in the State/UT and to secure the execution there; and

WHEREAS, the Central Government has notified the standards for discharge of environmental pollution from various categories of industries under the Environment (Protection) Act, 1986 and the rule farmed there under; and

WHEREAS, the CPCB and SPCBs have been pursuing the polluting industries to install effluent treatment plants (ETPs) to comply with the effluent discharge standards as notified under the Environment (Protection) act, 1986 and the Rules framed there under; and

WHEREAS, the SPCBs/PCCs can stipulate stringent standards for discharge of environmental pollution from various categories of industries than those notified by the Central Government, under the Environment (Protection) Act, 1986 and rules framed there under; and

WHEREAS, various industrial units including sugar manufacturing units located in the state of Uttarakhand discharge effluent in the River Ganga and its tributaries or in catchment of Ganga basin, which adversely affect the water quality of River Ganga; and

WHEREAS, CPCB issued direction dated 03-12-2014 under section 18 (1) (b) of the Water Act 1974 to all States including Uttarakhand Environment Protection & Pollution Control Board for ensuring the compliance given below as:

1. To ensure the operation of ETP at least one month before commencement of the next crushing season, stabilize and operate it as per the design criteria and also operate the ETP even after completion of the crushing season so that any effluent generated during washing and maintenance is discharged after proper treatment so that the treated effluent meets the prescribed standards prior to the disposal.
2. The unit shall not be permitted to start its operation in the next crushing season till the unit upgrades/modifies/augments/dismantles all illegal bypass lines and produce documentary evidence and assure the operation of the ETP as per the prescribed effluent quality norms.
3. Units shall upkeep the log book of ETP, energy meter system and establish an environmental laboratory to analyse minimum parameters.
4. The units shall implement all the necessary measures to reduce wastewater generation to 100 litres per tonne of cane crushed and time bound action plan for zero liquid discharge (ZLD) option.
5. The boiler stacks in Sugar units shall be provided with adequate monitoring arrangement as per CPCB document: COINDS/18/1984-85 & Emission Regulations Part III.
6. The units shall obtain consent under Water Act and Air Act from State Board and adhere to all the stipulated conditions before commencements of operation in the next season.
7. The records of water consumption, wastewater generation, and operation and maintenance of ETPs shall be maintained.
8. The units shall inform the action plan for proposed rain water management system.
9. The progress in implementing the earlier directions dated February 5, 2014, towards installing online effluent quality monitoring system at the outlet of effluent treatment plants in the sugar units to be reported.

WHEREAS, under the National Ganga River Basin Authority (NGRBA) it has been decided to address the issue of pollution of river Ganga in a comprehensive and time bound manner; and

WHEREAS, the Hon'ble Prime Minister's Office reviewed the progress made in the activities of the NGRBA and has identified thrust areas, including ensuring zero liquid discharge and water conservation and management from feasible industrial sectors; and,

Now Therefore, in view of the above and in exercise of the powers conferred under section 18 (1) (b) of the Water (Prevention and Control of Pollution) Act, 1974, you are hereby directed to take adequate steps to implement the following directions in the Sugar

Manufacturing units in the state to ensure that water conservation and management is achieved;

1. All the Units in the State shall be directed to achieve following compliance as:

   (i) Waste water generation to be limited to 40 l/Tonne of cane crushed by next crushing season or before **November 2015**

   (ii) Establish mini cooling tower or polishing tank for recycling the excess condensate water to process/utilities/allied units by **November 2015.**

   (iii) Upgrade ETP system to meet the discharge standards for irrigation by **November 2015.**

   (iv) All industries has to submit the irrigation plan before the starting of next crushing season **(2015-16)**

   (v) No treated effluent will be discharged into drain or river henceforth. Treated effluent will be re-used in the process or to be used for irrigation purpose after meeting the standards.

   (vi) The 'Consent to operate' (CTO) issued/to be issued to all the Sugar manufacturing units in the State shall be suitably modified within **10 working days**, incorporating the above conditions and time schedule as above. The validity of the 'Consent to Operate' shall be linked with the compliance of the directions such that the consent issued to industries, those failed to comply shall **stand automatically withdrawn.**

   (vii) Review of the progress has to be monitored by State Pollution Control Board in **August 2015 and October 2015** and industries willing to adhere to the time schedule and conditions above, only to be permitted to operate in the next crushing season and all other industries CTO stand withdrawn automatically.

   (viii) The copies of directions/correspondences/action plan submitted by the industries for implementation of above directions shall be endorsed to CPCB along with the updated list of Sugar manufacturing units in the State.

2. The present direction shall supersede all the previous directions from CPCB related to Zero Liquid discharge in the Sugar manufacturing sector.

3. The progress achieved in ensuring compliance to implement the earlier directions dated February 5, 2014, towards installing online effluent quality monitoring system at the outlet of effluent treatment plants and details of progress achieved on nine specific points mentioned above, by individual units, as per the direction dated 03-11-2014 shall be reported.

4. **It may be noted**, as you are aware, **that such a commitment for achieving zero liquid discharge by Sugar manufacturing units / GPIs in the Ganga Basin is being submitted time to time before the Hon'ble Supreme Court of India and**

the Hon'ble NGT, Delhi in the related litigations pending before the Hon'ble Courts.

5. The action taken report shall be submitted within **10 working days** from the date of receipt of these directions.

(Shashi Shekhar)
Chairman

Copy to:

1) **The Mission Director,**
National Mission for Clean Ganga,
Ministry of Water Resource, River Development & Ganga Rejuvenation,
Rear Wing, 3rd Floor, MDDS Building,
9, CGO Complex, Lodi Road, New Delhi – 110003

2) **The Advisor (CP Division)**
Ministry of Environment, Forest & C.C
Prithvi Block, Indira Paryavaran Bhawan,
Jorbagh Road, New Delhi – 110 003

3) **The In-charge, Zonal Office**
Central Pollution Control Board
PICUP Bhawan, Ground Floor
Vibhuti Khand, Gomati Nagar,
Lucknow – 226 010

4) The In-charge, PAMS Division, CPCB
5) The In-charge, PCI-III Division, CPCB
6) The In-charge, PCI-SSI Division, CPCB
7) The In-charge, NGRBA Cell, CPCB
8) The In-charge, IT Division, CPCB

(A B Akolkar)
Member Secretary

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
Principal Bench, New Delhi

Original Application No. 682/2019

Beant Singh Bajwa, President,
National Anti-Corruption Council — Applicant

Versus

State of Punjab — Respondent

Index

S. No.	Particulars	Page No.
1.	**Status Report** in compliance of order dated 08.02.2022 in OA No. 682/2019, Beant Singh Bajwa, President, National Anti-Corruption Council Vs. State of Punjab.	
2.	**Annexure-1:** The notified effluent standards for discharge from various industrial sectors under Environment (Protection) Rules, 1986.	
3.	**Annexure-2:** A copy of the minutes of the meeting to review the compliance of Hon'ble NGT order dated 08.02.2022.	
4.	**Annexure-3:** A copy of Hon'ble NGT order dated 08.02.2022.	

(Kamlesh Singh)
Scientist E
Central Pollution Control Board
Delhi-110032

Date: 01.02.2023
Place: Delhi

Status report in compliance of Hon'ble NGT order dated 08.02.2022

In the matter of

Beant Singh Bajwa, President, National Anti-Corruption Council

Versus

State of Punjab
(NGT order dated 08.02.2022 in O.A No. 682 /2019)

By

Ministry of Environment, Forest and Climate Change, New Delhi

Central Pollution Control Board, Delhi

November 2022

Table of Contents

List of Table

List of Figure

List of Annexure

Status report in compliance of Hon'ble NGT order dated 08.02.2022

In the matter of

Beant Singh Bajwa, President, National Anti-Corruption Council Versus State of Punjab

(NGT order dated 08.02.2022 in O.A No. 682 /2019)

1.0 Background

In the matter of Beant Singh Bajwa, President, National Anti-Corruption Council (Applicant) Vs. State of Punjab (Respondent) (O.A. No 682/2019) before Hon'ble National Green Tribunal (NGT); the matter has been earlier considered inter alia on 04.12.2019, 24.6.2020 and 29.07.2021 before Hon'ble NGT Principle bench, New Delhi for remedial action against violation of environmental norms by Trident Factory, Dhanaula, Mansa Road, Barnala, Punjab.

Following the report filed by the joint Committee of Central Pollution Control Board ("CPCB"), Punjab SPCB, and District Magistrate, Barnala on 10.11.2021 giving the status of compliance with reference to the earlier report and a report filed by State SPCB dated 10.11.2021, the Hon'ble NGT vide order dated 08.02.2022, apart from direction to SPCB also passed the following direction for MoEF&CC & CPCB:

- *Given the understanding of the concept of the ZLD, the water recovered has to be used in the process itself and no waste water is discharged in recipient environment. This has to be clarified and affirmed by State PCB and separately by CPCB and MoEF&CC for pan India application.*

- *We also direct that CPCB and MoEF&CC through the CPCB to file separate status report on the status of compliance of ZLD with reference to the other categories of industries particularly for distilleries, textile, pulp and paper, pharmaceutical etc . viz-a-viz with reference to standards notified and implications of permitting for disposal of effluents on land, posing serious threat to soil and groundwater in long run, by 15.11.2022.*

- *MoEF&CC & CPCB need to resolve the issue how the pp will secure compliance with ZLD condition. Huge quantity of discharge of treated effluent on land for long time is bound to cause damage to the soil as well as groundwater.*

In this context, in compliance to the said Hon'ble NGT order, CPCB issued letters dated 19.04.2022 and subsequently multiple reminder letters issued to all SPCBs/PCCs to provide the status (as on date) of ZLD based industry in their State along with other relevant inputs for ensuring the timely compliance. In the meantime, CPCB also examined the various aspects of this matter keeping in the mind of above said order for the preparation of this status report.

2.0 Zero Liquid Discharge (ZLD)

The Zero Liquid Discharge (ZLD) concept can be implemented through a long-term planning and research and Development (R&D) exercises. The implementation of ZLD concept would require vast changes in the process of production, which cannot be carried out at this first instance. Adopting ZLD practices may not be feasible in many cases in view of techno-economic reason. The conventional ZLD system involves four stages (i) pre-treatment (ii) pre-concentration (iii) evaporation (iv) crystallization.

2.1 Definition

Zero Liquid discharge (ZLD) implies that the industries are not discharging any effluent, either on land or in the water body or at any other place i.e recycling the same in the process entirely without releasing any effluent (treated/untreated) into the environment.

The ZLD may be defined as '*The entire quantity of effluent is treated to recover water and recovered water is reused in process and/or utilities, and only solids are disposed off (or reused, if possible) in environmentally sound manner. Reuse of treated effluent for horticulture or agriculture purposes will be considered as discharge on land and not as means to achieve ZLD. Similarly, effluent from individual industries being sent to CETP for treatment will not be considered as ZLD.*

2.2 Clarification sought on the concept/definition of ZLD by SPCBs/PCCs.

CPCB asked all SPCBs/PCCs vide letter dated 19.04.2022 & subsequent reminders to remaining SPCBs/PCCs to submit the views/clarification on the ZLD definition along with other information. CPCB examined the reply of various SPCBs/PCCs & found that views/clarification on ZLD definition by SPCB are more or less same with the said definition of ZLD. However, three SPCBs i.e. Madhya Pradesh SPCB, Uttrakhand SPCB and Chhattisgarh SPCB has permitted gardening /horticulture of treated effluent under ZLD condition in their Consent to Operate (CTO) which is not as per the concept of the ZLD.

CPCB has asked Madhya Pradesh PCB (MPPCB) vide letter dated 12.10.2022 to review the ZLD concept considering that under ZLD no wastewater shall be discharged in recipient environment & reuse of treated effluent for horticulture or agriculture purpose will be considered as discharge on land and accordingly modify the CTO to ZLD based industries.

3.0 Existing Notified Environmental Standards of industries & status of sector-wise implementation of ZLD

The environmental standards for various categories of industries have been notified under the Environment (Protection) Rules, 1986 by the Ministry of Environment, Forest & Climate Change (MoEF&CC).

The notified effluent standards for discharge from various industrial sectors under Environment (Protection) Rules, 1986 is annexed at **Annexure-1**. The notified standards have prescribed discharged standards for various industrial sectors, however, the ZLD has not been prescribed and notified under the Environment (Protection) Rules, 1986. The industrial sector such as textile, pulp & paper, Sugar, Pharmaceuticals, Distillery and tanneries has been given discharge standard under the E(P)Rules, 1986. However, in case of distillery industry falling under the Ganga basin, the distilleries are mandatorily required to achieve ZLD as per the directions of CPCB.

The MoEF&CC and CPCB has not made ZLD mandatory for the industrial sectors except Distilleries located in Ganga basin vide CPCB direction dated 07.12.2015. At present, the Distillery industries are under obligation of mandatory ZLD condition falling in Ganga basin. It is to inform that other than Ganga basin, most of the SPCBs/PCCs have issued Consent for the ZLD in the distillery sector. As per the available information, the Ferti-irrigation as well as one-time land application of distillery effluent has not been permitted by the SPCBs/PCCs considering its long term impact on the soil and groundwater.

In reference to other categories of industries like Pulp & paper, Sugar, Textile, Pharmaceutical w.r.t notified standard, the said sectors are allowed for discharge of their treated effluent after meeting the prescribed standards into inland water body or on land subject to certain conditions as prescribed under E(P)Rules / Consent to operate (CTO).

It is also to submit that as per the section 3 subsection (2) of the Environment (Protection) Rules, 1986, SPCBs can specify more stringent standard in respect of any specific industry, operation, or process depending upon the quality of the recipient system and after recording reasons therefore in writing.

3.1 Implementation of ZLD by various industries /Existing status of ZLD

The increase in urbanization and industrialization has resulted in high demand of freshwater. Freshwater scarcity has become the most recent challenge of our time and which need to be utilized in a most sustainable manner. Alternative strategies need to be designed for groundwater or freshwater management. One of the strategies is to reuse and recycling of industrial or domestic wastewater. The treatment system needs to be designed for maximum water recovery and minimizing the amount of wastewater generation via reuse and recycling strategies.

Earlier, in consonance with India's National Water Policy, CPCB had drafted a guidelines in the year 2015 (CPCB, Guidelines on Techno-Economic Feasibility of Implementation of Zero Liquid Discharge (ZLD) for Water Polluting Industries, 2015) and circulated among the SPCBs/PCCs for their comments/views, which expected industries to adopt ZLD technologies and to recover as much treated water as possible for reuse by the industry and thereby help conserved freshwater resources. While CPCB intended ZLD to be applied to

industries generating wastewater of high COD/BOD load, color, metals, pesticides, toxic/hazardous waste, solvents and high TDS bearing effluents.

Currently the distillery sector has adopted zero liquid discharge (ZLD) concept through concentration/evaporation and drying/incineration/bio-composting system. Many industries such as Pulp & paper (waste paper based excluding writing & printing grade), Textile, Pharmaceutical, Tannery has voluntary adopted the ZLD system / consented by the SPCBs/PCCs.

CPCB has not directed other Industrial sector excluding distillery (Ganga basin only) for achieving the ZLD.

3.1.1 Distillery industry

The molasses based Distilleries generate large volume of high strength effluent called “spent wash”, which is one of the recalcitrant effluent having extremely high COD (80,000-1,20,000 mg/l), BOD (40,000-60,000 mg/l), SS, inorganic solids, low pH, strong odour and dark brown colour.

In distillery, disposal of large volume of waste water is a serious concern. Further wastewater characteristic makes it impossible to achieve the prescribed standard including removal of color through conventional technology and without high level of dilution. CPCB has adopted a policy of ZLD in Ganga basin in 2015 which is logical evolution of zero spent-wash discharge specified under CREP action plan in 2003.

Technologies available/adopted for achieving ZLD in distillery are, namely, (i) Anaerobic digestion (ii) Reverse Osmosis (RO) (iii) Multiple effect evaporation (MEE) followed by drying /incineration of concentrated spent-wash through (i) Spray dryer / Rotary dryer (ii) Slop fired boiler. The bio-composting of concentrated spent wash is also adopted by various distilleries.

The suggested technological options for achieving ZLD in Ganga basin industries include either of the two routes:

(a) R.O & MEE or MEE only followed by Bio-composting Or

Evaporation – Concentration using appropriate tech. such as MEE followed by Incineration boiler.

(b) Advanced process technologies (cont. fermentation, multi pressure distillation, integrated evaporation etc.) for reduction of spent wash to 6-8 KL/KL followed by evaporation-concentration and incineration using tech. such as MEE & Incineration boiler.

The Ministry of Environment, Forest & Climate Change (MoEF&CC) received a representation from Uttar Pradesh Sugar Mills Association (UPSMA) on 09.06.2021 with a request to grant regulatory permission for the use distillery spent-wash in Agriculture. MoEF&CC on the basis of report of the Committee comprising officials of MoEF&CC,

Ministry of Agriculture & CPCB informed to the UPSMA that any sort of land application of spent-wash having COD, BOD & salt load in liquid form shall not be considered.

3.1.2 Pulp and Paper industry

In India, the pulp and paper is manufactured from diverse raw materials such as (i) Wood, (ii) Agro-residues (bagasse/wheat straw etc.) and (ii) waste paper/recycled fiber/RCF.

The Pulp and Paper industry, worldwide, has been exploring the ZLD concept over the last two decades and has however not been able to identify a technically feasible and sustainable, technology to achieve ZLD. In India, ZLD has not been adopted by any Wood and Agro-based pulp & paper mills due to the involvement of huge cost. However, Zero Liquid Discharge (ZLD) system has been adopted by several Recycle fiber /wastepaper-based pulp & paper mills producing packaging grade paper & paperboards and claims to be reusing and recycling 100% wastewater within the process.

At the present, Zero Liquid Discharge is, techno-economically, not feasible for the Wood / Agriculture residue based pulp and paper mills.

3.1.3 Pharmaceutical industry

As per the notified effluent discharge standard prescribed under Environment (Protection) Rules, 1986, the discharge standard is applicable to all mode of discharges except to CETP.

Many pharmaceutical industries have adopted the ZLD system and consented by the respective SPCBs. As per the information received from SPCBs/PCCs about 620 Pharma Units have been issued consent for achieving ZLD.

3.1.4 Textile industry

As per the notified standard prescribed under Environment (Protection) Rules, 1986, the treated effluent of textile industries is allowed to be discharged in the ambient environment only after exhausting options for reuse in industrial process / irrigation in order to minimise freshwater usage.

Several Textile industries has adopted ZLD system and accordingly SPCBs has issued Consent for the ZLD. As per the information received from SPCBs/PCCs about 1754 textile mills have been issued consent for achieving ZLD.

3.1.5 Sugar industry

Sugar sector is the second largest agro based sector in India. Sugar mills are seasonal industries, thus ETPs are not operated in off season/non-crushing season. Large quantity

of water is consumed and wastewater is generated in this sector. The final treated effluent discharge has been restricted to 200 lit/T of cane crushed.

The Sugar industries are permitted to use their treated effluent for irrigation purpose after meeting the effluent discharge standard notified under E(P)Rules, 1986. The Treated effluent Irrigation protocol and waste water conservation or waste water management in Sugar industries has been prescribed in the notified discharge standard under E(P)Rules, 1986 and given below:

(i) Loading rates for different soil textures

S.No	Soil Texture	Loading rate in m3 /Ha/Day
1.	Sandy	225 to 280
2.	Sandy loam	170 to 225
3.	Loam	110 to 170
4.	Clay loam	55 to 110
5.	Clay	35 to 55

(ii) Waste water conservation and pollution control management

1) Establishment of cooling arrangement and polishing tank for recycling the excess condensate water to process or utilities or allied units.
2) Effluent Treatment Plant to be stabilized one month prior to the start of the crushing season and continue to operate one month after the crushing season.
3) During no demand period for irrigation, the treated effluent to be stored in a seepage proof lined pond having 15 days holding capacity only.
4) Flow meter to be installed in all water abstraction points and usage of fresh water to be minimized.

3.1.6 Tanneries

As per the notified standard prescribed under Environment (Protection) Rules, 1986, the treated effluent of textile industries is allowed to be discharged in the ambient environment only after exhausting options for reuse in industrial process / irrigation in order to minimize freshwater usage.

Tannery effluent contains TDS in concentration several times higher than this prescribed limit which is contributed by the common salt used for preservation of hides and skins as well as by the inorganic salts and chemicals used in the tanning process. The conventional treatment methods used for effluent treatment are largely aimed to treat organic matter and do not help in reduction of inorganic TDS due to inorganic constituents. Therefore, tanneries clusters are required to adopt extra measures to meet the CETP effluent standard for TDS.

Several Tanneries has adopted ZLD system and accordingly SPCBs has issued Consent for the ZLD. As per the information received from SPCBs/PCCs about 463 Tanneries have been issued consent for ZLD condition.

4.0 Utilization of Treated Effluent in Irrigation

Various industrial sector has been given permission for utilization of their treated effluent for the irrigation / land application after meeting the prescribed discharge standard as per the Consent condition issued by SPCBs/PCCs. However, untreated /partially treated effluent are prohibited for the utilization in Land application due to the detrimental impact on soil and groundwater quality.

CPCB, constituted an Expert Group, comprising of members from Indian Institute of Technology (IIT), Delhi, National Environmental Engineering Research Institute (NEERI), Delhi & Central Pollution Control Board (CPCB), Delhi and thereafter CPCB has issued a guideline titled "*Guidelines for Utilization of Treated Effluent in Irrigation"* in September, 2019.

The said guideline says "Adopting ZLD practices may not be feasible in many cases in view of techno-economical reasons. However, the industries should still to be encouraged for recycling and reuse of wastewater as far as practicable in order to minimize the freshwater consumption and discharge of wastewater into the environment. The treated wastewater of an industry may also be utilized for irrigation. This type of utilization/application is considered an efficient approach for managing/conserving water resources, compensating water shortages caused by seasonality or the irregular availability of water sources for irrigation throughout the year". The possible risks of wastewater usage in agriculture may range from changes to physico-chemical and micro-biological properties of soils to impact on human health. In unfavorable economic conditions, the search for alternative irrigation sources, such as the use of untreated or inadequately treated wastewater may result in risk factors. Thus, it is necessary to ensure the beneficial aspects of this practice before application of treated wastewater in irrigation.

As per the guidelines, the treated effluent should meet the norms prescribed for irrigation under Environment (Protection) Rules, 1986 or Consent to Operate issued under Water (Prevention and Control of Pollution) Act, 1974. The effluent should also conform to TDS norms of 2100 mg/L and Sodium Adsorption Ratio (SAR) - preferably less than 18 but not more than 26, depending on soil/crop type, besides meeting any other parameters suggested by agricultural scientist or agricultural university/institute in the Irrigation Management Plan (IMP).

Important feature of "*Guidelines for Utilization of Treated Effluent in Irrigation"* are as given below:

i. The industry should engage an Agricultural Scientist or tie-up with an Agricultural University or Institute for advice on the utilization or the rate of application of the effluent for irrigation considering the agro-climatic conditions.
ii. As seasons and the sowing periods of the crops put restrictions on the utilization of effluent for irrigation, the industry should prepare a comprehensive irrigation management plan (IMP), which should include the prescribed action point (refer guideline), in

consultation with the Agricultural Scientist or Agriculture University/Institute and submit to SPCB/PCCs which should verify the same while issuing consent to the industry.

iii. The treated effluent should be analyzed regularly, say after every 15 days. The effluent samples should be taken at the point from where the effluent is discharged for irrigation.

iv. Meeting the prescribed norms shall not be the only criteria for use of treated water in irrigation, the requirement of water for irrigation will also be a limiting condition.

v. The physio-chemical characteristics of the soil under irrigation with treated effluent, should be monitored twice in a year to assess conditions in summer and post monsoon seasons, in order to determine the deterioration of soil quality.

vi. The groundwater quality should also be monitored twice in a year. Samples should be collected from the first water bearing strata from existing hand pumps or by installing the same for sampling purpose only. The sampling points should be uniformly spread in the command area and near effluent storage area.

vii. The industry should carry out the analysis of various prescribed effluent/soil/ground water quality parameters from the NABL/EPA/SPCBs/PCCs recognized /accredited laboratories.

viii. Reports regarding compliance of effluent quality standards and status of soil and ground water quality shall be submitted to SPCBs/PCCs twice in a year in first week of January and July.

ix. In case of observation of any deterioration of the soil and ground water quality parameter in the assessment by Agricultural Scientist or Agricultural University/Institute, the application of effluent should be stopped immediately and the industry should inform the SPCBs, accordingly. The industry shall be solely responsible for reclaiming the soil and water quality at their cost in the affected area.

4.1 Status of implementation of Guidelines by SPCBs/PCCs.

In response of CPCB letter dated 19.04.2022, CPCB received the reply/information from SPCBs/PCCs regarding the land application in various industrial sector. CPCB examined the reply of SPCBs/PCCs on the matter of land application practices/irrigation. Based on the reply of SPCBs/PCCs, the following observations were made:

i) "*Guidelines for utilization of treated effluent in Irrigation*" are not being followed and also not part of Consent condition issued by SPCB/PCCs for those industries which are discharging/disposing treated effluent on land.

ii) Irrigation Management Protocol (IMP) is not mandatory in Consent order issued by SPCBs/PCCs in case land application/irrigation are allowed. However, only Karnataka SPCB & Bihar SPCB replied that IMP is mandatory for sugar industry.

iii) No Study has been carried out for the assessing the impact of land application by SPCB or through third party.

iv) Treated effluent are allowed/permitted by some SPCBs/PCCs in gardening/horticulture purpose under ZLD condition (like UKPCB, MPPCB, Chhattisgarh PCB) which is not as per definition of ZLD (i.e treated effluent only used in process and not allowed for gardening/irrigation/horticulture).

1345

The Compiled information from SPCBs/ PCCs w.r.t land application of treated effluent are given below at Table No.1.

Table 1: Compiled information from SPCBs/ PCCs w.r.t land application of treated effluent.

S.No.	SPCBs/PCCs	Land application /irrigation allowed	Irrigation Management Plan(IMP) mandatory in CTO	Study conducted by SPCB or third party for assessing the impact of land application	Land application/irrigation permitted under ZLD in consent order	Contaminated sited due to indiscriminate disposal of effluent on land
1.	Bihar	Yes [Sugar Unit)	Yes (Sugar Unit)	No	----	Nil
2.	H.P	Yes	No	No	No	Nil
3.	Kerala	No	---	No	No	Nil
4.	Uttarakhand	Yes	No	No	Use of treated water in gardening is allowed.	No such site(s) is identified in state.
5.	Odisha	Yes	No	No	Yes	No information
6.	M.P	Yes	No	---	Yes	No, however long back in 1990,the H-acid plant were operated up to 1998-99 in Ratlam industrial area has impacted the ground water.
7.	Karnataka	Yes	Yes (In case of Sugar Unit)	Yes (Sugar Unit)	No	Nil
8.	Pondicherry	No	NA	N/A	No	No information provided
9.	Punjab	Yes	--	--	No	Nil
10.	Maharashtra	Yes	No information provided	No information provided	No information provided	No information provided
11.	Chhattisgarh	Yes	No	No	Yes	Nil
12.	Tamil Nadu	Yes	Yes [In some cases, not uniformly adopted]	Yes [In some cases]	No	Nil
13.	Rajasthan	Yes	No	No	No	Yes 01 site identified.
14.	Telangana	Yes (Only Agri based/Dairy Unit)	No	No	No	09 sites identified and necessary action is being taken by SPCB.
15.	Uttar Pradesh	Yes	No information provided		No	No information provided
16.	Gujarat	No information provided			No	Nil

1346

17.	Assam	No	--	No	No	No information provided
18.	Arunachal Pradesh	No	--	No	No	Nil
19.	Sikkim	---	No	No	No	No
20.	J&K	No information provided				
21.	W.B	No information provided				
22.	Nagaland	No industry is reported				
23.	Mizoram	No industry is reported				
24.	Tripura	No industry is reported				
25.	Goa	No information provided				

5.0 Compliance status of ZLD industries as per the information submitted by SPCBs/PCCs.

CPCB asked the SPCBs/PCCs for submission of compliance status of the ZLD w.r.t pulp & paper, Sugar, Distillery, Textile, Pharma, Tannery etc. industrial sectors.

Based on the information received from various SPCBs/ PCCs, it was observed that several SPCBs/PCCs has issued Consent to Operate for ZLD condition to industries such as Pulp & Paper (wastepaper based), Distillery, Textile, Pharma and Tannery industries etc. However, CPCB has not made the ZLD condition as mandatory in any industrial sector except distilleries in Ganga basin Units.

The Compiled information (sector-wise) regarding ZLD based industries & its compliance status as per the information submitted by SPCBs/PCCs is tabulated at Table 2.

Table 2: Status of ZLD industries and their Compliance status.

Sector	Total No. of industries implemented ZLD	Total No. of Consented based ZLD industry	Compliance status of ZLD industry reported by SPCBs/PCCs
			Non-Complying
Pulp & Paper	359	354	14
Distillery	215	210	04
Sugar	12	12	00
Textile	1792	1754	31
Pharma	588	620	29
Tannery	463	463	00
Total	3429	3413	82

Note: Some SPCBs has allowed land application of treated effluent under ZLD condition which is not as per the ZLD concept.

In response to CPCBs letter dated 19.04.2022 issued to all SPCBs/PCCs, overall compliance status of ZLD Unit as per information submitted by various SPCBs/PCCs is at Table 3.

1347

Table 3. Overall Status of ZLD based industries in Pulp & Paper, Distillery, Textile, Sugar, Pharmaceutical and Tannery sectors.

S.No.	State PCB	Sector	Category/ Type	Total No. of Industries	Total No. of industries implemented ZLD.	Total No of ZLD based consented order issued	Compliance Status of ZLD Unit
1.	**M.P**	Pulp & Paper	Wood Based	01	00	00	Not applicable
			Agriculture Residue Based	00	00	00	
			Wastepaper based (RCF)	03	00	00	
		Distillery	Molasses	01	01	01	Complying
			Grain	09	09	09	Complying
		Textiles	--	14	12	12	Complying
		Sugar	--	16	00	00	Not applicable
		Pharma	-	24	24	24	Complying
		Tannery	Chrome Tanning	01	01	01	Complying
			Veg Tanning	00	00	00	
		Any other	--	03	03	03	No information provided
2.	**Bihar**	Pulp & Paper	Wastepaper based	06	06	06	All Complying
		Distillery	Molasses	07	07	07	01 Non-complying and is closed. Remaining Unit is complying.
			Grain	03	03	03	
		Textiles	-	04	-	-	Not applicable
		Sugar	-	11	-	-	
		Pharma	-	00	-	-	
		Tannery	Chrome Tanning	02	-	-	
3.	**W.B**	Pulp & Paper	Wood Based	00	00	00	Not applicable
			Agriculture Residue Based	00	00	00	
			Wastepaper based	02	02	02	Complying
		Distillery	Molasses	01	01	01	Complying
			Grain				
		Textiles	-	-	-	-	No information provided.
		Sugar	-	-	-	-	
		Pharma	-	-	-	-	
		Tannery	-	-	-	-	
4.	**H.P**	Pulp & Paper	Wood Based	03	00	00	Not applicable
			Agriculture Residue Based	00	00	00	

			Wastepaper based	08	01	01	Complying
		Distillery	Molasses/ Grain	05	02	02	01 Unit is non-operational. No information is provided for other Unit.
		Textiles	-	09	00	00	No ZLD unit
		Sugar	-	-	-	-	--
		Pharma	-	518	18	02	Complying
		Tannery	-	-	-	-	--
5.	**Kerala**	Pulp & Paper	Wastepaper based (RCF)	06	06	06	All are complying except 01 which is partially complying.
		Any Other	--	01	01	01	No information provided
6.	**Uttarakhand (U.K)**	Pulp & Paper	Wood Based	03	00	00	Not applicable
			Agriculture Residue Based	00	00	00	
			Wastepaper based	33	03	02	Complying
		Distillery	Molasses	04	04	04	Complying
			Grain	00	00	00	
		Textiles	-	02	02	01	Complying
		Sugar	-	07	00	00	Not applicable
		Pharma	-	01	00	00	
		Tannery	-	00	00	00	
7.	**Odisha**	Pulp & Paper	Wood Based	05	02	02	No information w.r.t compliance.
			Agriculture Residue Based				
			Wastepaper based				
		Distillery	Molasses	03	03	03	
			Grain				
		Textiles	-	00	00	00	
		Sugar	-	02	02	02	
		Pharma	-	01	01	01	
		Tannery	-	00	00	00	
8.	**Punjab**	Pulp & Paper	Wood Based	00	00	00	Not applicable
			Agriculture Residue Based	03	00	00	
			Wastepaper based	24	10	07	Complying
		Distillery	Molasses	02	02	01	Complying
			Grain	12	08	04	

		Textiles	-	199	11	07	All are Complying except 01 Unit (Non-complying)
		Sugar	-	10	0	0	Not applicable
		Pharmaceutical	-	35	07	05	Complying
		Tannery	Chrome Tanning	02	00	00	Not applicable
9.	**Gujarat**	Pulp & Paper	Wood Based	02	02	02	All are Complying except 07 Unit (non-complying)
			Agro Based	00	00	00	
			RCF/Waste paper based	145	141	141	
		Distillery	Molasses	04	02	02	All are Complying except 01 Unit (non-complying)
			Grain	00	00	00	
		Textiles	-	849	104	71	All are Complying except 03 Units (non-complying)
		Sugar	-	12	00	00	Not applicable
		Pharmaceutical	-	405	170	170	12 Unit are non-Complying.
		Tannery	Chrome Tanning	01	00	00	Not applicable
		Other	--	1149	110	110	No information provided
10.	**GOA**	Pulp & Paper	--	00	00	00	Not applicable
		Distillery	Molasses/ Grain	02	02	02	Complying
		Textiles	-	00	00	00	Not applicable
		Sugar	-	00	00	00	
		Pharmaceutical	-	07	07	07	No information provided
		Tannery	-	00	00	00	--
11.	**Assam**	Pulp & Paper	-	04	01	01 (03 no. of CTO application under process)	Implementation of ZLD under process for remaining three Unit and instructed to comply with ZLD.
		Distillery	Molasses/ Grain	01	00	00	Not applicable
		Textiles/Sugar/Pharma/ Tannery		00	00	00	Not applicable
12.	**U.P**	Pulp & Paper	--	100	30	30	No information provided
		Distillery	Molasses/ Grain	72	60	60	
		Textiles	-	536	17	17	
		Sugar	-	119	00	00	
		Pharma	-	04	02	02	
		Tannery	-	394	08	08	

1350

13.	**Karnataka**	Pulp & Paper	Wood Based	04	00	00	Not applicable
			Agriculture Residue Based	06	05	05	01 Unit is Complying. No information provided for other 04 Unit.
			RCF based	26	19	19	All complying except 01 Non-Complying.
		Distillery	Molasses	15	10	10	All is Complying
			Grain	02	02	02	
		Textiles	-	102	11	11	All Unit Complying except 02 Unit (Non- complying).
		Sugar	-	14	00	00	Not applicable
		Pharma	-	93	76	76	All are Complying
		Tannery	-	00	00	00	Not applicable
		Starch		03	00	00	Not applicable
		Any other		2461	48	48	No information provided
14.	**Maharashtra**	Pulp & Paper	Wood Based	00	00	00	Not applicable
			Agriculture Residue Based	03	02	01	06 unit are not-complying. 01 unit are partially complying. Others are complying.
			RCF based	28	28	28	
		Distillery	Molasses	102	89	88	02 unit are not Complying. 01 unit is closed. Others are complying.
			Grain	09	02	02	
		Textiles	-	41	30	30	01 unit is not-complying. 15 unit are complying. And about other unit, no information is provided.
		Sugar	-	186	01	01	Complying
		Pharmaceutical	-	142	117	117	05 unit are not-complying , 01 unit is partial complying and 92 unit are complying. About other unit, no information is provided.
		Tannery	-	01	00	00	Not applicable
		Any Other	-	571	243	246	---
15.	**Chhattisgarh**	Pulp & Paper	Wood Based	00	00	00	Not applicable
			Agriculture Residue Based	00	00	00	Not applicable

			RCF based	13	13	13	Complying Unit
		Distillery	Molasses	00	00	00	Not applicable
			Grain	03	03	03	Complying Unit
		Textiles	-	00	00	00	Not applicable
		Sugar		04	04*	04*	Complying
		Pharma		00	00	00	Not applicable
		Tannery		00	00	00	Not applicable
		**Permitted for land application within the premises which is not as per ZLD concept.*					
16.	**Tamil Nadu**	Pulp & Paper	-	96	87	87	Complying
		Distillery	-	06	06	06	Complying
		Textiles	-	1530	1498	1498	Complying
		Sugar	-	15	04	04	Complying
		Pharma	-	18	17	17	Complying
		Tannery	-	465	453	453	Complying
		Starch	-	09	03	03	No information provided
		Any other	-	69	69	65	No information provided
17.	**Rajasthan**	Pulp & Paper	-	01	01	01	Complying
		Distillery	-	10	08	08	Complying
		Textiles	-	2554	103	103	24 Unit Non – Complying.
		Sugar	-	01	01*	01*	Complying
		**treated water used for plantation which is not as per ZLD concept.*					
		Pharmaceutical	-	22	21	21	12 Unit Non-Complying
		Tannery	-	10	01	01	Complying
18.	**J&K**	Pulp & Paper	--	06	00	00	Not applicable
		Distillery	Molasses	01	00	00	
			Grain	01			
		Textiles	-	01	00	00	
		Sugar	-	00	00	00	
		Pharma	-	05	00	00	
		Tannery	-	06	00	00	
19.	**Telangana**	Pulp & Paper	-	02	00	00	Not applicable
		Distillery	-	04	03	03	Complying

		Textile	-	04	04	04	Complying
		Sugar	-	06	00	00	Not applicable
		Pharma	-	182	128	128	Complying
		Tannery	-	02	00	00	Not applicable
		Starch	-	02	00	00	Not applicable
		Any Other	-	7761	00	00	Not applicable
20.	**Sikkim**	Pulp & Paper	-	00	00	00	Not applicable
		Distillery	Molasses	01	00	(Unit closed since 2018)	
		Textiles & Sugar	Textile	00	00	00	
		Pharmaceutical	Pharma	50	--	50	05 Complying. Remaining information not provided by SPCB.
		Tannery	--	00	00	00	Not applicable
21.	**Pondicherry**	Pulp & Paper/ Distillery/Textile/ /Sugar Tannery		00	00	00	Not applicable
		Pharmaceutical		01	01	01	Complying
		Any other		00	00	00	Not applicable
22.	**Chandigarh**	Not ZLD Unit					Not applicable
23.	**Delhi**	No Pulp & Paper, Sugar, distillery, textile, tannery and Pharma Unit exist in Delhi					Not applicable
24.	**Mizoram**	No industry reported.					Not applicable
25.	**Arunachal Pradesh**	No Industry such as Pulp & Paper; Distillery; Textiles; Sugar; Pharmaceutical; Tannery etc.					Not applicable
26.	**Tripura**	No industry reported.					Not applicable
27.	**Nagaland**	No Industry such as Pulp & Paper; Distillery; Textiles; Sugar; Pharmaceutical; Tannery etc.					Not applicable

6.0 Status of ZLD of M/s Trident Limited, Barnala, Punjab.

One of the Recommendation of the joint Committee report date 10.11.2021 was "*M/s Trident Ltd shall submit a detailed action plan for compliance of conditions stipulated by PPCB through its consent order, dated 10.02.2012 & 30.05.2013, wherein the industry was to install RO system followed by MEE in its H.T.D Division (Textile). This should be accomplished before 30.06.2020; as mandated by PPCB. The industry shall also submit time bound action plan by 15.03.2020 for installation of ATFD for the effective handling of MEE reject*."

A meeting was held on November 02, 2022 with representatives from MoEF&CC, CPCB (RD-Chandigarh), the Unit [M/s Trident Ltd; Punjab] and Punjab SPCB to review the

compliance of Hon'ble NGT order dated 08.02.2022 in the matter of Beant Singh Bajwa, President, National Anti-Corruption Council (Applicant) Vs State of Punjab (Respondent) (O.A No 682/2019). The minutes of the meeting is attached at **Annexure**-**2**.

During the meeting the representative of M/s Trident Limited, Barnala, Punjab informed the following status:

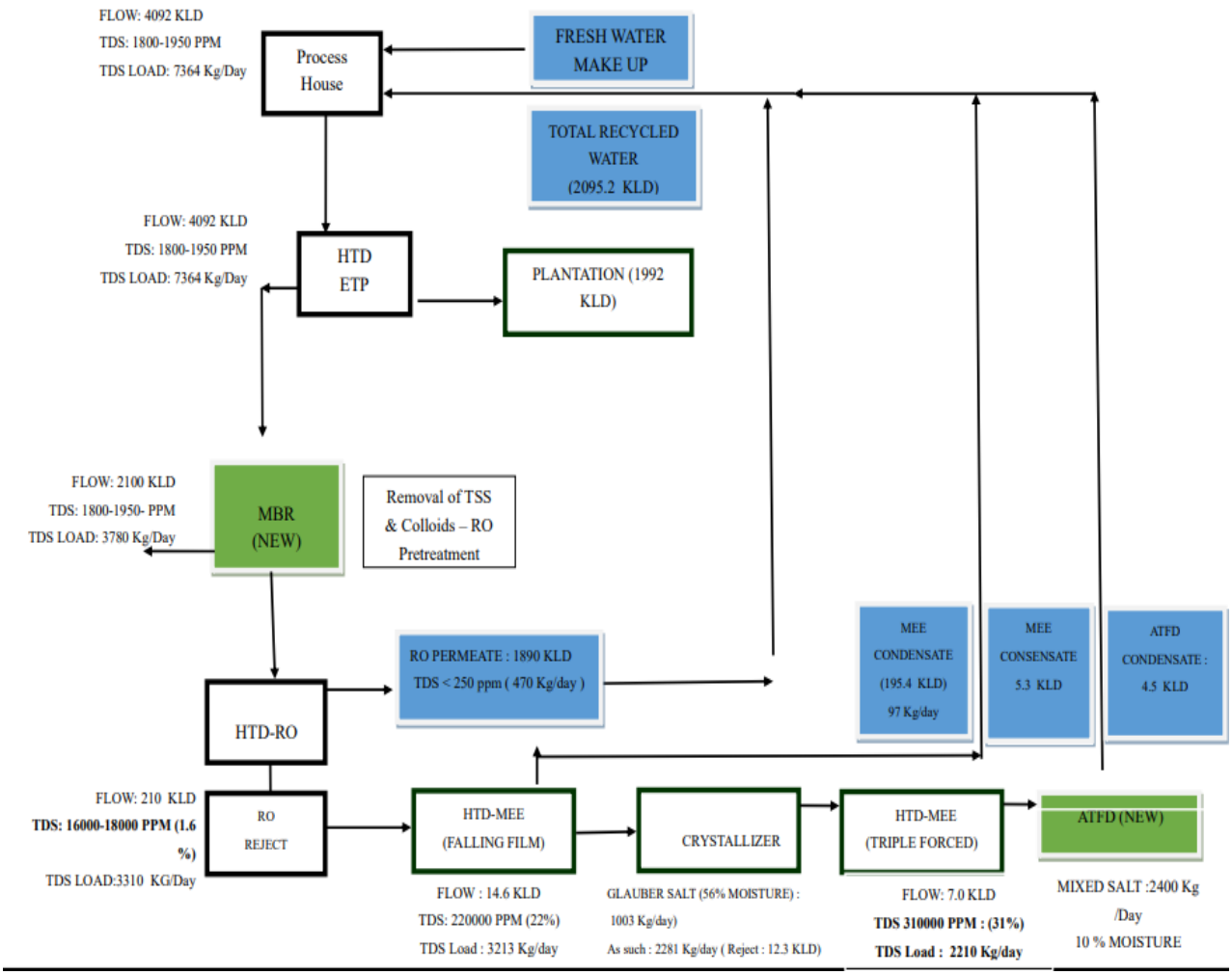
- No Discharge in Drain from Textile Division since 15 Nov 2021 and consideration for 100 % utilization of treated water for plantation.
- No Discharge in Drain from Paper Division since 21 June 2022.
- The Unit placed the order for the new technology MBR plant and ATFD plant.
- The Unit representative informed that although ZLD is not mandatory for compliance, the Unit has planned for installation of new MBR and ATFD for partial ZLD (2100 KLD effluent) in textile Division.
- *ATFD plant received at the Unit site on 27 Oct 2022 and Modification for Installation of ATFD Plant is under Progress at MEE Plant. Completion of Installation of ATFD by 15 Nov 2022.*
- *Modification for Installation of MBR Plant started by the Unit and Completion of Installation of MBR Plant by 30 Nov 2022.*
- The proposed ETP shall comprise of Micro Filter – new MBR --- RO --- MEE ----- Pusher Centrifuge ----- new ATFD. The Mother Liquor after salt recovery from Pusher Centrifuge will be taken to new ATFD.
- The current effluent generation from Textile Division is about 4000 - 5500 KLD. The Unit is installing facility for the partial ZLD in textile Division for taking care of 2100 KLD effluent only.

The Unit informed as advised by PPCB they are installing MBR and ATFD for partial ZLD for 2100 KLD effluent of textile Division in the first phase and the same shall be commissioned and will be operational by December 31, 2022. The Unit (Textile Division) informed that once the system is commissioned and operational they will analyze and asses its performance and shall take further action w.r.t ZLD in Textile Division.

The material balance based on present Utilization for Textile Division is at Figure 1.

1354

Figure 1: Material Balance based on present Utilization for Textile Division



It was informed that the Unit shall comply with the CPCBs "*Guideline for utilization of treated effluent in Irrigation*" which recommends study from an Agriculture University/Institute and preparation of comprehensive irrigation management plan (IMP) and submission to SPCB, monitoring of groundwater twice in a year etc. and the same shall be incorporated in Consent to Operate of the Unit by SPCB.

7.0 Overall status, concluding remark and recommendation

- The ZLD may be defined as '*The entire quantity of effluent is treated to recover water and recovered water is reused in process and/or utilities, and only solids are disposed off (or reused, if possible) in environmentally sound manner. Reuse of treated effluent for horticulture or agriculture purposes will be considered as discharge on land and not as means to achieve ZLD. Similarly, effluent from individual industries being sent to CETP for treatment will not be considered as ZLD.*

- Almost all the SPCBs /PCCs has affirmed that under the ZLD concept, the water recovered has to be used in the process itself and no wastewater (treated/untreated) is discharged in to the recipient environment including Land. However, few SPCBs has allowed horticulture/irrigation of treated effluent under ZLD condition which is not as per the ZLD concept. CPCB has asked Madhya Pradesh PCB (MPPCB) vide letter dated 12.10.2022 to review the ZLD concept considering that under ZLD no wastewater shall be discharged in recipient environment & reuse of treated effluent for horticulture or agriculture purpose will be considered as discharge on land and accordingly modify the CTO to ZLD based industries.

- It is observed that the several industrial sectors viz, Distillery, Pulp & Paper (RCF/wastepaper based), Pharmaceuticals, Textile etc. has adopted ZLD and SPCBs/PCCs has issued Consent for ZLD to these industries in this regard. However, the ZLD has not been notified under the Environment (Protection) Rules, 1986 and industrial sector such as textile, pulp & paper, Sugar, Tannery etc. has been given discharge standard including permission for land application after meeting the prescribed standard as per Consent order /standard notified under the E(P) Rules, 1986. CPCB has directed for adoption of ZLD only for the distilleries located in Ganga basin region.

- The ZLD condition may be decided on case to case basis by SPCBs/PCCs in CTO or in EC by MoEF&CC keeping in mind the environmentally sensitive/critically polluted area/Water scarce area etc.

- It was observed that the SPCBs/PCCs has given permission for the land application to various industrial sector such as Sugar, Pulp & Paper, Textile, Pharma etc. after meeting the discharge standard prescribed under E(P)Rules/ Consent order. In Distillery sector, most of the industries has adopted ZLD and consented by the respective SPCBs/PCCs. The Ferti-irrigation as well as One Time Land Application of distillery spent-wash has not been allowed by the SPCBs/PCCs considering the long term impact on Soil and Groundwater.

- It is observed that the "*Guidelines for the use of treated effluent in Irrigation*"; 2019 is not being followed by the SPCBs/PCCs and the same requires to be incorporated with Consent condition by SPCBs/PCCs before issuance of Consent to Operate to the concerned industries for compliance.

- The SPCBs /PCCs should not permit the use of treated effluent in irrigation /land application without submission of comprehensive irrigation management plan (IMP), by the respective Units as per said Guideline of 2019, in consultation with Agricultural Scientist or Agriculture University/Institute and same should be verified while issuing consent to the industry. In case of observation of any deterioration of the soil and groundwater quality parameters in the assessment by Agriculture Scientist or Agriculture University /Institute, the utilization of effluent should be stopped immediately and the industry should inform the SPCB, accordingly. The industry shall be solely responsible for reclaiming the soil and water quality at their cost in the affected area.

1356

- M/s Trident Limited (Textile Division), Barnala, Punjab informed that installation of MBR & ATFDwill be completed by 30.11.2022 and both will becommissioned by 31.12.2022. The Unit (Textile Division) informed that once the system is commissioned & operational they will analyze and asses its performance and shall take further action w.r.t ZLD in Textile Division.

- M/s Trident Limited, Barnala, Punjab shall comply with the CPCBs "*Guideline for utilization of treated effluent in Irrigation*" and the same requires to be incorporated by PPCB in CTO.

Sh. Gurnam Singh,
Regional Director,
CPCB, RD-Chandigarh

Sh. Sonu Singh,
Scientist E, CP Division, MoEF&CC, Delhi

Sh. Kamlesh Singh,
Scientist E, CPCB, Delhi

Dr. Krishan Kishor Garg,
Scientist-D, MoEF&CC,
Regional Office,
Chandigarh

****

1357

Annexure-1

S. No.	Industries	Parameters	**Discharge Standards** (all are in mg/L except pH & wastewater discharge limit)
1.	**Sugar**	pH	5.5-8.5
		TSS	100 (for disposal of land) 30 (for disposal in surface waters)
		BOD	100 (for disposal on land) 30 (for disposal in surface waters)
		Oil & Greece(O&G)	10
		TDS	2100
		Final wastewater discharge limit	200 litre per tonne of cane crushed
	Final treated effluent discharge restricted to 100 litre / tonne of cane crushed and Waste water from spray pond overflow or cooling tower blow-down to be restricted to 100 litre / tonne of cane crushed and only single outlet point from unit is allowed.		
2.	**FERMENTATION INDUSTRY** (DISTILLERIES, MALTRIES AND BREWERIES)	Parameters	Concentration in the effluents not to exceed milligramme per litre (except for pH and colour & odour)
		pH, Colour & Odour	5.5 – 9.0 All efforts should be made to remove colour and unpleasant odour as far as practicable.
		TSS	100
		BOD	100 (for disposal on land or irrigation) 30 (inland surface waters or river/ streams)
3.	**LARGE PULP & PAPER News print/ Rayon grade plants of (Capacity above 24000MT/annum**	Parameter	Concentration in mg/l except pH , AOX and SAR
		pH	7.0-8.5
		BOD	30
		COD	350
		TSS	50
		AOX	1.0 kg/ton of product
		Flow (Total Waste Water Discharge) (i)Large Pulp & Paper ii)Large Rayon Grade Newsprint	 200 Cum/Ton of Paper produced 150 Cum/Ton of Paper produced
	SMALL PULP AND PAPER , Paper Plant of Capacity upto 24000 MT/Annum	pH	5.5-9.0
		Suspended Solids	100 (Disposal on land & Discharge into inland surface water)
		BOD	30 (Discharge into inland surface water) 100(Disposal on land)
		SAR	26
		AOX	2.00 kg/ton of paper produced
		Total waste water discharge	

1358

S. No.	Industries	Parameters	Discharge Standards (all are in mg/L except pH & wastewater discharge limit)
		*Agrobased The agro based mills to be established from January, 1992 will meet the standards of 150 cum/Ton of paper produced. Waste paper based The waste-paper mills to be established from January, 1992 will meet the standards of 50 cum/Tom of paper produced.	200 cum/Ton of paper produced 75 cum/Ton of paper produced
4.	**Bulk Drug and Formulation** (Pharmaceutical)	Compulsory parameter	Limiting value for concentration (in mg/l except for pH and Bio assay)
		pH	6.5-8.5
		BOD	30
		COD	250
		TSS	100
		O&G	10
		Ammonical Nitrogen	100
		Bio - Assay Test	90% Survival of Fish after first 96 hours in 100% effluent
		The standard is applicable to all discharges except to CETP.	
5.	**All Integrated textile units**, units of Cotton / Woollen / Carpets / Polyester, Units having Printing / Dyeing / Bleaching process or manufacturing and Garment units	Parameters	Standard (applicable for all modes of disposal*)
		pH	6.5 to 8.5
		TSS	100
		Colour, P.C.U (Platinum Cobalt Units)	150
		BOD	30
		COD	250
		O&G	10
		TDS	2100**
		SAR	26**
	➢ In case of direct disposal into rivers and lakes, the Central Pollution Control Board (CPCB) or State Pollution Control Boards / Pollution Control Committees (SPCBs / PCCs) may specify more stringent standards depending upon the quality of the recipient system. ➢ Standards for TDS and SAR shall not be applicable in case of marine disposal through proper marine outfall. ➢ The treated effluent shall be allowed to be discharged in the ambient environment only after exhausting options for reuse in industrial process / irrigation in order to minimize freshwater usage.		

<table>
<tr><th>S. No.</th><th>Industries</th><th>Parameters</th><th>Discharge Standards (all are in mg/L except pH & wastewater discharge limit)</th></tr>
<tr><td></td><td colspan="3">➢ Any textile unit attached with the Common Effluent Treatment Plant (CETP) shall achieve the inlet and treated effluent quality standards as specified in serial number 55 of Schedule-I to the Environment (Protection) Rules, 1986 and shall also be jointly and severally responsible for ensuring compliance
➢ The standalone large scale units shall meet the values specified above; however, CPCB or SPCBs / PCCs with the approval of CPCB, may mandate Zero Liquid Discharge in Large scale units in environmentally sensitive / critical areas.
➢ The TDS value with respect to treated effluent shall be 2100 mg/litre; however, in case where TDS in intake water is above 1100 mg/litre, a maximum contribution up to 1000 mg/litre shall be permitted provided the maximum value of 3100 mg/litre is not exceeded in the treated effluent.”</td></tr>
<tr><td rowspan="11">6.</td><td rowspan="10">TANNERY</td><td>Parameter</td><td>Standards
(applicable for all modes of disposal*)</td></tr>
<tr><td>pH</td><td>6-9</td></tr>
<tr><td>BOD</td><td>20</td></tr>
<tr><td>COD</td><td>250</td></tr>
<tr><td>TSS</td><td>50</td></tr>
<tr><td>TDS</td><td>2100**</td></tr>
<tr><td>Sulphides (as S)</td><td>2.0</td></tr>
<tr><td>Total Chromium (as Cr)</td><td>2.0</td></tr>
<tr><td>Hexavalent Chromium
(as Cr +6)</td><td>0.1</td></tr>
<tr><td>Oils and Grease</td><td>10</td></tr>
<tr><td colspan="3">• *In case of direct disposal into rivers and lakes, the Central Pollution Control Board (CPCB) or State Pollution Control Boards / Pollution Control Committees (SPCBs / PCCs) may specify more stringent standards depending upon the quality of the recipient system.
• *Standards for TDS shall not be applicable in case of marine disposal through proper marine outfall.
• **TDS limit with respect to treated effluent shall be 2100 mg/l; however, in case where TDS in intake water is above 1100 mg/l, a maximum contribution up to 1000 mg/l shall be permitted provided the maximum limit of 3100 mg/l is not exceeded in the treated effluent.
• The treated effluent shall be allowed to be discharged in the ambient environment only after exhausting options for reuse in industrial process / irrigation in order to minimize freshwater usage.
• The standalone units shall meet prescribed discharge norms; however, SPCB / PCC shall mandate recycle / reuse of the treated water in water scarce / environmentally sensitive / critical areas.
• In case of discharge of treated effluent on land for irrigation, the impact on soil and groundwater quality shall be monitored twice a year (pre- and post- monsoon) by the tannery unit</td></tr>
</table>

Minutes of the meeting (MoM) with representatives from MoEF&CC, CPCB RD-Chandigarh & The Unit-M/s Trident Ltd; Punjab and Punjab SPCB to review the compliance of Hon'ble NGT order dated 08.02.2022 in the matter of Beant Singh Bajwa, President, National Anti-Corruption Council(Applicant) Vs State of Punjab(Respondent) (O.A No 682/2019)-Regd.

1. A meeting was held on November 02, 2022 at 03.00 PM through Video Conferencing (VC) with representatives from MoEF&CC, CPCB RD-Chandigarh & the Unit [M/s Trident Ltd; Punjab] and Punjab SPCB to review the compliance of Hon'ble NGT order dated 08.02.2022 in the matter of Beant Singh Bajwa, President, National Anti-Corruption Council (Applicant) Vs State of Punjab (Respondent) (O.A No 682/2019). Following Agenda were deliberated and discussed during the meeting:

   A. *To resolve the issue how the PP will secure compliance with ZLD condition. Huge quantity of discharge of treated effluent on land for long time is bound to cause damage to the soil as well as groundwater. Thus, on resolution of this issue, further action of installing the requisite equipment has thus to be completed within a reasonable time.*
   B. *Concept of ZLD & its clarification & affirmation for pan India Application.*
   C. *Status report on the compliance of ZLD with reference to the other categories of industries particularly for distilleries, textile, pulp & paper, pharmaceutical etc. viz-a-viz with reference to standards notified and implications of permitting for disposal of effluents on land, posing serious threat to soil and groundwater in long run.*

2. Sh. Kamlesh Singh, Scientist 'E' & Divisional Head of IPC-III, CPCB welcomed the participants. In his opening address, Sh. Kamlesh Singh briefed the background & issues in context of Hon'ble NGT order dated 08.02.2022 & presented the agenda before the participant for the deliberating & suggesting opinion/appropriate action/recommendation for completion of compliance report for submission before Hon'ble NGT.

3. Following is the record of discussion w.r.t the above Agenda:

   Agenda A: *To resolve the issue how the PP will secure compliance with ZLD condition. Huge quantity of discharge of treated effluent on land for long time is bound to cause damage to the soil as well as Groundwater.*

   Sh. Kamlesh Singh underlined the *recommendation of Joint Committee (comprising of CPCB, PPCB & DM-Barnala) accepted by NGT on 24.06.2020* which was observed to be non-compliance by Hon'ble NGT its order dated 08.02.2022 & ordered the direction cited above as agenda 01 (A).

(Recommendation of joint committee was "*M/s Trident Ltd shall submit a detailed action plan for compliance of conditions stipulated by PPCB through its consent order, dated 10.02.2012 & 30.05.2013, wherein the industry was to install RO system followed by MEE in its H.T.D Division (Textile). This should be accomplished before 30.06.2020; as mandated by PPCB. The industry shall also submit time bound action plan by 15.03.2020 for installation of ATFD for the effective handling of MEE reject*.")

Sh Kamlesh Singh asked the Unit representative to present the status of ZLD & etc. in compliance of said order of Hon'ble NGT. The summery of presentation given by the unit's representatives during the meeting are as follows:

- **Status & Action plan w.r.t ZLD for Home textile division (HTD) of the unit**:

  Sh. Rajat Monga representing the Unit made a brief presentation during the meeting. The Unit's representatives informed following status on November 02, 2022.

  - No Discharge in Drain from Textile Division since 15 Nov 2021 and consideration for 100 % utilization of treated water for plantation.
  - No Discharge in Drain from Paper Division since 21 June 2022.
  - The Unit installed RO plant followed by MEE plant in Year 2014 for wastewater recycling with total expenditure of INR 33 crores. The Unit started facing the performance issues in the textile plant after 1 -1.5 year of operation. As advised by Punjab SPCB, inputs were taken from the NEERI & Environmental consultant Mr Silvano Stroti (ZLD Expert) and recommendation was given to upgrade the existing plant with improved technology i.e. MBR technology. The existing RO Plant was in continuous operation till Jan-2020.
  - The recommendation for technology upgradation was considered in the personal hearing given by the Chairman of PPCB dated 20 Jan 2020 & it was decided to install the improved technology MBR plant followed by ATDF by 30June 2020.
  - The industry placed the order for the new technology MBR plant. The Plant was delivered at site in March-2020.

  Action Plan to Install MBR and ATFD Plant in Textile Division.

  The Unit representative informed that although ZLD is not mandatory for compliance, the Unit has planned for installation of new MBR and ATFD for partial ZLD (2100 KLD effluent) in textile Division.

  - *ATFD plant received at the Unit site on 27 Oct 2022.*

- *Modification for Installation of ATFD Plant under Progress at MEE Plant. Completion of Installation of ATFD by 15 Nov 2022.*
- *Modification for Installation of MBR Plant started by the Unit. Completion of Installation of MBR Plant by 30 Nov 2022.*
- The proposed ETP shall comprise of Micro Filter – new MBR --- RO --- MEE ----- Pusher Centrifuge ----- new ATFD. The Mother Liquor after salt recovery from Pusher Centrifuge will be taken to new ATFD.
- The current effluent generation from Textile Division is about 4000 - 5500 KLD. The Unit is installing facility for the partial ZLD in textile Division for taking care of 2100 KLD effluent only.

The Unit informed as advised by PPCB, the Unit is installing MBR and ATFD for partial ZLD for 2100 KLD effluent of textile Division in the first phase and the same shall be commissioned and will be operational by December 31, 2022. The Unit (Textile Division) informed that once the system is commissioned and operational they will analyze and asses its performance and shall take further action w.r.t ZLD in Textile Division.

Status w.r.t ZLD for Paper division of the unit:

The Unit informed that ZLD Technology is presently not established in the Pulp and Paper Industry. The Unit informed that its competitive paper mills are also not operating under ZLD and disposing their treated effluent either in drain or utilizing irrigation.

As of now, The Unit informed that 100 % treated water is utilized for plantation for both division (paper & textile of the unit) & no discharge in Drain from both Textile Division & Paper Division. The Unit informed that Ferti -Irrigation Plan was made under the guidance of PPCB team.

It was informed that the Unit shall comply with the CPCBs "*Guideline for utilization of treated effluent in Irrigation*" which recommends study from an Agriculture University/Institute and preparation of comprehensive irrigation management plan and submission to SPCB, monitoring of GW twice in a year etc. and the same shall be incorporated in Consent to Operate of the Unit.

Agenda B: *"Concept of ZLD & its clarification & affirmation for pan India Application"*.

Agenda C: *"Status report on the compliance of ZLD with reference to the other categories of industries particularly for distilleries, textile, pulp & paper, pharmaceutical etc. viz-a-viz with reference to standards notified and implications of permitting for disposal of effluents on land, posing serious threat to soil and groundwater in long run respectively".*

1363

Sh. Kamlesh Singh made a brief presentation and informed the following w.r.t ZLD definition, ZLD industry & its compliance status:

- The ZLD may be defined as '*The entire quantity of effluent is treated to recover water and recovered water is reused in process and/or utilities, and only solids are disposed off (or reused, if possible) in environmentally sound manner. Reuse of treated effluent for horticulture or agriculture purposes will be considered as discharge on land and not as means to achieve ZLD. Similarly, effluent from individual industries being sent to CETP for treatment will not be considered as ZLD.*
- Adopting ZLD practices may not be feasible in many cases in view of techno-economic reason. The conventional ZLD system involves four stages (i) pre-treatment (ii) pre-concentration (iii) evaporation (iv) crystallization.
- CPCB asked all SPCBs/PCCs vide letter dated 19.04.2022 & subsequent reminders to remaining SPCBs/PCCs to submit the views/clarification on the ZLD definition along with other information in the prescribed format. CPCB examined the reply of various SPCBs/PCCs (23) & found that views/clarification on ZLD definition by SPCB are more or less same with the said definition of ZLD. However, three SPCBs i.e. Madhya Pradesh PCB, Uttrakhand SPCB and Chhattisgarh SPCB has permitted gardening /horticulture of treated effluent under ZLD condition in their Consent to Operate (CTO) which is not as per the concept of the ZLD.
- The environmental standards for compliance have been notified under the Environment (Protection) Rules, 1986. The notified standards under E(P) Rules has prescribed discharged standards for the specified industrial sector, however, the ZLD has not been notified under the Environment (Protection) Rules, 1986. However, in case of distillery industry falling under the Ganga basin, the distilleries are mandatorily required to achieve ZLD as per the directions of CPCB.
- Many industries such as Pulp & paper (waste paper based excluding writing & printing grade), Textile, Pharmaceutical, Tannery has voluntary adopted the ZLD system /consented by the SPCBs.
- As on date, 23 SPCBs/PCCs, in response to CPCB letter w.r.t said NGT order, have submitted information regarding ZLD based industries & its compliance status. Compiled information (sector-wise) is attached as Annexure-1**.**

He also informed the following **w.r.t *implications of permitting for disposal of effluents on land, posing serious threat to soil and groundwater in long run***.

- The environmental standards for discharge have been notified under the Environment (Protection) Rules, 1986 for several industrial sector. Several Industries are given permission for utilization of their treated effluent for irrigation / land application after meeting the prescribed discharge standard under E(P) Rules / Consent condition of SPCBs. However, untreated /partially treated effluent are prohibited for the

utilization in Land application due to the detrimental impact on soil and groundwater quality.

- In 2019, CPCB, constituted an Expert Group, comprising members from IIT-Delhi, NEERI and CPCB and thereafter CPCB finalized the "Guidelines for Utilization of Treated Effluent in Irrigation" in September, 2019. In the said report, it is stated that meeting the prescribed norms shall not be the only criteria for use of treated water in irrigation. Important action point of the said Guideline are engaging an Agricultural Scientist or tie-up with an Agriculture University / Institute to prepare a comprehensive irrigation management plan (IMP) and its submission to SPCB which will verify while issuing CTO, analyzing the treated effluent regularly where the effluent is discharged for irrigation, assessment of physio-chemical characteristics of the soil under irrigation with treated effluent, monitoring the groundwater GW quality twice in a year etc.
- MoEF&CC received a representation from Uttar Pradesh Sugar Mills Association (UPSMA) on the matter of granting regulatory permission for the use distillery spent-wash in Agriculture. MoEF&CC on the basis of report of the Committee comprising official of M/o EF&CC, M/o Agriculture and CPCB informed to the UPSMA that any sort of land application of spent-wash having COD, BOD & salt load in liquid form shall not be considered.
- CPCB received the reply/information from SPCBs/PCCs (23) regarding the land application in various industrial sector in prescribed format. CPCB examined the reply of SPCBs/PCCs on the matter of land application practices/irrigation. Based on the reply of SPCBs/PCCs, the following observations were made:

  i) Treated effluent are allowed/permitted by few SPCBs/PCCs in gardening/horticulture purpose under ZLD condition (like UKPCB, MPPCB, Chattisgarh PCB) which is not as per definition of ZLD (i.e treated effluent only used in process and not allowed for gardening/irrigation/horticulture).
  ii) Irrigation Management Protocol (IMP) is not mandatory in Consent order issued by SPCBs/PCCs in case land application/irrigation are allowed. However only Karnataka SPCB & Bihar SPCB replied that IMP is mandatory for sugar industry.
  iii) No Study has been carried out for the assessing the impact of land application by SPCB or through third party.
  iv) "*Guidelines for utilization of treated effluent in Irrigation*" are not being followed and also not part of Consent condition issued by SPCB/PCCs for those industries which are discharging/disposing treated effluent on land.

4. After discussion, following concluding remark were made:
   - The Unit shall comply with the CPCBs "*Guideline for utilization of treated effluent in Irrigation*" and the same shall be incorporated by PPCB in their CTO.

- The ZLD definition presented in the meeting was agreed by the participants for inclusion in status report to be placed before Hon'ble NGT Court.
- Some SPCBs has allowed land application of treated effluent under ZLD condition which is not as per the ZLD concept.
- At present ZLD condition is not prescribed under the E(P) Rule 1986 for any industrial sector. CPCB has mandated ZLD for distillery Units located in Ganga basin region.
- The ZLD condition be decided on case to case basis by SPCBs in CTO or in EC by MoEF&CC keeping in mind the environmentally sensitive/critically polluted area/Water scarcity area etc.
- In context of not following the CPCB Guidelines for "*Utilization of Treated Effluent in Irrigation"* with respect to land application allowed for treated effluent, a letter may be issued to all SPCBs/PCCs to incorporate the guidelines in their Consent conditions.

Meeting ended with vote of thanks.

*****

Compiled information (sector-wise) regarding ZLD based industries & its compliance status as per the information provided by SPCBs/PCCs. (As on 02.11.2022)

Sector	Total No. of industries implemented ZLD	Total No of Consented based ZLD industry	compliance status of ZLD industry reported by SPCBs/PCCs
			Not-complying
Pulp & Paper	260	226	07
Distillery	210	204	04
Sugar	09	09	00
Textile	187	149	04
Pharma	304	286	12
Tannery	09	09	00

**Some SPCBs has allowed land application of treated effluent under ZLD condition which is not as per the ZLD concept.*

List of Participants attended meeting held on November 02, 2022 through VC with representatives from MoEF&CC, CPCB & the Unit [M/s Trident Ltd; Punjab] and Punjab SPCB.

1.	Sh. Krunesh Garg, Member Secretary ,Punjab Pollution Control Board
2.	Sh. Gurnam Singh, Regional Director, CPCB, RD-Chandigarh
3.	Sh. Dinbandhu Gouda, Divisional Head-IPC I, CPCB
4.	Sh. Sonu Singh, Scientist E, CP Division of MoEF&CC, Delhi
5.	Sh. Kamlesh Singh, Divisional Head-IPC III, CPCB, Delhi
6.	The Regional Officer, MoEF&CC, Regional Office, Chandigarh
7.	Sh. Ajit Chandra, SRF, CPCB, Delhi
8.	Ms. Shivangi Chaturvedi, Legal Associate, IA Division, MoEF&CC, Delhi.
9.	Sh. Rajat Monga, M/s Trident Ltd; Punjab

Item No. 04 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 682/2019

Beant Singh Bajwa, President,
National Anti-Corruption Council Applicant

Versus

State of Punjab Respondent

Date of hearing: 08.02.2022

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Respondent(s): Mr. Naginder Benipal, Advocate for PPCB
Ms. Munisha Gandhi, Senior Advocate with Mr. Viraj Gandhi, Advocate for M/s Trident Industry Pvt. Ltd.

ORDER

1. The issue for consideration is the remedial action against violation of environmental norms by Trident Factory, Dhanaula, Mansa Road, Barnala, Punjab. The matter has been earlier considered inter alia on 4.12.2019, 24.6.2020 and 29.7.2021 and in the light of earlier directions, the matter is being finally considered today.

Procedural History

Order dated 4.12.2019

2. The matter was considered on 04.12.2019 in the light of report furnished by the Punjab State Pollution Control Board ("State PCB") which was found to be inadequate. The Tribunal directed fresh inspection and a

factual report by a joint Committee comprising Central Pollution Control Board ("CPCB"), State PCB, and the District Magistrate, Barnala.

Order dated 24.6.2020

3. The matter was then considered on 24.06.2020 in the light of further report of the State PCB on behalf of the joint Committee filed on 29.02.2020, finding violation of environmental norms and making recommendations for remedial action. The recommendations were accepted and directions issued for remedial action, which was to be ensured by the State PCB. The operative part of the order is reproduced below:

> *"3. Accordingly, a report has been filed on 29.02.2020 by the State PCB on behalf of the joint Committee recording its findings that the unit was violating environmental norms and making following recommendations:*
>
> *"RECOMMENDATIONS:*
>
> 1. *An in depth study for Environmental Audit may be undertaken particularly in respect for Captive Power Plant, Paper & Towel Division to assess the status for compliance of environment norms/standards. The finding(s) and recommendation (s) of study may be incorporated in the consents issued by PPCB for effectively compliance. This study on Environment Audit be undertaken in consultation with CPCB either by PPCB or through an institute/ consultant having technical expertise in the relevant field.*
>
> 2. *M/s Trident Ltd shall submit a detailed action plan for compliance of condition stipulated by PPCB through its consent orders, dated 10/02/2012 and 30/05/2013,* ***wherein the industry was to install Reverse Osmosis System followed by Multiple Effect Evaporator in its H.T.D. This should be accomplished before 30th June 2020; as mandated by PPCB. The industry shall also submit time bound action plan by 15th March, 2020 for installation of Agitated Thin Film Dryer (ATFD) for the effective handling of MEE reject.***
>
> ***M/s Trident Ltd (PCD) shall also gradually reduce water consumption and thus effluent generation. The entire treated effluent to be properly utilize on land for plantation / irrigation purpose. The industry should adopt scientific method for utilization of its***

treated water onto land plantation within its premises to maximize the utilization of treated water within the complex. An action plan in this regard shall also be submitted by M/s Trident Ltd. to PPCB on or before June 2020 detailing pipe network, land use, watering depth and type / age of plants etc. Having implemented the above, further two years from now i.e. by June 2022. M/s Trident Ltd. shall get its treated water utilized to nearby farmers for irrigations purpose.

3. *M/s Trident Ltd shall undertake a performance study of ETPs provided for its PCD.* ***The industry shall undertake necessary project on its raw material washing stream which nearly contributes to 30% of the total ETP Load. The industry shall also submit a time bound action plan to PPCB on or before 15th March 2020 for removal of non-biodegradable COD. The industry will also submit time bound action plan by 30th April, 2020 for removing of colour from its treated effluent going into the drain.***

4. *The trend analysis of historically data, recorded from OCEMS exhibits that the discharge from M/s Trident Ltd. remains within compliance zone. If such Is the case then let M/s Trident Ltd. shall make all efforts to reuse treated effluent back to production process, resulting in conservation of water owing to less withdrawal of ground water or canal water. Besides, the reuse of treated effluent into the production process will affect efficiency of ETP as the treatment system would receive high concentration of BOD and COD. An action plan in order to reuse its treated water not impacting the TDS of the final treated effluent to be shared with PPCB, by 30''' June, 2020.*

5. *The industry has provided pipe network for distribution of treated trade effluent on the plantation area, however, it was observed that certain patches of plantation was flooded with water and some patches were found completely dry because, the industry is uniformly distributing treated trade effluent to all cells of plantation area irrespective of the age of plants in that cell.* ***The industry, therefore, is required to provide proper irrigation network for optimum utilization of treated waste water. The industry shall also provide electromagnetic flow meter at the outlet of each cell of plantation making more effective utilization of treated effluent.***

6. *The industry is not achieving the emission standards of 75 mg/Nm3 from the stack of Chemical Recovery Plant (II) and Energy Section. However, the industry was given opportunity of personal hearing before Hon'ble Chairman of PPCB on 07.01.2020, wherein one of the decision of that the industry shall submit the detailed proposal w.r.t. upgradation of its existing APCDs to achieve the stack*

emission standard of 75 mg/Nm3 within 03 months alongwith PERT chart for installation and commissioning of the same.

Table: 5

Analysis Results of Stack Emissions of PCD

Sl. No.	*Sample Identification*	*Parameters*	*Results (mg/Nm^3)*	*Prescribed norms as per EC*
1	*Stack of CRP-II after APCD*	*Particulate Matter*	*80*	*75*
2	*Stack of CRP-I after APCD*	*Particulate Matter*	*82*	*150*
3	*Stack of Energy Section APCD*	*Particulate Matter*	*98*	*75*

7. ***The industry (M/s Trident Ltd) will conduct detailed study for monitoring the ground water quality across the Dhanaula Drain in order to evaluate the impact of its treated water discharge onto Drain and submit the report by 30th April, 2020.***

8. *The concept of 'Zero Liquid Discharged' be considered as minimal discharge of effluent, particularly from the industrial sectors reported upon. According to mechanics of fluids (more precisely thermodynamics) that a continuous operation bound to generate 'rejects', and / or 'blowdown' and / or bleed due to process entropy, despite of whatever technology adopted.* ***Punjab Pollution Control Board, therefore, has to examine what minimal disposal of effluent be permitted to M/s Trident Ltd. considering the production technology, scale of operation and utilization capacity."***

4. ***We are of the view that the recommendations need to be acted upon, if not already done as the timelines suggested have already expired and further action is not known. Necessary studies may be got conducted. The State PCB may ensure further remedial action by the industry in the light of the observations quoted above. The joint Committee may verify compliance by coordinating with such other institution as may be found necessary.***

5. A further compliance report may be filed in the matter by the joint Committee which may be coordinated by the State PCB within three months from today *by e-mail at judicial-ngt@gov.in (preferably in the form of searchable/OCR PDF and not image PDF)."*

Order dated 29.7.2021

4. The matter was last considered on 29.07.2021 in the light of audit reports filed by the State PCB as follows:-

"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 m^3/h. The ETP has 04 numbers of air blowers with capacity of 3750 m^3/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/I. It should be around 3000 mg/I 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/I). 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 IlTs, 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.

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 m^3/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 1m^3/t paper while installation of disc filter at PM1 can facilitate reduction in fresh water consumption by 1.5 -2.0 m^3/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/Nm^3. However, in context of the EC norms of 75 mg / Nm^3 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.*”

5. The Tribunal observed that the non-compliance remained un-remedied. The State PCB failed to take necessary action without any explanation for a long period. Accordingly, the State PCB was directed to take remedial action and also put the PP to notice as to why action may not be taken for the violations.

Consideration today

Report of the joint Committee dated 10.11.2021

6. In pursuance of above, a report has been filed by the joint Committee on 10.11.2021 giving the status of compliance with reference to the earlier report dated 29.02.2020 as follows:-

"

Sr. No.	***Recommendations of Joint Committee***	***Status verified by the Joint Committee***
1.	*An in depth study for environmental audit may be undertaken particularly in respect of Captive Power Plant, Paper & Towel Division to assess the status for compliance of environment norms/ standards. The finding(s) and recommendation(s) of study may be incorporated in the consents issued by PPCB for effectively compliance. This study on Environment Audit be undertaken in consultation with CPCB either by PPCB or through an institute/ consultant having technical expertise in the relevant field.*	*The CPPRI Saharanpur and NIT Jalandhar have carried out environment audit of M/s Trident Ltd. (PCD) and M/s Trident Ltd. (HTD). An environment audit submitted by above expert agencies along with recommendations is annexed as Annexure –IV and Annexure V, respectively. The industries have submitted action plan along with the lines to comply with the recommendations of the expert agencies same is annexed as Annexure –VI.*
2.	***M/s Trident Ltd. shall submit a detailed action plan for compliance of condition stipulated by PPCB through its consent order, dated 10.02.2012 and 30.05.2013, wherein the industry was to install Reverse Osmosis System followed by Multiple Effect Evaporator in its HTD. This should be accomplished before 30th***	***The industry had installed the first module of R.O. System of 2500 KLD along with MEE in April, 2014 at the cost of Rs. 33.0 Crores. The industry had made efforts to install remaining modules to RO followed by MEE to make the unit ZLD, but, the due to technological challenges and limitations, the industry could not make the unit ZLD with the installation of RO system followed by MEE. Over***

	June, 2020; as mandated by PPCB. The industry shall also submit time bound action plan by 15th March, 2020 for installation of agitated Thin Film Dryer (ATFD) for the effective handling of MEE reject. ***M/s Trident Ltd. (PCD) shall also gradually reduce water consumption and thus effluent generation. the entire treated effluent to be properly utilize on land for plantation/ irrigation purpose. The industry should adopt scientific method for utilization of treated water within the complex. An action plan in this regard shall also be submitted by M/s Trident Ltd. to PPCB on or before June 2020 detailing pipe network, land use, watering depth and type/ age of plants etc.*** ***Having implemented the above, further two years from now i.e. by June 2022. M/s Trident Ltd. shall get its treated water utilized to nearby farmers for irrigations purpose.***	***a period of time, the performance of system declined and ultimately the industry had to abandon the project in 2018. Thereafter, the industry acting on the advice of NEERI had submitted a revised proposal to upgrade the existing ZLD system of 2500 KLD by adopting MBR Technology at an additional cost of Rs. 12.5 crores. Purchase order was placed to M/s Hydrotech Engineering SRL, Italy. As per the industry, partial equipment has been received and delivery of the remaining equipment is pending. The industry could not install the MBR in stipulated period due to lockdown and other restrictions imposed by international administration, Central/State Governments due to Covid-19 pandemic. Now, the industry has given an alternate proposal and made commitment during the personal hearing held on 30.04.2021 to divert to the plantation area to stop the 100% discharge into Dhanula Drain by December, 2021. The industry has already purchased additional land of 51.5 acres to develop plantation for utilization of treated trade effluent onto land for plantation. The industry has already done eucalyptus plantation in 32.0 acres of land and remaining 19.5 acres of land is yet to be developed by the industry. The project is expected to be completed by December, 2021 and the industry will start using treated trade effluent onto the land for plantation instead of discharging into Dhanaula drain.*** ***Average production for the last five years of the industry is to the tune of 77.3 TPD against the consented quantity of 120 TPD by the Board. The industry is discharging its treated trade effluent @ 2313 KLD into Dhanuala drain against a***

		permitted quantity of 6702 KLD by the Board. ***M/s Trident Ltd. (PCD)*** ***The industry had been granted permission by the board to discharge 8700 KLD of treated trade effluent into drain and 12800 KLD onto land for plantation. Present the average quantity of treated water discharged into drain is 6214 KLD.*** ***The industry has already reduced the consumption of fresh water from 59.95m3/ton of paper in the year 2013 to 46 m3/ton of paper in the year 2020 against norm of 50m3/ton as stipulated under charter for water re-cycling and pollution prevention i.e. there is a reduction of about 22%. The industry in order to supply its treated water to farmers, has got the permission from the Drainage Department for laying of pipe network across the drain. Further, the industry has submitted an Action Plan for utilization of entire treated trade effluent onto land for irrigation/ plantation by June 2022 by the farmers/industry, which is annexed as Annexure –VII.*** ***The industry has develop plantation in an area of about 165 acres within its***
3.	*M/s Trident Ltd. shall undertake a performance study of ETPs provided for its PCD. The industry shall undertake necessary project on its raw material washing stream which nearly contributes to 30% of the total ETP load.* *The industry shall also submit a time bound plan to PPCB on or before 15th March, 2020 for removal of non-biodegradable COD.* *The industry will also submit time bound action plan by 30th April 2020 for removing*	*M/s Trident Ltd. has already undertaken the performance study on its ETP of PCD from Thapar Institute. A copy of study report submitted by the institute is annexed as Annexure –IV. The institute had given certain recommendations which had already been complied with by the industry, which is also been verified by the joint Committee during visit. The compliance report of recommendations of Thapar institute made by the industry is annexed as Annexure – X.* *M/s Trident Ltd. (PCD) has already installed and commissioned Dissolved Air Flotation (DAF) with screw press*

	of colour from its treated effluent going into the drain.	*technology project to remove non-biodegradable COD so that pollution load caused from washing steam on the ETP can be reduced. The data showing before and after DAF is annexed as Annexure-XI. The perusal of said data reveals that there is a reduction in COD the tune of 30.3% with the installation of DAF with screw press technology project.* *The industry has already given the project to Thapar Institute to conduct a pilot study for the removal of color from its treated trade effluent. The industry as submitted the interim report of the institute in this regard which is annexed as Annexure-Xl. The industry has submitted that the final report of the pilot study project will be submitted to the Board by December 2021.*
4.	*The trend analysis of historically data, recorded from OCEMS exhibits reuse that the discharge from M/s Trident Ltd. remains within compliance zone. If such is the case then let M/s Trident Ltd. shall make all efforts to reuse treated effluent back to production process, resulting conservation of water owing to less withdrawal of ground water or canal water.* *Besides, the reuse of treated effluent into the production proces5 will affect efficiency of ETP as the treatment system would receive high concentration of BOD and COD. An action plan in order to reuse its treated water not impacting the TDS of the final treated effluent to be shared with PPCB by 30th June 2020.*	*The industry has informed to the Joint Committee that it is difficult to treated trade effluent into its production process due to increase in TDS level, which deteriorates the quality of paper and high concentration of TDS level at the final outlet of ETP. However, the industry is utilizing its treated water/ RO reject generated from RO system installed with energy section for different purposes i.e. cooling tower, coal dust suppression, ash quenching etc. which do not have/negligible impact on the TDS of the treated water.*
5.	*The industry has provided pipe network for distribution of treated trade effluent on the plantation area, however, was observed that certain patches of plantation was flooded with water some patches were*	***M/s Trident Ltd.(PCD)*** *The industry has already developed planation in an area of about 165 acres within its premises to utilize treated trade effluent partially onto land for plantation. During visit, it was*

	found completely dry because, the industry is uniformly distributing treated trade effluent to all cells of plantation area irrespective of the age of plants in that cell. The Industry. Therefore, is required to provide proper irrigation network for optimum utilization of treated wastewater. The industry shall also provide electromagnetic flow meter at the outlet of each cell of plantation making more effective utilization of treated effluent.	*seen that the industry has divided its plantation area into different pockets and are provided with electromagnetic flow meters to monitor the utilization of treated trade effluent onto land for plantation uniformly and effectively.* ***M/s Trident Ltd. (HTD)*** *The Industry has already developed plantation In an area of about 80 acres within its premises to utilize treated trade effluent onto land for plantation. During visit, it was seen that the industry has divided its plantation area into different pockets and provided low meters to monitor the utilization of treated trade effluent onto land for plantation uniformly and effectively.* *The day wise roaster to utilize treated trade effluent onto land for plantation in different pockets has also been prepared by the industry for both the units to utilize treated trade effluent uniformly.*
6.	***The industry is not achieving the emission standards of 75 mg/Nm3 from the stack of Chemical Recovery Plant (II) and Energy Section. However, the industry was given opportunity of personal hearing before Hon'ble Chairman of PPCB on 07.01.2020, wherein one of the decision of that the industry shall submit the detailed proposal w.r.t. upgradation of its existing APCDs to achieve the stack emission standard of 75 mg/Nm3 within 03 months alongwith PERT chart for installation and commissioning of the same.*** ***Analysis Results of Stack Emissions of PCD***	***The Industry is not achieving the emission norms of 75 mg/Nm³ as per stipulation of Environment Clearance granted by MoEF & CC. The industry already been directed by the Board to upgrade its existing APCDs so as to achieve the norm of 75 mg/Nm³. In this regard, the Industry had earlier submitted proposal alongwith time lines for the up gradation of existing APCDs as per following:-*** ***Recovery 1- 30.09.2021*** ***Recovery 2- 30.11.2021*** ***Co-generation plant 2 & 3 - 15.05.2021 Thereafter, the Industry vide letter' dated 27.04.2021 had informed that technical offers from three suppliers on Electro Static Precipitator (ESP) up-***

	<table><tr><th>S No</th><th>Sample Identification</th><th>Parameters</th><th>Results (mg/Nm 3)</th></tr><tr><td>1.</td><td>Stack of CRP-II after APCD</td><td>Particulate Matter</td><td>80</td></tr><tr><td>2.</td><td>Stack of CRP-I after APCD</td><td>Particulate Matter</td><td>82</td></tr><tr><td>3.</td><td>Stack of Energy Section APCD</td><td>Particulate Matter</td><td>98</td></tr></table>	***gradation have been received and the progress has been hampered due to prevailing pandemic scenario. The industry requested to extend the target time lines to September 2022.*** ***Now, the industry has submitted that the up-gradation of existing APCD of captive boiler will be completed by 25.11.2021 and the up-gradation of remaining APCDs will be completed by September, 2022. A copy of the orders placed by the industry is annexed as Annexure-XIII. However, as per the monitoring carried out by the Board from time to time, the average value of 5PM of the samples collected from the stack of boiler furnaces for the 2019.21 varies from 91.2 mg/Nm³ to, 111 mg/Nm³. Also, as per the stack emission monitoring carried out by the CPPRI on 26.02.2021, 13.03.2021 and 08.04.2021, the average value of SPM of sample collected from stack of CRP-I, CRP-ii and boiler of capacity 130 TPH was found to be 87 mg/Nm³, 75 mg/Nm³ and 116 mg/Nm³, respectively. In this regard, the SPCB has served a notice upon the industry on 24.09.2021 & the industry has submitted the reply to the notice on 19.10.2021 and same is under consideration of the Board.***
7.	*The industry (M/s Trident Ltd) will conduct detailed study for monitoring of the ground water quality across the Dhanaula drain in order to evaluate the impact of its treated water discharged onto drain and submit the report by 30th April, 2020.*	*M/s Trident Ltd has already the got monitoring of ground water carried out cross the Dhanaula drain from M/s Cholamandalam MS Risk Services Ltd., Chennai. A copy of report is annexed as **Annexure-XIV**. Based on samples collected by the agency, following conclusions were made.* • *pH in the groundwater samples collected was reported in the range of 7.1 to 8.0 which is within the*

		acceptable range as per drinking water standards published by IS 10500:2012. Whereas the pH in soil was found to be more alkaline in the entire region. • *TDS in the samples collected from the existing bore wells were recorded to be in the range of 524 to 1276 mg/l. The TDS levels in groundwater from the samples collected is a regional phenomenon and Is in line with the published regional level data. The groundwater's Salinity as NaCl is in-line with TDS which contributes to 50% to 60%. Similarly, the electrical conductivity in the soil is also high and depicting regional scenario which reflects the equivalent salinity as NaCl in soil.* • *Total hardness in the samples collected from the existing borewells was recorded to be in the range of 140 to 595 mg/l.* • *Minor traces of nutrients and Heavy metal were found in the groundwater and soil samples collected but the impact is totally insignificant.* *It is also mentioned here that ground water monitoring had also been carried out by CPPRI Saharanpur, Punjab Bio Technology Incubator, Mohali and by Joint Committee during earlier visit on 23.02.202⁰. The results of ground water samples carried out by above institutes have been compared and annexed as Annexure-XV. CPPRI, Saharanpur in its Environment Audit report has concluded that ground water quality at the selected locations is also satisfactory in context of the specified norms indicating that no adverse impact of mill ground water quality.*

8.	*The concept of 'Zero Liquid Discharge' be considered as minimal discharge of effluent particularly from the industrial sectors reported upon. According to mechanics of fluids (more precisely thermodynamics) that a continuous operation bound to generate 'rejects', and/or 'blowdown' and /or 'bleed', due to process entropy, despite of whatever technology adopted. Punjab Pollution Control Board, therefore, has to examine what minimum disposal of effluent be permitted to M/s Trident Ltd. Considering the production technology, scale of operation and utilization capacity.*	***M/s Trident Ltd. (HTD)*** *Average production for the last five years of the industry is to the tune of 77.3 TPD against the consented quantity of 120 TPD. The industry is discharging its treated trade effluent @ 2313 KLD into Dhanaula drain against a permitted quantity of 6702 KLD by the Board. The industry has developed additional land of 32.0 acres and assured that it will stop discharging effluent of HID unit into Dhanaula drain by December, 2021.* ***M/s Trident Ltd. (PCD)*** *The Industry had been granted permission by the Board to discharge 8700 KID of treated trade effluent onto drain and 12800 KLD onto land for plantation. At present, the average value of treated water, being discharged into drain is 6214 KLD i.e. about 28.5% less than the permission granted by the Board.* *The industry has already reduced the consumption of fresh water from 59.95 m^3/ ton of paper in year 2013 to 46 m^3/ ton of paper in year 2020 against norm of 50 m^3/Ton as stipulated under charter for water re-cycling and pollution prevention i.e. there is a reduction of about 22 %. In order to give its treated water to farmers, the Industry has on 16.08.2021 got the permission from the Drainage Department for laying of pipe network across the drain. The industry has also submitted an Action Plan for utilization of entire treated trade effluent onto land for irrigation / plantation by June 2022 by the farmers / industry.*

The industry namely M/s Trident Ltd (PCD) had been issued notice for the violations of the provisions of the

Water (Prevention & Control of Pollution) Act, 1974 & the Air {Prevention & Control of Pollution) Act. 1981 vide Board's letter no. 3294 dated 24.09.2021 with an opportunity of to file its reply within 15 days from the date of issuance of this notice The industry namely M/s Trident Ltd (11TD) had also been issued notice for the violations of the provisions of the Water (Prevention & Control of Pollution) Act, 1974 vide Punjab Pollution Control Board letter no. 3296 dated 24.09.2021 with an opportunity of to file its reply within 15 days from the date of issuance of this notice The industry has submitted reply of above mentioned notices to the State Pollution Control Board which is reported to be under consideration of the Board.

From the above mentioned status report on recommendations of Joint Committee, it is evident that the industry is compliant with most of the recommendations/submitted action plan alongwith timelines. However, the industry is not complying with recommendation no. 2 & 6 of Joint Committee. Also, State Pollution Control Board should file its action taken report to the Hon'ble NGT separately in compliance of directions issued vide orders dated 29.07.2021.”

Report of the State PCB dated 10.11.2021

7. The State PCB has also filed its compliance report on 10.11.2021 with reference to the observation in the order dated 29.07.2021 as follows:-

“a) The unit remains deficient in requisite compliances for more than one year. Remedial action in terms of the recommendations in the report filed on 29.2.2020 and order of this Tribunal dated 24.6.2020 is not shown to have been taken.

The reply already given in paragraph 3 above is reiterated and the contents thereof are not repeated for the sake of brevity. The said reply may kindly be read as reply to the above direction of this Hon'ble Tribunal.

b) Under EC conditions the standards of 75 mg/Nm3 are to be met whereas, which are not met.

With regard to the above direction, relevant aspects of the case are mentioned herein below:

i) ***As per the condition of Environmental clearance granted by MoEF, the industry is required to achieve the stack emission standard of 75 mg/Nm^3.***

ii) As per the general emission standards, however, prescribed by CPCB based on the capacity of the boiler, limit of 150 mg/Nm^{3}is applicable to the industrial units.

iii) *As per the monitoring carried out by the Board, the average value of SPM of samples collected from the stack of boiler Furnace are as under:*

Sr. No.	***Sample Identification***	***Parameters***	***Result (mg/Nm³)***
1	Stack of CRP-I after APCD (20.06.2019, 20.09.2019, 23.01.2021)	*Particulate Matter*	*111*
2	Stack of CRP-II after APCD (10.6.2020, 17.9.2020, 10.12.2020, 30.04.2021, 21.09.2021)	*Particulate Matter*	*93.4*
3	I Stack of boiler of capacity 130 TPH (10.6.2020, 17.9.2020, 10.12.2020, 30.04.2021, 21.09.2021)	*Particulate Matter*	*91.2*

iv) *As per the stack emission monitoring carried out by the CPPRI on 26.02.2021, 13.03.2021 and 08.04.2021, the average value of SPM of sample collected from stack of CRP-I, CRP-II and boiler of capacity 130 TPH was found to be 87 mg/Nm³,75 mg/Nm³ and 116 mg/Nm³, respectively.*

v) *The industry had already been directed by the Board to upgrade its existing APCDs so as to achieve the emission standards of 75 mg/Nm³. In this regard the industry had earlier submitted proposal alongwith time lines for the up gradation of existing APCDs as mentioned below:*

a. Recovery 1 30.09.2021

b. Recovery 2 30.11.2021

c. Co-generation plant 2 & 3-15.05.2021

vi) *Thereafter, the industry vide letter dated 27.04.2021 had informed that technical offers from three suppliers on Electro Static Precipitator (ESP) up-gradation have been received and the progress has been hampered due to prevailing pandemic scenario. The industry requested to extend the target time lines to September 2022.*

vii) *Now, the industry has submitted that the up-gradation of existing APCD of captive boiler of co-generation plant will be completed by 25.11.2021 and the up-gradation of remaining APCDs will be completed by September, 2022.*

c) Dual prescription needs to be checked. SPCB may also clarify on dual mode of disposal system consented-on land and in Dhanaula drain and mechanism for monitoring standards with two different systems of disposal.

i) *The industry has been granted dual mode of disposal for its treated trade effluent i.e. partly into Dhanaula drain and partly onto land for plantation by the Board to decrease the pollution load on the drain. However, a uniform standard as prescribed by MoEF & CC vide notification no. GSR 978(E) dated 10.10.2016 (applicable for textile division) and limits for different parameters for discharge of effluent as*

prescribed in the Environment (Protection) Rules, 1986 have been adopted as applicable in respect of large pulp & paper mills for both the discharges onto land for plantation and into inland surface water for monitoring purposes.

ii) *Both the units of the industry i.e. PCD & HTD are discharging its treated treat effluent partly on to land for plantation and partly into Dhanaula drain within the specified quantity as mention in the letter of consent to operate and has been achieving effluent standards as prescribed for such type of discharges.*

iii) *The results of the samples of effluent of M/s Trident Ltd. (HTD) collected by the Punjab Pollution Control Board, Joint Committee constituted by the Hon'ble Tribunal, National Institute of Technology, Jalandhar from the outlet of ETP leading to plantation area and to drain have shown the parameters to be within the prescribed limits. A copy of the analysis results of various effluent samples collected by the various agencies during the period 2019-21 is annexed as Annexure-F.*

iv) *The results of the samples of effluent of M/s Trident Ltd. (PCD) collected by the Punjab Pollution Control Board, Joint Committee constituted by the Hon'ble Tribunal, CPPRI, Saharanpur from the outlet of ETP leading to plantation area and to drain have shown the parameters to be within the prescribed limits. A copy of the analysis results of various effluent samples collected by the various agencies during the period 2019-21 is annexed as Annexure-G.*

v) *The industry (HTD) has already purchased additional land and submitted timelines to stop discharge of its treated trade effluent into Dhanaula drain i.e. by December, 2021. The details have already been mentioned in reply to para 3 above.*

vi) *The PCD unit is having 165 acres of land to utilize the treated trade effluent for plantation. The industry was granted CTO under water Act by Board to discharge its treated trade effluent @ 8700 KLD onto drain & 12800 KLD onto plantation while the actual effluent discharge into drain is 6214 KLD.*

vii) *To further reduce 6214 KLD of effluent into drain, the industry has submitted the action plan & obtained permission from Drain Department to lay the pipe across the drain for the utilization of its treated water by the farmers.*

d) In view of long unexplained delay on the part of the State PCB in complying with the orders of this Tribunal, we impose cost of Rs. 1 Lakh which may be deposited with CPCB within one month which will be personal responsibility of the Member Secretary, PCB. State PCB is free to recover the same from the erring officers.

i) *The delay in submission of compliance report to this Hon'ble Tribunal has mainly occurred due to the non-availability of*

environmental audit report of the industry, which is interlinked to the issues involved in the case. The contents of reply already given in paragraph 3 above are reiterated. The contents, however, are not repeated for the sake of brevity.

ii) *Due to these facts of the case, request was made by the Board to this Hon'ble Tribunal for adjournment of the case. The officers of the Board had joined the proceedings of the case on 29.7.2021 through virtual mode only to request this Hon'ble Tribunal for grant of some more time for submission of the compliance report. The officers of the Board had otherwise not violated any of the directions of this Hon'ble Tribunal and there was no intention to delay the case in any manner.*

iii) *However, in order to make compliance of the directions of the Hon'ble Tribunal given vide order dated 29.7.2021, the Board has deposited the amount of Rs. 1.0 lakh towards cost with the Central Pollution Control Board on 27.08.2021 through RTGS. The Board hereby tender an unconditional apology before this Hon'ble Tribunal in this regard and for unintentional delay, which has occurred in the case.*

iv) *In view of the above facts of the case, the Board prays before this Hon'ble Tribunal to kindly accept the submissions of the Board. The Board humbly prays for the modification of order dated 29.7.2021 to the extent of expunging the adverse remarks and for treating the said amount of Rs. One lakh contribution of the Punjab Pollution Control Board towards the fund maintained by the Central Pollution Control Board for amelioration of environment.*

e) The Joint Committee has recommended reduction of water consumption and effluent generation. The industry may achieve suggested water consumption / minimization steps, reduction in generation of effluents, following proper ferti-irrigation plan, to be duly monitored and compliant with emission standards.

i) *The industry is achieving suggestive water consumption norms in respect of both PCD & HTD divisions. With the adoption of cleaner production technologies and increased re-use/ re-cycling of waste water, the PCD unit has been able to reduce fresh water consumption from 60 m3/Ton paper in 2013 to 46 m^3/Ton of paper in 2020 against a norms of 50 m^3/Ton as stipulated under charter for water recycling and pollution prevention. There is a reduction of about 22 % as illustrated in Annexure-H.*

ii) *In case of HTD, the Industry is already working on adopting cleaner technology, product mix and measures including projects for water conservation which results in reduction of water consumption from 83 m^3/T (2016-17) to 67.3 m^3/T (2020-21) i.e. 19 % reduction. During last 4 months, the industry has stopped using ground water and has started*

using canal water, thereby reducing TDS load on untreated trade effluent.

iii) The industry has submitted Action Plans for utilization of treated water by the farmers, Waste Water Management Irrigation Plan and Charter for Water Recycling and Pollution Prevention and the said plans are enclosed herewith as under:

a) For utilization of all treated water by farmers by June 2022 (Annexure-I).

b) Waste Water Management Irrigation Plan (Annexure-J).

c) Charter for Water Recycling and Pollution Prevention (Annexure-K).

f) The PCB may assess compensation for violations till required pollution control devices are set up and ensure that no environmental degradation takes place.

The industry is achieving the suggestive water consumption norms in respect of both the PCD and HTD divisions. The industry has also developed the plantation area as per Karnal Technology for utilizing part of its trade effluent onto land for plantation and the results of the samples collected by the Punjab Pollution Control Board, Joint Committee and Environment Audit Agencies have been found to be within the prescribed limits. The industry (HTD unit) is yet to comply with the ZLD condition. The industry has submitted revised time lines for achieving the standard of 75 mg/Nm3 in respect of stack attached with captive thermal power plant. ***The Board based on CPCB regime for calculation of environmental compensation, has assessed Environmental Compensation amounting to Rs. 58.32 Lakh for the period from 01.07.2020 to 30.10.2021 and*** *the industry has been asked to show cause vide notice dated 8.11.2021 within 15 days. A copy of notice dated 8.11.2021 is enclosed herewith as Annexure-L. Similarly, HTD unit has been asked to show cause vide notice dated 8.11.2021 within 15 days about the EC amounting to Rs. 58.32 lakh for the period 01.07.2020 to 30.10.2021 due to not achieving ZLD, A copy of notice dated 8.11.2021 is enclosed herewith as Annexure-M.*

g) The State PCB to put the industrial unit to notice of proceedings before the Tribunal so that it has an opportunity to show cause before the Tribunal as to why the Tribunal should not take coercive measures in the matter for its continuing failure.

The Board has issued a show cause notice for violation of the provisions of Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 vide letter no.3293-94 dated 24.9.2021 to Trident Ltd., (PCD), Trident Complex, Village Dhaula, Tehsil and District Barnala and a show cause notice for violation of the provisions of Water (Prevention & Control of Pollution) Act, 1974 vide letter no.3295-96 dated 24.9.2021 to Trident Ltd., (HTD), Trident

Complex, Village Dhaula, Tehsil and District Barnala. The industry has also been directed to show cause before the Hon'ble Tribunal.

8. *That going by the observations and recommendations given by Central Pulp and Paper Research Institute (CPPRI), Saharanpur, U.P in Environment Audit report of M/s Trident Ltd. (PCD), Village Dhaula, Tehsil and District Barnala, the mill has adopted state of art technologies and equipment's like continuous digester, twin roll press, oxygen delignification and chlorine dioxide bleaching, UASB reactor, chemical recovery systematic etc. There technologies have significantly contributed in reducing the environmental footprint including water footprint of the mill. The quality of treated effluent has been found in compliance with the prescribed discharge norms. The mill has adopted several water conservation strategies to reduce the fresh water consumption, but the CPPRI has recommended that the mill still has a scope to reduce water consumption by further 3-4 m^3/t paper and the mill may explore the areas for the same. The industry is achieving the suggestive water consumption norms in both PCD and HTD divisions. The industry is further exploring the possibility of reducing the water consumption in its process.*

9. *That the above facts are submitted in compliance to the order dated 29.7.2021 for kind perusal, consideration and appropriate orders of this Hon'ble Tribunal. Apart from the above compliance report in respect of the recommendations of the Joint Committee as contained in its report filed on 29.2.2020, the Joint Committee is separately filing the status report in respect of compliance of its recommendations."*

Response of the PP - the industrial unit

8. The PP has filed its response on 31.12.2021 claiming compliance as follows:-

"xxx .....xxx.....xxx

From the mentioned status report on recommendations of Joint Committee (Pg 18/920), it is evident that the industry is compliant with all of the recommendations.

I. Recommendation No. 1 —

I.A. An in-depth study for Environmental Audit has duly been conducted for the Towel Division of the Industry (HTD) by the National Institute of Technology, Jalandhar, and in respect of the Pulp & Paper Division (PCD) of the Industry by the Central Pulp & Paper Institute, Saharanpur in April 2021. The report has since been submitted to the Board, and which fact also finds mention in the order dated 29.7.2021 passed by the Hon'ble NGT, New Delhi.

I.B. The Industry has already started working on the recommendations of the Audit report and has prepared a time bound action plan for the same which is attached as Annexure R-3.

I.C. A perusal of the Audit Report would reveal that the Industry is complying with the prescribed Environmental norms.

I.D. The Audit report reveals the adoption of different clean technologies resulting in significant contribution in reducing the environment foot print including the water foot print of the plant.

I.E. All suggestions have additionally been made which are not mandatorily or statutorily required and are only suggested for further improvement.

It is submitted that the Industry has duly complied with the recommendation and also incurred a cost of Rs. 11,5 Lakh (PCD) and Rs. 7.5 Lakh (HTD) to ensure the compliance.

II. Recommendation No. 2 —

II.A. The Industry has installed RO plant followed by MEE plant in year 2014 for waste water recycling with total expenditure of INR 33 crores (OEM RO- Euromec-10.84 crores, OEM MEE Ketav Consultant- 5.88 crores).

II.B. The Industry had faced the technology failure after 1 year of the plant commissioning & apprise the status to the board. After inputs taken from the NEERI & Environmental consultant Mr Silvano Stroti recommendation was considered to upgrade the existing plant with improved technology i.e. MBR technology.

II.C. The Industry placed the order for the new technology MBR plant as proposed by consultant having cost of 2.94 crores (The plant was delivered at site in March 2020).

II.D. The industry (HTD) had informed the Board vide Letter No. Trident/2020/24 dated 31.03.2020 that the industry would not be in a position to complete the project to install Reverse Osmosis System followed by Multiple Effect Evaporator in its towel division. within the given timelines due to the lock down and other restraints and restrictions imposed by the Central Government and the State government in order to curtail the spread of COVID-19 and had sought support of the Board to keep the project in abeyance till the situation becomes conducive to the upgradation.

II.E. In addition to above, as per CPCB guidelines dated Sep 2019 regarding utilization of treated water for irrigation as alternate to ZLD , the industry has purchased additional land of 51.5 Acres out of which 32 acres has been developed for plantation for diversion of treated trade effluent from drain to said plantation area. As per the recommendation in the

Environment Audit carried by National Institute of Technology, Jalandhar as suggested by Joint Committee , the company started purchasing additional adequate land for diverting the existing treated water going in drain onto this new plantation area.

II.F. *At Present, the production of the unit is 77.3 TPD and the total discharge of 5365 KLD is generated from said production against consented discharge of 9702 KLD out of which 3014 KLD is already been utilized for plantation & 2313 KLD is going to drain.*

II.G. *For the remaining effluent of 2313 KLD, the industry has already developed the adequate land of 32 Acres to divert the existing discharge onto drain.*

II.H. *The Pipe line laying work has been completed and the Industry has already diverted its treated water onto this newly developed land and there is no discharge of treated water onto drain since 15 November 2021. This aspect has since been physically verified by the officials of the PPCB on 07 December 2021.*

Hence, there is zero discharge in the drain from the textile unit.

II.I. *The industry has already developed the adequate land to handle 7280 KLD treated water catering to a production of 100.4 TPD.*

II.J. *The Industry is also in process of further developing plantation area of 19.5 Acres which has already been purchased by the industry. Thisactivity will be completed before 31 December 2021 to ensure the compliance of the recommendations made for achieving this goal of an effective use of treated effluent and for saving scarce ground water resources.*

Recommendation No. 2 A –

II.K. *The Industry (PCD/paper) has gradually reduced its water consumption and the effluent generation through an improved production system. The Industry had already achieved the water consumption long term objective given by CPCB for Pulp & Paper Industry of 50 m3/T. The Industry is presently running at a water consumption of 46 m3/T by adopting several water conservation measures. Copy of Water Charter Target & List of Measures are attached as Annexure R-4.*

II.L. *The Industry has adopted scientific methods for utilization of its treated water onto plantation within its premises to maximize the utilization of treated water within the complex. The Industry has done a detailed structuring of its complete plantation area. After the assessment, the Industry has laid additional pipeline network for utilization of its treated water on its plantation area. The Industry has also procured dedicated infrastructure including tractor/ harrow/ Rota*

water for regular maintenance of its plantation area. The Implemented scheme showing detailed pipe network, land use, watering depth and type / age of plants etc. has been annexed as Annexure R-5.

II.M. The Industry has already submitted the action plan for the utilization of its treated water by farmers by June 2022 attached as Annexure R-6.

III. Recommendation No. 3:

III.A. The Industry (PCD) has already undertaken the performance study of its ETP of PCD from Thapar Institute of Technology, Patiala. The report has since been submitted to the Board vide letter no. Trident/PCD/2020/66 dated 08.12.2020 along with a timely action plan for all the proposed recommendations. All the recommendations given in the study conducted by the Thapar Institute have been duly implemented and are given in the annexed report, Annexure R-7.

III.B. The Industry has also completed the project on its raw material washing stream which contributed to nearly 30% of the total effluent load by adopting the latest Dissolved Air Flotation (DAF) and screw press technologies with a total investment of nearly INR 10.50 crores. The Industry has already commissioned the project for the removal of non-biodegradable COD & this target has been successfully implemented. Pictures of the project area along with the supporting data is annexed as Annexure R¬8.

III.C. The Industry has collaborated with the Department of Energy and Environment at Thapar Institute to conduct a pilot study for the removal of all color. The Institute has undertaken the project for achieving the purpose and will share the feasibility report by December 2021 and which shall also be submitted with the State Pollution Control Board. A copy of the MOU entered into with Thapar Institute for the purpose along with the interim report received is annexed as Annexure R-9.

It is further submitted that the recommendations, as made, have been complied with at a cost of Rs. 10.5 crores for the installation of equipment (PCD/paper division) with an additional annual running cost of Rs. 2 crore. The said system has been put into operation by the Industry.

IV. Recommendation No. 4

The Industry has conducted the assessment for the reuse of existing treated water back to production process.

IV.A. The reuse of existing treated water will increase the concentration cycle and will increase the Total Dissolved Solids of the final treated water. (TDS of present mill water is 300 ppm and ETP treated water is 1800-1900 ppm) & will also impact the quality of product.

IV.B. *However, the industry is utilizing its treated water/ rejects for following purposes which do not have/negligible impact on the TDS of the treated water. List of projects completed for the utilization of treated water not impacting TDS is attached as Annexure R-10.*

The recommendation has thus been complied with and a cost of Rs. 22.5 Lakhs (PCD) has been incurred by the Industry.

V. Recommendation No. 5 –

The Industry has improved distribution of treated trade effluent on the plantation area and started utilizing treated trade effluent as per the implemented schedule/roster prepared for its zone wise distribution attached as Annexure R-11 . Further, the Industry would like to submit that it has already installed the Electromagnetic flow meter at the outlet of each cell of plantation. Pictures of the additional Meters installed for the submetering along with a copy of the purchase order are annexed as Annexure R-12.

The recommendation has been complied with at a cost of Rs. 4.51 Lakhs (PCD/paper) and Rs. 4,32 Lakhs (HTD/towel).

VI. Recommendation No. 6 –

VI.A. ***The Industry (PCD/paper) has consistently been achieving the existing prescribed standards of 150 mg/Nm3, as stipulated by the Punjab Pollution Control Board in the consents****. The latest available test report dated 11.05.2021 depicts the results. Copy of the latest test report dated 11.5.2021 as carried out by PPCB is annexed as Annexure R-13 A. The sampling was conducted on 21 September 2021 the report of which also reveals that the parameters are within the prescribed norms of 150 mg/Nm3. Copy of report is annexed as Annexure R-13 B. These standards of emission conform to the prescribed standards specified and stipulated in the consents granted to the Industry from time to time.*

VI.B. *However, since a recommendation has been made to reduce the said emission to a maximum limit of 75 mg/Nm3, the Industry had submitted the action plan and time lines for the achievement of stack emission standard of 75 mg/Nm3 by Sep 2021.*

S No.	Boiler	Parameter	Result	EC Norm	Time Line
1	Recovery 2	SPM	80	<75	Sep 21
2	Captive Boiler	SPM	98	<75	May 21

VI.C. *The project was unavoidably delayed on account of the pandemic scenario in the year 2020-21, which had resulted in*

a complete shut down and slowing of all Industries during this period.

The Industry has now sought time till September 2022 for the achieving the revised standards as per below details :

S No.	Boiler	Parameter	Result	EC Norm	Time Line
1	Recovery 2	SPM	80	<75	Sep 2022
2	Captive Boiler	SPM	98	<75	25 November 21

**That the compliance of less than 75 mg/Nm3 of the captive boiler has been achieved through the installation of additional equipment. This aspect has also been verified by the officials of the PPCB.*

VI.D. *The Industry has already installed the new HF Controller to reduce the emissions of its thermal power plant stack to achieve the new recommended value of 75 mg/Nm3. The commissioning of the same has been completed on 24 Nov 21.*

Copy of the new Controller Pictures along with its present SPM trend is annexed as Annexure R-14. The results of the samples taken by the Punjab Pollution Control Board dated 7th December 2021 reveals that the industry has achieved the stack value < 75 mg/m3 for its Energy Boiler after upgradation.

VI.E. *The Industry has also awarded the contract to M/s Hamon Research (Belgium Company) for the supply of new ESP amount Rs 6.4 crore for reducing the emissions to less than 75 mg/Nm3 for Recovery Boiler 2 . The copy of the agreement for the supply of new ESP is attached as Annexure R-15. The new delivery period of the ESP is 7 months and the installation and commission of the same will be completed by August 2022.*

VI.F. *The recommendation is likely to be completed before September 2022 as per above table and a cost of Rs. 33.47 Lakhs (PCD) has already been incurred by the Industry & a cost of 900 Lacs will be done on Recovery Boiler new ESP for achieving the given purpose.*

VII. Recommendation No. 7 —

The Industry has conducted the detailed study for the monitoring of the ground water quality across the Dhanaula Drain in Dec 2019 from M/s Chola Manadalam and the conclusion from the study is as under:

VII.A. *The pH in the ground water samples collected was reported in the range of 7.1 to 8.0 which is within the acceptable range as*

per drinking water standards published by IS 10500:2012. Whereas the pH in soil was found to be more alkaline in the entire region.

VII.B. TDS in the samples collected from the existing borewells were recorded to be in the range of 524 to 1276 mg/I. The TDS levels in groundwater from the samples collected is a regional phenomenon and is in line with the published regional level data. The groundwater's Salinity as NaCl is in line with TDS which contributes to 50% to 60%.

VII.C. Total hardness in the samples collected from the existing borewells was recorded to be in the range of 140 to 595 mg/I.

VII.D. Minor traces of nutrients and heavy metal were found in the groundwater and soil samples collected but the impact is totally insignificant.

As per conclusion drawn by Agency, there is no adverse impact of its treated water discharge onto drain. Copy of the report is attached as Annexure R-16.

The Industry has complied with the recommendation and incurred a cost of Rs. 16.17 Lakhs (PCD/paper).

VIII. Recommendation No. 8 –

The Industry is continuously working for minimum discharge of effluent and is continuously reducing its discharge.

VIII.A. In Paper, The Industry was granted CTO under water Act by Board to discharge its treated trade effluent @ 8700 KLD onto drain & 12800 KLD onto plantation while the actual effluent discharge onto drain is 6214 KLD.

VIII.B. The Industry has reduced its water consumption from 52 m^3/Ton to 46 m3/Ton (CPCB Long term Objective: 50 m^3/Ton) and as per report submitted by CPPRI Saharanpur, the industry further has potential to reduce to 42 m3/Ton.

VIII.C. While in Textile division against granted permission for total generation of 9702 KLD, the industry is only generating 5365 KLD of effluent out of which 3014 KLD is already utilized onto plantation area.

VIII.D. The Industry is also working on maximum utilization of its treated water onto plantation area and reducing its effluent disposal through alternate routes of Zero Liquid Discharge also as suggested by CPCB. Guidelines of CPCB for alternate routes other than ZLD through utilization onto plantation/irrigation is attached as Annexure R-17.

VIII.E. The Punjab Pollution Control Board has been requested to advise the industry on methods of achieving minimal disposal of effluent considering the production technology, scale of operation and utilization capacity.

The recommendation has been complied with.

26. That it is a well known fact that any export oriented undertaking such as the answering Industry is subjected to strict quality control measures not only by the statutory authorities like the PPCB, but also by the international buyers, who, in their own manner, conduct a full inspection of all environmental and pollution control measures before awarding such contracts or placing orders. Highest standards of quality in every respect including pollution control are mandatorily followed to sustain its reputation and stature in the market.

27. Besides all the above compliances as detailed by the Respondent Industry, there are other numerous surprise visits of CPCB, PPCB officials where they have not found any violations nor have any advisories been issued and hence are not recorded. The PPCB officials continue visit the Industry at odd hours and adopt constant monitoring through CCTV cameras."

Analysis of the compliance status and directions

9. We have heard learned counsel for the State PCB and PP and perused the record. Question for consideration is whether the PP was and is non-compliant with EC/consent conditions and environmental norms and if so the remedial action to be taken. We are mainly considering violations with regard to stack emission standards and mode of discharge of effluents which issues are covered by items 2 and 6 of the joint Committee report, quoted above in para 6.

Issue of Emission standards covered by item 6 in the joint Committee report

10. As per EC condition of 2012 referred to in the report of the joint Committee, standard of emission required is 75 mg/Nm^3 which stands further revised to 50 mg/Nm^3 by later EC while permitting expansion on 07.11.2005 for 265 – 375 TPD and on 23.08.2016 for the expansion from 1,35,000 – 2,10,000 TPA. Accordingly, emissions of particulate matter required is 50 mg/nm^3. Thus, the stand of the PP that general standard 150 mg/Nm^3 is applicable and the unit is compliant is not factually correct,

being against EC condition which is binding. It is clear from the report of the joint Committee that the violations have been continuing and are still continuing. PP has sought time to comply till September, 2022. Further, in report of the State PCB under item (b), violations in this regard are found established. The State PCB has issued show cause notice dated 24.09.2021 for the said violation but final action has not been taken. PCB has determined compensation of Rs. 58.32 lacs for this violation for the period from 1.7.2020 to 30.10.2021. The PP has filed its reply dated 19.12.2021 and submitted that the standard has been achieved on 07.12.2021 but the EC conditions are not referred to. The equipment is to be installed by August, 2022. Consent condition has to be in consonance with the EC. The consent conditions indicate enhancement in the production but corresponding change in applicable emission norms does not appear to have been made. This aspect needs to be looked into by the PCB and remedial action taken.

11. The Unit has to be made accountable for the past violations as per polluter pays principle. Compensation assessed is inadequate as the period of violation is taken only from 1.7.2020 though it is not shown that there was compliance earlier. EC condition has not been referred to. Further, financial capacity of the unit has not been considered as required in view of law laid down inter alia in *M. C. Mehta & Anr. v. Union of India* (1987) 1 SCC 395, *Sterlite Industries (India) Ltd. v. Union of India* (2013) 4 SCC 575 and *Goel Ganga Developers India Pvt. Ltd. v UOI* (2018) 18 SCC 257. Thus, the amount will have to be suitably enhanced and compliance ensured for future. We hold accordingly.

Violation of discharge norms

12. Consent conditions under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 for discharge as per State PCB letter dated 10.02.2012 are as follows:-

"1&2….xxx……xxx……xxx

3. The consent is issued for the discharge of effluents as per details given below from the premises of the industry through the out-let(s) authorized by the Board:

S. No.	***Description***	***Quantity m3/day***		***Mode of final disposal***
1.	*Trade Effluent*	*3000* *6702*	*Including effluent of M/s Lotus Integrated Texpark Ltd.*	*After treatment, onto land for plantation.* *After treatment, into drain.*
2.	*Domestic Effluent*	*40*		*After treatment, onto land for plantation*

4. The effluent discharged through the authorised outlet shall conform to the industry specific standards prescribed by the Board / Ministry of Environment & Forest, Govt. of India for such discharges into inland surface waters.

5. The industry shall regularly operate and maintain the Effluent Treatment Plant to ensure that the treated trade effluent conforms to the standards laid down by the Board for such type of industries / discharges and the industry shall get its effluent samples analyzed from the Board to assess the adequacy of treatment system.

6. The industry will conserve the use of water in the manufacturing plant.

35 to 34.xxx……xxx……xxx

35. ***The industry will submit a revised proposal to the Board of 4 no. modules of 2500 KLD each for installation of R.O. system alongwith MEE, within four days, for achieving zero liquid discharge of its trade effluent into Dhanaula Drain.***

36. The first module of 2500 KLD capacity should be installed by December, 2012, which shall decrease the discharge of trade effluent into Dhanaula Drain by 2500 KLD. The remaining 3 modules should be installed by June, 2014 for achieving zero discharge of its trade effluent into Dhanaula Drain by June, 2014."

13. From the above, it is clear that as per consent conditions ZLD was to be achieved by June, 2014 but has not been achieved till date, whatever be the reasons for the failure. Thus, non-compliance is established on this count also. As mentioned in the report of the Joint Committee, the PP installed the first module of R.O. system of 2500 KLD along with MEE in April, 2014 at the cost of Rs. 33.0 crores. The industry made efforts to Install remaining modules of RO followed by MEE to make the unit ZLD but due to technological challenges and limitations, the industry could not make the unit ZLD with the installation of RO system followed by MEE. Over a period of time, the performance of system declined and ultimately the industry had to abandon the project in 2018. Thereafter, the industry, acting on the advice of NEERI, submitted a revised proposal to upgrade the existing ZLD system of 2500 KLD by adopting different Technology at an additional cost of Rs. 12.5 crores.

14. Thus, the original ZLD condition which was required to be achieved by June 2014 has still not been achieved. Though time for achieving the same was extended by the State PCB till June 2020, the same is at variance with the original consent conditions. Even if the PCB could extend time, till extension violation has continued. Even after expiry of the extended time till 30.06.2020, compliance has still not been achieved. The non-compliance has continued since 2014. The discharge in drain was proposed to be stopped by December 2021 and discharge on land is said to be meeting the standards which cannot be permanent arrangement having regard to the consent conditions and adverse consequences of discharge of so much water on the land. It is seen that the paper and textile units will altogether discharge 22,710 KLD (16,800 KLD from the paper division and 5910 KLD average daily discharge from the textile division) of treated effluents in an area of 165 acres. Discharge of such huge quantity

of effluents on land may result in inundation/flooding of the land. It is not clear where the effluents will go during non-usage period of effluents and during rainy season. Further, there is no foolproof monitoring mechanism which will ensure that proper ferti-irrigation plan is maintained, securing integrity of the soil as well as groundwater quality in prevailing conditions in the command area in question. Further, it needs to be determined as to which technical options will be followed to achieve zero liquid discharge in true sense, ensuring that the water recovered is utilized in the process and the rejects from liquid to solid phase are properly managed as per Hazardous Management Rules, 2016. Given the understanding of the concept of the ZLD, the water recovered has to be used in the process itself and no waste water is discharged in recipient environment. **This has to be clarified and affirmed by State PCB and separately by CPCB and MoEF&CC for pan India application.**

15. Now, we may refer to the standards notified by the MoEF&CC under Environment (Protection) Act, 1986 with respect to textile and pulp and paper industries. Standards for discharge with respect to textile industries vide GSR, 978(E) dated 10.10.2016, serial no. 6 and other relevant entries are BOD: 30 mg/l, Suspended Solid 100 mg/l, COD 250 mg/l, TDS 2100 mg/l and sodium absorption ratio is 26. CPCB/SPCB can specify more stringent standards depending on the recipient system. Treated effluents can be allowed to be discharged in the ambient environment only after exhausting option for reuse in industrial process/irrigation, to minimize fresh water usage. Standalone large scale units have to meet the values specified. However, the SPCBs with approval of CPCB, may mandate ZLD in large scale units in environmentally sensitive/critical areas. In case of large pulp and paper industries, standards notified vide GSR 546(E) dated 30.08.2005 with capacity above 24,000 MTPA have to achieve BOD 30

mg/l, suspended solid 500 mg/l and effluent discharge should be 200 cubic meter per tonne of paper produced. **MoEF&CC and CPCB need to resolve the issue how the PP will secure compliance with ZLD condition. Huge quantity of discharge of treated effluents on land for long time is bound to cause damage to the soil as well as groundwater. Thus, on resolution of this issue, further action of installing the requisite equipments has thus to be completed within a reasonable time.** While holding the PP liable for the past and continued violations on polluter pays principle, the PP has to ensure compliance within reasonable time.

16. Accordingly, while giving six months to the PP for compliance, we hold it liable to contribute a sum of Rs. 5 crores on 'polluter pays' principle, considering the period and nature of violations and financial capacity of the unit but on a conservative estimate, having regard to the peculiar facts and circumstances, including the failure of the regulators in clearly specifying the requirements and vaguely laying down ZLD condition. The said amount be deposited in a separate account by the PP with itself, to be used for improvement of environment in the area as per action plan to be prepared by the CPCB and the State PCB taking into account the District Environment Plan. The execution of action plan may be overseen by the joint Committee of CPCB and State PCB of the area. The deposit may be made within one month. In case compliance is not ensured within six months, the unit will be held liable to pay further compensation at the rate of Rs. 1 crore per month, till compliance.

17. The State PCB in consultation with CPCB and MoEF&CC may draw an action plan for ensuring that the industries in question (Paper and Textile) comply with the applicable emission norm i.e. 50 mg/nm^3 and

achieving ZLD, considering the best technological options and not damaging the soil and groundwater in case of disposal on land and may monitor compliance and file a compliance report of status as on 31.10.2022 by 15.11.2022 with the Registrar General, NGT by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. **We also direct that CPCB and MoEF&CC through the CPCB to file separate status report on the status of compliance of ZLD with reference to the other categories of industries particularly for distilleries, textile, pulp and paper, pharmaceutical etc. viz-a-viz with reference to standards notified and implications of permitting for disposal of effluents on land, posing serious threat to soil and groundwater in long run, by 15.11.2022**. If any further direction appears to be necessary, the Registrar General, NGT may place the matter before the Bench.

Subject to above, the application stands disposed of.

A copy of this order be forwarded to MoEF&CC, CPCB and State PCB by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. Nagin Nanda, EM

Dr. Afroz Ahmad, EM

February 08, 2022
Original Application No. 682/2019
A+DV