

Item No. 03

(Court No.1)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 437/2019

Lakhwinder Singh

Applicant

Versus

State of Punjab

Respondent

Date of hearing: 02.07.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

Respondent: Ms. Soni Singh, Advocate for CPCB

**ORDER**

1. The issue for consideration is action to be taken for violation of environmental norms by M/s K.R.B.L. Ltd., Bhasaur, Tehsil Dhuri, District Sangrur, Punjab, manufacturing rice, rice bran oil, furfural and other related products.

2. The matter was earlier considered on 05.02.2020 in the light of the report of State PCB that the ground water was contaminated. It had several organic compounds. There was high BOD, COD and TDS and other components. It was recommended that further analysis should be done and remedial action taken. Accordingly, the Tribunal directed further independent examination and required report from the joint Committee comprising CPCB and State PCB.

3. The matter was last considered on 27.07.2020 in the light of report of the joint Committee of CPCB and the State PCB dated 22.05.2020 finding deficiencies in working of the ETP and recommending remedial action. The Tribunal found that the unit was violating environmental norms which were required to be stopped. It was found that the stand of the State PCB to the extent it was in conflict with the stand of CPCB could not be accepted. The operative part of the order is reproduced below:-

“1&2...xxx.....xxx.....xxx

3. The joint Committee has given its report dated 22.05.2020. The report has found various deficiencies in the working of the ETP. The parameters at the outlet are not complying with the laid down quality. The observation are:-

“6. The treated effluent from aerobic system goes to filter media system, leading to Clear Water Tank. **The BOD of this effluent is 39 mg/1 and COD 89 mg/ 1. This reduction in BOD and COD is due to mixing of effluents pumped directly from Cooling Towers blow down and D.M. Plant rejects having BOD of 2 mg/1 and COD of 10 mg/1 with high TDS of 1500 mg/ 1.**

7. **The treated process effluent in ETP having BOD level of 355 mg/1 and COD level of 737 mg/1 when mixed with pumped effluent of Cooling Towers and D.M. rejects having BOD of 2 mg/1 and COD of 10 mg/1 brought down the final discharge at BOD level of 39 mg/land COD of 89 mg/l. It means Cooling Tower blow down and D.M. reject effluents have diluted BOD and COD several times, which appears to be an attempt to achieve compliance of standards. There are no flow meters installed for these categories of effluents separately to know effluent quantity (totalizer) and instant flow (kl/hr.).**

9. Further, in absence of properly designed pipe network, the effluent utilization on land remains far from satisfactory as no monitoring system could be in place. **The ground water samples analysis (Table:2) is indicating presence of organic compounds in the tube wells of Mr. Jagtar Singh. Although out of eight ground water samples drawn from seven tube wells and one piezometer well, only three tube wells water exhibited traces of Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD). This suggests that impact on**

**ground water quality is emerging due to effluent disposal on land.**

10. Ground Water samples (Plate 1) were taken from the tube well of the industry, **which draws water for their use and from the tube wells of the farmers in the vicinity of industry premises (near land application) and also at longer distances, including one near petrol pump which is a farthest point from industry premises.** The analysis of ground water samples is given in Table 2. The sample of tube well of industry has shown TDS of 495 mg/1 and does not have any BOD and COD. Thus, it is fit for drinking purpose as TDS is below desired standards of less than 500 mg/ 1.

11. This may also be referred the Central Ground Water Board report (2013) which finds mentioned of **depleting water resources in the district of Sangrur, Punjab. The report finds that groundwater is over exploited and depleting at 0.65 meter per annum (averaging over 10 years) in the region.**

12. The analytical results of ground water samples, drawn from tube well installed at KRBL residential colony (being used for regular drinking water supply) and piezometer well installed at plantation area, (being used for disposal of effluent) are indicating concentration of Nitrate (as Nitrogen) of 0.5 mg/1 to 3.5 mg/1 respectively. **The maximum Nitrate (as Nitrogen) concentration of 4.9 mg/lin ground water found at tube well of Mr. Jagtar Singh (near land application). The variation (BDL to 4.9 mg/1 and averaging of 1.9 mg/1) in Nitrate concentration across ground water is estimated to be large given the geo distances among the tube wells and, also no other discharge in vicinity.**

14. The water quality of tube wells of Mr. Jagar Singh and Mr. Jagtar Singh near the industry premises, have shown **presence of BOD and /or COD, which indicate organic contamination and high level of TDS ranging between 804 mg/1 and 844 mg/1, which is much above the desired standards of TDS.** Other tube wells, which are at farther distance, owned by Mr. Maggher Singh, Mr. Amar Singh and near Petrol Pump do not contain BOD and COD and having TDS around 500 mg/1 or less, thus fit for drinking purpose.

15. Further, concentration of Total Dissolved Solids (TDS) in ground water samples of tube wells of Mr. Jagtar Singh and Mr. Jagrail Singh found 604 mg/1 to 1114 mg/1 respectively and considerably higher than adjoining tube well samples where concentration of TDS lies below 500 mg/ 1. Although, the concentration of TDS in ground water found to be within the normal range of natural course yet impact of unscientific effluent disposal on land, resulted in percolation reaching ground water aquifer, could not be ruled out.”

4. Recommendations are:-

“1. The industry is required to operate and **maintain its effluent treatment plant (ETP) scientifically by engaging skilled personnel and should follow standard operating practice/procedure as per the plant design.** The ETP performance is a direct function of qualitative maintenance of each and every unit operation and much demanding in this case as the treated effluent is disposed on land.

2. A detailed scheme for treated effluent disposal on land is required to be developed and placed for effective utilization and its monitoring. **A system with piped network with electromagnetic flow metering would be mandated to ensure effective utilization of treated effluent.**

3. The industry is to obtain permission (or no objection certificate) from Central Ground Water Authority for abstracting 2880 KLD ground water. **As the industry has not received the required permission from CGWA, therefore the industry is to explore possibility of drawing water from Babanpur canal flowing at a distance about 1.2 km.** The canal is part of Hydro Electric Project (2x500 MW), owned and operated by Government of Punjab.

4. **An Environmental Audit of the industry needs to be undertaken with an aim to suggest the minimal raw water requirement for the set of technology adapted in production process vis-à-vis effluent treatment and would let also determine the efficacy and adequacy of effluent treatment and its disposal. The study may be got executed by an institution having expertise in the relevant field to evaluate water and chemical mass balance in the processes.**

5. The Central Ground Water Board report (2013) mentioned that Sangrur district/region is situated in Ghaggar River Sub-basin and with Sirhind Canal as major physiographic unit. It also finds that hydro-geologically major water bearing formation is sand (loamy sand and sandy loam) as sub soil aquifer beneath which a confined to semiconfined aquifer lies. **It, therefore demands the need of dismantling piezometer well (tubing depth more than 40 meters), located within planation area and becoming a possible source of ground water contamination reaching deep into aquifer.** The industry has to provide, in lieu a minimum of three piezometer wells forming an appropriate triangle encircling planation area used for disposal of treated effluent. The location and depth of these piezometer wells be decided in consultation with both Central Ground Water Board (CGWB) and Punjab Pollution Control Board (PPCB).

6. **The stage of ground water development for the district is 264%.** That means the net annual withdrawal is

more than the net annual recharge, finds the report of Central Ground Water Board. It becomes, therefore vital for the region that sub soil or shallow aquifer does not get affected due to disposal of treated effluent on land. Hence, it is recommended that the industry should undertake regular monitoring of ground water in its vicinity through designing and establishing a network of tube wells, in consultation with CGWB and PPCB. The monitoring data so generated shall be regularly submitted to PPCB for data examination and analyzing to ascertain that ground water quality is not deteriorating further because of effluent disposal on land. The long term (time series) ground water monitoring data are essential for evaluating quality trend and for surveillance to take measures for preventing ground water from being deteriorated.

7. To prevent any chances of the ground water contamination due to industrial discharge and application of effluent containing residual BOD and COD with high TDS on land, it is necessary that industry should achieve zero liquid discharge. **Therefore, industry should install ZLD system (R.O. and MEE) for both treated effluents from ETP as well as high TDS containing effluent discharged from Cooling Towers and rejects released from D.M. Plant.**

8. As the aerobic system of ETP of industry is not adequately designed and not properly operated, **the industry should engage a competent agency dealing in wastewater treatment**, for improvement needed in ETP as well as to enable industry to follow Standard Operating Procedure. All effluent pipelines should be placed above ground and where it is not feasible, the same should be laid in an impervious channel to check leakage and seepage to the ground water.

9. **The Electromagnetic Flow Meters are required to be installed for water consumption in each section of production process and utilities (steam generation, cooling towers and for chemical solution preparation) as well as to measure cooling water blow down and reject from D.M. Plant.** The effluent should also be monitored stream wise and at inlet & outlet of ETP. The flow meter at pipeline should show total quantity in given time (cum) and instant flow (cum/hr). Such reading should be recorded periodically each day, to measure intermittent as well as continuous flow.

10. The scheme for improvement needed in ETP as well as to achieve Zero Liquid Discharge (ZLD) by incorporating Reverse Osmosis (R.O.) and Multiple Effect Evaporator (MEE), should be submitted by the Industry to Punjab State Pollution Control Board and Central Pollution Control Board.

11. **As the industry uses Sulphuric Acid (hazardous chemical) in the production of Furfuryl alcohol, the same is required to be included in the raw material**

**mentioned in the Consents issued by Punjab Pollution Control Board.** The industry is also required to take all necessary measures in handling hazardous substances such as Sulphuric Acid, Hydrochloric Acid, Hexan and etc. in accordance to "The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 and as amended.

12. PPCB is to ensure installation of electromagnetic flow meters in the identified production processes and interlocking of production process with pollution control system in accordance to the condition stipulated in the consents."

5. A further report has been filed by the State PCB in response to the observations by the CPCB. Learned counsel for the CPCB states that CPCB is not in agreement with the stand of the State PCB and joint report be acted upon.

6. **We find that the unit is clearly violating environmental norms in discharging pollutants and drawing ground water in overexploited area without any permission. Such violations need to be immediately stopped and accountability fixed for past violations.** CPCB may issue appropriate observations/directions to the State PCB, after considering the report of the State PCB dated 02.07.2020 filed before this Tribunal on 26.07.2020."

4. In pursuance of the above, further report has been filed jointly by the CPCB and State PCB dated 11.03.2021 to the effect that the CPCB issued a direction to the State PCB on 25.09.2020. The State PCB issued a show cause notice to the industrial unit and also submitted a progress report based on the response of the unit. The relevant extract from the report are reproduced below:-

**"Action taken by CPCB.**

CPCB issued directions u/s 18(1) (b) on 25.09.2020 to Punjab Pollution Control Board (PPCB) in compliance of NGT order dated 27.07.2020, wherein Punjab Pollution Control Board was directed to issue directions under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 to M/s KRBL Ltd. A copy of CPCB directions dated 25.09.2020 is annexed at Annexure-II.

**Action Taken by Punjab Pollution Control Board**

In compliance of CPCB directions, PPCB issued show cause notice u/s 33-A of the Water Act to the unit on 2.11.2020 vide which unit was provided an opportunity of show cause to file objections, if any either in writing or in person(A copy of PPCB proposed direction dated 2.11.2020 is annexed at Annexure-III).

After hearing the unit on 10.12.2020, PPCB decided that the status of compliance may be got verified through independent agencies mentioned below and issued the following assignments on 24.12. 2020 to these institutes (Annexure-IV).

1) M/s Punjab Biotechnology Incubator, Mohali (PBTI) to carry out the following performance studied within 15 days

i) Performance evaluation study of all components of the Effluent Treatment Plant (ETP) installed by the industry.

ii) Collection and analysis of ground water samples as well as of water of nearby tube wells (including tube well under complaint) so as to adjudge the extent of ground water contamination due to industry.

iii) Collection and analysis of soil samples so as to study the impact on soil of surrounding area due to continued application of treated water by the industry for irrigation/plantation.

2) M/s GuruNanak Engineering College, Ludhiana to carry out water balancing audit of the study involving mass water balancing audit of the industry as well as to suggest scopes to maximum reuse the treated water by the industry within 15 days.

The PPCB vide its letter dated 04.02.2021 has submitted the progress report along with the reports dated 27.01.2021 & 28.1.2021 of both the institutes. A Copy of PPCB letter dated 04.2.2021 along with proceedings of hearing dated 29.01.2021 and directions of Punjab Pollution Control Board dated 3/02/2021 is attached as Annexure-V. As per the progress report, PPCB provided another opportunity of personal hearing on 29.01.2021. Based on hearing of PPCB officials & commitments made by representatives of the industry, directions dated 25.9.2020 CPCB & PPCB proposed directions, dated 2.11.2020 and considering the reports of the above mentioned institutes, chairman PPCB decided the following:-

- The industry has obtained interim permission for extraction of ground water from Punjab Water Regulation and Development Authority on 07.01.2021 and has deposited Rs. 29,32,800/- toward charges for extraction of ground water. Further, treated effluent being discharged and utilized onto land for plantation by the industry is meeting with the prescribed norms of the Board. As such, direction to seal all the tube-wells being used to draw ground water until the industry obtains permission from ground water Authority and adopts satisfactory pollution control measures stands complied with and there is no need to seal the tube wells.
- Results of ground water monitoring, within the industrial premises as well as in the vicinity of 2-3 Km of the boundary of the industry reveal that in certain bore-wells although the TDS is beyond the acceptable limit of 500 mg/I but are well within the desirable limit of 2000 mg/I as per IS-10500:2012. It is not proved that the ground water has been contaminated due to discharge of effluents by the industry. SAR (Sodium Adsorption

*Ratio) is within limits in all soil samples collected from plantation area. Although Total Organic Carbon (TOC) and Total Kjeldahl Nitrogen (TKN) was found to be high in soil samples, but it cannot be concluded that soil has been adversely affected due to application of effluent by the industry. Moreover, as stated by the industry, it is replenishing the ground water used by it since September 2017 i.e. much before the guidelines were issued. The Industry had applied for permission for withdrawal of ground water on 23.10.2018 and was never restrained by CGWA for abstracting the ground water. Moreover, the industry has now obtained interim permission for extraction of ground water from Punjab Water Regulation and Development Authority on 07.01.2021. The above actions on part of the industry prove bonafide intentions and the withdrawal of ground water cannot be termed as unauthorized. As such, there is no need to impose environment compensation as directed by CPCB on account of unauthorized drawl of ground water for industrial use and having caused damage to land environment (Soil & Ground Water due to effluent disposal).*

- *High TDS values in ground water plantation area of the industry can be due to application of mixed effluent of untreated inorganic wastewater stream with the treated trade effluent of ETP containing high concentration of Chlorides& Sulphates. As such, to prevent any impact on the land environment (soil and ground water) due to long term disposal of treated trade effluent onto land for plantation by the industry though within prescribed norms, following directions were issued by PPCB on 03.02.2021 to the unit under section 33-A of Water Act, 1974.*
  - I. *The industry shall achieve ZLD in respect of inorganic waste water streams generated from DM plant, cooling tower and boiler blow down processes within a period of 3 months which at present is being mixed with treated trade effluent at the outlet of ETP so as to decrease the TDS concentration in final effluent further.*
  - II. *The industry shall submit an action plan within one-week giving time lines and work scheme for compliance of the directions to achieve ZLD as above.*
  - III. *The industry shall start using canal water in place of ground water by 31 03.2021.*
  - IV. *The industry shall undertake an Environment Audit to determine minimal raw water requirement for the given set up technology adopted in the production process viz-a-viz effluent treatment besides efficacy and adequacy of effluent treatment.*
  - V. *The industry shall engage scientific and skilled personnel for operating ETP as per standards operating ETP as per the standard operating procedure and to maintain records of design parameters monitored.*
  - VI. *The industry shall establish a ground water quality monitoring network in consultation with Punjab Water Regulation and Development Authority and Punjab Pollution*

*Control Board to decide number, location and depth of tube wells, and parameters and frequency of monitoring.*

*VII. The industry shall submit the data of groundwater quality monitoring to PPCB for its examination and to take mitigation measures in the event of any further contamination found.*

*VIII. The industry shall within 15 days install Online Continuous Effluent Monitoring System (OCEMS) at the outlet of effluent treatment plant and connect it with the website of the Board for continuous online display/monitoring.*

*IX. The industry shall utilize its treated trade effluent discharge after Effluent Treatment Plant in green areas of administrative block and residential areas within premises in addition to plantation area where it is already being used.*

*Punjab Pollution Control Board, shall verify the compliance of directions issued to the unit and submit the report to the Hon'ble NGT accordingly.”*

5. From the above it is seen that the unit is still non-compliant. While compliance is required to be ensured, the unit cannot be allowed to continue till compliance. The State PCB has to perform its statutory obligation to close the unit as per law till compliances are ensured. For the past violations, accountability has to be fixed in terms of compensation which needs to be assessed, as per applicable norms in accordance with law. Needless to say, if the State PCB continues inaction against violations, Chairman PCB will be liable to be personally held accountable for failure of statutory duties by way of coercive measures.

6. Let the joint Committee file a report about the status of compliance as on 31.08.2021 before the next date by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The report may also include adequacy of command area to be utilised for treated effluents, whether standards are met and adequacy of management during rainy season when effluents are not required and status of reject management and utilisation of permeates.

List for further consideration on 21.09.2021.

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

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

M. Sathyanarayanan, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

July 2, 2021  
Original Application No. 437/2019  
A