BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

Principal Bench, New Delhi

Original Application No. 437/2019

In the matter of: -

Lakhwinder Singh — Applicant(s)

Versus

State of Punjab — Respondent(s)

Index

Sr. No.	Particulars	Page No.
1.	**Joint Action Taken Report** of Central Pollution Control Board and Punjab Pollution Control Board in O. A. No. 437/2019 in the matter of Lakhwinder Singh Vs. State of Punjab in compliance to the Hon'ble NGT order dated 27.07.2020.	
2.	**Annexure-I:** A copy of Hon'ble NGT order dated 27.07.2020.	
3.	**Annexure-II:** A copy of Direction dated 25.09.2020 issued by Central Pollution Control Board to Punjab Pollution Control Board u/s 18(1)(b), Water (Prevention & Control of Pollution) Act, 1974.	
4.	**Annexure-III:** A copy of Punjab Pollution Control Board proposed direction dated 02.11.2020.	
5.	**Annexure-IV:** A copy of Proceedings dated 24.12.2020 regarding personal hearing given on 10.12.2020 by the Chairman of the Board to M/s KRBL Ltd., Sangrur u/s 33-A of the Water Act, 1974.	
6.	**Annexure-V:** A copy of Directions dated 03.02.2021 u/s 33- A of the Water (Prevention and Control of Pollution). Act, 1974 in pursuance to the directions issued by Central Pollution Control Board u/s 18(1) (b) to M/s KRBL Ltd., Sangrur.	

(S.K Gupta)
Scientist-E
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi- 110032.

Date: 11.03.2021
Place: Delhi

Joint Action Taken Report of Central Pollution Control Board and Punjab Pollution Control Board in the matter of in compliance with the NGT order, dated 27.07.2020 in the Matter of OA no. 437 of 2019: Lakhwinder Singh Vs State of Punjab.

In the Matter of OA no. 437 of 2019: Lakhwinder Singh Vs State of Punjab, Hon'ble NGT vide order, dated 05.02.2020 directed as under:-

> *"CPCB and Punjab State Pollution Control Board jointly visit the site and give an independent report within two months. CPCB may be the nodal agency in the matter. CPCB may be at liberty to engage any other expert in this matter".*

In compliance of the direction of the Hon'ble NGT, Joint Team, comprising Technical Expert (Shri N.K.Verma, Ex Additional Director, CPCB), Regional Director, CPCB, Chandigarh & Punjab Pollution Control Board, Regional Office, Sangrur inspected the industry and its vicinity during March, 18-19, 2020and submitted its report.Based on the findings of report, Hon'ble NGT vide passed an order on 27/7/2020.

> *"That the unit is clearly violating the 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".*

A Copy of Hon'ble NGT order is annexed as**Annexure-I.**

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/l but are well within the desirable limit of 2000 mg/l 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 watercannot 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.

(S.K. Gupta),
AD & Div. Head, IPC-IV & V Division
Central Pollution Control Board, New Delhi

(Rajeev Gupta),
Environmental Engineer,
Punjab Pollution Control Board,
Regional office, Sangrur,

ANNEXURE - 1

Item No. 06 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 437/2019

(With report dated 27.07.2020)

Lakhwinder Singh Applicant(s)

Versus

State of Punjab Respondent(s)

Date of hearing: 27.07.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S. P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Respondent(s): Ms. Soni Singh, Advocate for CPCB
Ms. Richa Kapoor, Advocate for Punjab State PCB

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.

2. The matter was last 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 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.

An action report may be filed jointly by CPCB and State PCB before the next date 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

List for further consideration on 09.02.2021.

Adarsh Kumar Goel, CP

S. P. Wangdi, JM

Dr. Nagin Nanda, EM

July 27, 2020
Original Application No. 437/2019
A

ANNEXURE - II

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

cpcb

ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ
ਡਾਇਰੀ ਨੰ. 8-1-1217-7
ਮਿਤੀ 14/10/2020
ਡਾਇਰੀ ਕਲਰਕ
ਪਟਿਆਲਾ।

Speed post

CPCB/IPC-V/Directions _Rice/2020 7696

September 25, 2020

To

The Chairman
Punjab Pollution Control Board
Vatavaran Bhawan, Nabha Road
Patiala 147 001

Sub: Directions Under Section 18(1) (b) of The Water (Prevention and Control of Pollution) Act, 1974 in compliance with the NGT order, dated 27.07.2020 in the Matter of OA no. 437 of 2019: Lakhwinder Singh Vs State of Punjab.

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 and Control of Pollution) Act, 1974, is to plan a comprehensive programme for prevention, control and abatement of pollution of streams and wells located in the State / Union Territory and to secure the execution thereof, and

WHEREAS, the Central Government has notified the standards for discharge of environmental pollutants from various categories of industries under the Environment (Protection) Act,1986 and the Rules framed thereunder, and

WHEREAS, CPCB and PCBs/PCCs have been pursuing the polluting industries to install and operate effluent treatment plant (ETP) to comply with the effluent discharge standards as notified under the Environmental (Protection) Act, 1986 and Rules framed thereunder, and

WHEREAS, the PCBs/PCCs can further stipulate stringent standards for discharge of environmental pollution from various categories of industries other than those notified by the Central Government, under the Environmental (Protection) Act, 1986 and Rule framed thereunder, and

WHEREAS, in the matter of violation of environmental norms by M/s K.R.B.L. Ltd., Bhasaur, Tehsil Dhuri, District Sangrur, Punjab, the NGT vide its order, dated 05.02.2020 directed as under:

> ***"Let the CPCB and the Punjab State Pollution Control Board jointly visit the site and give an independent report within two months by email at judicial-ngt@gov.in. CPCB may be the nodal agency in this matter. CPCB may be at liberty to engage any other expert in this matter.***
>
> ***List again on 27.05.2020."***

WHEREAS, in compliance of the direction of the NGT, ***a Joint Team*** comprising Regional Director, CPCB, Chandigarh, Officials from, Regional Office, PPCB, Sangrur, and Technical

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792 वेबसाइट/Website ...

Expert (Shri N. K.Verma, Ex-Additional Director, CPCB) engaged by CPCB has inspected the industry and its vicinity during March, 18-19, 2020.

WHEREAS CPCB has filed its report dated, 22.05.2020 before the NGT. The observations of the report are summarized as under:

1. The ETP installed by the industry for treating effluents generating from various production processes such as parboil plant, solvent extraction plant and furfuryl alcohol plant was found inadequate as the outlet quality of effluent leading to clear water tank consist of BOD 355 mg/l and COD 737 mg/l.

2. The ETP was found to be operated unscientifically as equalization tanks were made to function as aerobic biological treatment system by circulating bio-sludge (return sludge) into it, rather to work for homogenization effluent to have uniform feed for effective aerobic treatment in the system.

3. The flow in second stage aerobic treatment system was reduced substantially compared to first stage and whereas in first stage it reduced drastically as received in raw sump well. It was also noted that at places, pipe connections were leading underground.

4. The effluent passing from filter media system following clear water tank found to have BOD 39 mg/l and COD 89 mg/l. This reduction in BOD from355mg/l and COD from 737mg/l is primarily due to mixing of discharges received as blow down and rejects from cooling tower and demineralisation plant respectively. The analytical results of effluents suggest that the industry has deliberately attempted to show the compliance with respect to disposal of effluent on land by mixing nearly 8,000 kld water in the name of blow-down and rejects as against the consented discharges of 320 kld together from cooling tower and demineralisation plant.

5. The treated effluent to the tune of 1440 kld is disposed on land using ***Karnal Technology*** over an area of 30 acres. No detailed scheme for treated effluent utilization as land application seems to have been designed and put in place. The land size, soil characteristics, effluent quality and quantity, annual weather and other associated parameters such as eva-transpiration rate were not taken into consideration while the effluent was disposed on land. This has resulted in effluent stagnation or over dosing and underutilization of land as well. Further, in absence of properly designed pipe network, the effluent utilization on land remains far from satisfactory as no monitoring system found in place.

6. The raw water requirement is met by abstracting it from ground to the tune of 2800 kld using four tube wells. However, no permission for groundwater withdrawal has been obtained from Central Ground Water Authority.

7. The groundwater quality of tube wells of Mr Jagar Singh and Mr Jagtar Singh near the industry premises and close to land application has shown presence of BOD and COD indicating organic contamination.

   The concentration of TDS in the groundwater samples drawn from the tubewells of Mr. Jagar Singh is 812 mg/l, Mr. Jagtar Singh is 804 mg/l & 884 mg/l and from Mr. Jagrail Singh is 1114 mg/l which are higher than the drinking water specification of 500 mg/l prescribed by BIS 10500:2012. The higher concentration of TDS indicates the possible impact of unscientific effluent disposal on land resulted in percolation reaching groundwater aquifer could not be ruled out.

8. The analytical results of groundwater samples drawn from tube well installed at the residential colony of industry and piezometer well installed at plantation area used for land application indicate concentration of Nitrate (as Nitrogen) of 0.5 mg/l to 3.5 mg/l respectively. The maximum Nitrate (as Nitrogen) concentration of 4.9 mg/l in groundwater found at tube well of Mr. Jagtar Singh. The variation (from below detectable limit to 4.9 mg/l and averaging of 1.9 mg/l) in Nitrate (as Nitrogen) concentration across groundwater is estimated to be large given the geo distances among the tube wells and no other noticeable discharge in vicinity.

9. The analytical results of all seven groundwater (tube wells) samples do not exhibit any linear relation between total alkalinity and total hardness. Three groundwater samples found with total alkalinity higher than total hardness showing natural groundwater formation but remaining four ground water samples have recorded concentration of total hardness higher than total alkalinity indicating Calcium and Magnesium carbonates formation and transportation of the same in ground water, probably due to effluent disposal on land. The concentration of Calcium (112 mg/l) and Magnesium (121 mg/l) in groundwater sample drawn from tube well of Mr. Jagrail Singh is also suggesting the same.

WHEREAS the on-going observations clearly confirm that in the vicinity of industry, groundwater has been contaminated deep up to aquifer due to disposal of effluent on land for plantation using Karnal Technology, and

WHEREAS the NGT on the CPCB report has further passed an order, dated 27.07.2020 which read as under:

> ***"We find that the unit is clearly violating environmental norms in discharging pollutants and drawing groundwater 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.***
>
> ***An action report may be filed jointly by CPCB and State PCB before the next date 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.***
>
> ***List for further consideration on 09.02.2021."***

WHEREAS the comments of PPCB received vide letter, dated 02.07.2020 were duly considered while finalizing the report as filed before the Tribunal, and

NOW, THEREFORE, in compliance with the said order and in exercise of the powers conferred under section 18 (1) (b) of The Water (Prevention and Control of Pollution) Act, 1974, following directions are issued to Punjab Pollution Control Board in respect of M/s KRBL Ltd., Village – Dhuri, Sangrur, Punjab:

(i) To seal all tube wells being used to draw groundwater for industrial production until (a) grant of permission from Central Ground Water Authority, and (b) satisfactory completion of pollution control measures are adopted in compliance of the direction.

(ii) To levy Environmental Compensation on account of unauthorised drawal of groundwater for industrial use and having caused damage to land environment (soil and groundwater) due to effluent disposal.

(iii) To develop and place a mechanism to recover the Environmental Compensation in a time bound manner.

(iv) To revise the consents issued under the Water (Prevention & Control of Pollution) Act,1974 and the Air (Prevention and Control of Pollution) Act,1981 and to incorporate all such conditions required to comply with these directions and the order passed by the NGT.

(v) To ask the industry to submit a time-bound Action Plan and work scheme for compliance of the directions and that Punjab Pollution Control Board (PPCB) shall examine the submission of the industry before allowing its implementation.

(vi) To allow production only for seven days to have trial run of the scheme adapted by the industry to comply with the directions after ensuring the satisfactory accomplishment of approved Action Plan.

(vii) That Punjab Pollution Control Board shall further issue directions under the provisions of the Water (Prevention and Control of Pollution) Act,1974 to M/s KRBL Ltd :

a) To stop immediately its production processes generating effluents and shall not resume production until necessary steps are taken to comply with environmental norms and permission is obtained from PPCB.

b) To upgrade the ETP installed for treating its effluents generating from production processes to achieve Zero Liquid Discharge norms.

c) To provide an independent system of achieving Zero Liquid Discharge norms for cooling tower blow-down and demineralisation plant rejects.

d) To stop disposing any effluent on land using Karnal Technology for utilization of the same.

e) To obtain permission from Central Ground Water Authority for abstracting required quantity of groundwater using tube wells.

f) To provide electromagnetic flow meters at all sections generating effluent and at those points required to monitor performance of ETP.

g) To undertake an environmental audit, to determine minimal raw water requirement for the given set of technology adapted in *production process* vis-à-vis *effluent treatment* besides efficacy and adequacy of effluent treatment.

h) To engage scientific and skilled personnel for operating ETP as per the standard operating procedure and to maintain records of design parameters monitored.

i) To establish a groundwater quality monitoring network in consultation with Central Ground Water Board and Punjab Pollution Control Board to decide number, location and depth of tube wells, and parameters and frequency of monitoring.

j) To 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) That Punjab Pollution Control Board shall forward a compliance report to CPCB before the next date of hearing but not later than 10.01.2021.

Punjab Pollution Control Board shall acknowledge the receipt of direction within 15 days from the date of issue.

(SHIV DAS MEENA)
Chairman

ANNEXURE-III

ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ

PUNJAB POLLUTION CONTROL BOARD

No. 3465 Dated: 2-11-2020

Registered

To

M/s KRBL Ltd.,
Bhasaur, Tehsil Dhuri,
District Sangrur.

Sub: Notice to issue directions u/s 33- A of the Water (Prevention and Control of Pollution) Act, 1974 in pursuance to the directions issued by Central Pollution Control Board u/s 18(1) (b) of the said Act, 1974.

It is mandatory on the part of the industry to obtain the consent to operate of the Board to operate an outlet for discharge of effluents arising from its premises and to provide adequate and appropriate effluent treatment facilities so as to contain the various pollutants in accordance with the provisions of the Water (Prevention & Control of Pollution) Act, 1974;

And whereas, the industry was granted Consent to operate under the Water (Prevention & Control of Pollution) Act, 1974 vide no. CTOW/varied/SGR/2016/4631889 dated 08.12.2016 which was valid upto 31.03.2021 for manufacture of Raw Rice @ 1448 T/day, Saila Rice @ 482 T/day, Rice bran oil @ 42 TPD, DOC @ 208 T/day, Power @ 10.5 Mega watt. Furfural @ 10 T/day and Furfuryl Alcohol @ 10 T/day and for discharge of treated Trade effluent @ 1349 KLD & Domestic effluent @ 85 KLD onto land for plantation purpose after treatment in ETP;

And whereas, upon an application filed by Lakhwinder Singh, the matter relating to the violation of environmental norms by M/S K.R.B L Ltd Bhasaur, Tehsil Dhuri District Sangrur Punjab is under consideration of the Hon'ble National Green Tribunal in Original Application No. 473 of 2019. The Hon'ble Tribunal vide order dated 5.2.2020 has directed as under:

> "Let the CPCB and the Punjab State Pollution Control Board jointly visit the site and give an independent report within two months by email at judicial-ngt@gov.in. CPCB may be the nodal agency in this matter. CPCB may be at liberty to engage any other expert in this matter."

And whereas, in compliance of the above directions of the Hon'ble National Green Tribunal, a Joint Team comprising of Regional Director, Central Pollution Control

Board (CPCB), Chandigarh, Officials from Regional Office, Punjab Pollution Control Board, Sangrur, and Technical Expert (Shri N. K. Verma, Ex-Additional Director, CPCB) engaged by CPCB has inspected the industry namely M/s KRBL Ltd. and its vicinity on March, 18-19, 2020;

And whereas, the CPCB has filed its report dated, 22 05.2020 before the Hon'ble National Green Tribunal and the observations contained in the said report are summarized herein below:

1. The ETP installed by the industry for treating effluents generating from various production processes such as parboil plant, solvent extraction plant and furfuryl alcohol plant was found inadequate as the outlet quality of effluent leading to clear water tank consist of BOD 355 mg/ and COD 737 mg/l
2. The ETP was found to be operated unscientifically as equalization tanks were made to function as aerobic biological treatment system by circulating bio sludge (return sludge) into it rather to work for homogenization effluent to have uniform feed for effective aerobic treatment in the system
3. The flow in second stage aerobic treatment system was reduced substantially compared to first stage and whereas in first stage it reduced drastically as received in raw sump well. It was also noted that at places, Pipe connections were leading underground
4. The effluent passing from filter media system following clear water tank found to have BOD 39 mg/l and COD 89 mg/l. This reduction in BOD from 355 mg/l and COD from 737 mg/l is primarily due to mixing of discharges received as blow down and rejects from cooling tower and demineralisation plant respectively. The analytical results of effluents suggest that the industry has deliberately attempted to show the compliance with respect to disposal of effluent on land by mixing nearly 8,000 KLD water in the name of blow-down and rejects as against the consented discharges of 320 KLD together from cooling tower and demineralisation plant.
5. The treated effluent to the tune of 1440 KLD is disposed on land using Karnal Technology over an area of 30 acres. No detailed scheme for treated effluent utilization as land application seems to have been designed and put in place. The land size, soil characteristics, effluent quality and quantity, annual weather and other associated parameters such as eva-transpiration rate were not taken into consideration while the effluent was disposed on land. This has

resulted in effluent stagnation or over dosing and under utilization of land as well. Further, in absence of properly designed pipe network, the effluent utilization on land remains far from satisfactory as no monitoring system found in place.

6 The raw water requirement is met by abstracting it from ground to the tune of 2800 KLD using four tube wells. However, no permission for groundwater withdrawal has been obtained from Central Ground Water Authority.

7 The groundwater quality of tube wells of Mr. Jagar Singh and Mr. Jagtar Singh near the industry premises and close to land application has shown presence of BOD and COD indicating organic contamination

The concentration of TDS in the groundwater samples drawn from the tubewells ot Mr Jagar Singh is 812 mg/l, Mr. Jagtar Singh is 804 mg/l & 884 mg/l and from Mr. Jagrail Singh is 1114 mg/l which are higher than the drinking water specification of 500 mg/l prescribed by BIS 10500:2012. The higher concentration of TDS indicates the possible impact of unscientific effluent disposal on land resulted in percolation reaching groundwater aquifer could not be ruled out.

8 The analytical results of groundwater samples drawn from tube well Installed at the residential colony of industry and piezometer well installed at plantation area used for land application indicate concentration of Nitrate (as Nitrogen) of 0.5 mg/l to 3.5 mg/l respectively. The maximum Nitrate (as Nitrogen) concentration of 4.0 mg/l in groundwater found at tube well of Mr. Jagtar Singh. The variation (from below detectable limit to 4.9 mg/l and averaging of 1.9 mg/l in Nitrate (as Nitrogen) concentration across groundwater is estimated to be large given the geo distances among the tube wells and no other noticeable discharge in vicinity.

9 The analytical results of all seven groundwater (tube wells) samples do not exhibit any linear relation between total alkalinity and total hardness, three groundwater samples found With total alkalinity higher than total hardness showing natural groundwater formation but remaining tour ground water samples have recorded concentration of total hardness higher than total alkalinity indicating Calcium and Magnesium carbonates formation and transportation of the same in ground water, probably due to effluent disposal on land. The concentration of Calcium (1 12 mg/l) and Magnesium (121 mg/l)

3

in groundwater sample drawn from tube well of Mr. Jagrail Singh is also suggesting the same.

And whereas, the Hon'ble National Green Tribunal after consideration of the report filed by the Central Pollution Control Board as well as the State Pollution Control Board has passed a further order dated 27.07.2020 which read as under:

> "We find that the unit is clearly violating environmental norms in discharging pollutants and drawing groundwater 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. An action report may be filed jointly by CPCB and State PCB before the next date 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. List for further consideration on 09.02.2021."

And whereas, the CPCB vide its letter dated 25.09.2020 has issued certain directions to Punjab Pollution Control Board in exercise of the powers conferred under section 18 (1) (b) of the Water (Prevention and Control of Pollution) Act, 1974, in respect of M/s KRBL Ltd., Dhuri, Sangur;

And whereas, after the receipt of the directions aforementioned from the Central Pollution Control Board, it is observed that the industrial unit is required to be extended an opportunity to show cause before the issuance of such directions;

Now, therefore, in pursuance to the directions issued by the Central Pollution Control Board u/s 18(1) (b) of the Water (Prevention & Control of Pollution) Act, 1974, the Punjab Pollution Control Board, in exercise of the powers conferred it u/s 33- A of the Water (Prevention & Control of Pollution) Act, 1974 as amended in 1988 hereby proposes to issue the following directions:

i. To seal all tube wells used to draw groundwater for industrial production until (a) grant of permission from Central Ground Water Authority, and (b) satisfactory completion of pollution control measures are adopted in compliance of the direction.

ii. To levy Environmental Compensation on account of unauthorized drawal of groundwater for industrial use and

having caused damage to land environment (soil and groundwater) due to effluent disposal.

iii. To revise the consents issued under Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981 and to incorporate all such conditions required to comply with theses directions and the order passed by the NGT.

iv. To submit a time bound Action Plan and work scheme for compliance of the directions.

v. To allow production only for seven days to have trial run of the scheme adapted by the industry to comply with the directions after ensuring satisfactory accomplishment of approved Action Plan.

vi. To stop immediately its production processes generating effluents and not resume production until necessary steps are taken to comply environmental norms and permission is obtained from Punjab Pollution Control Board.

vii. To upgrade the ETP installed for treating its effluents generating from production processes to achieve Zero Liquid Discharge norms.

viii. To provide an independent system of achieving Zero Liquid Discharge norms for cooling tower blow-down and demineralization plant rejects.

ix. To stop disposing any effluent on land using Karnal Technology for utilization of the same.

x. To obtain permission from Central Ground Water Authority for abstracting required quantity of groundwater using tube wells.

xi. To provide electromagnetic flow meters at all sections generating effluent and at those points required to monitor performance of ETP.

xii. To undertake an environmental audit, to determine minimal raw water requirement for the given set of technology adapted in production process vis-à-vis effluent treatment besides efficacy and adequacy of effluent treatment.

xiii. To engage scientific and skilled personnel for operating ETP as per the standard operating procedure and to maintain records of design parameters monitored.

xiv. To establish a groundwater quality monitoring network in consultation with Central Ground Water Board and Punjab Pollution Control Board to decide number, location and depth of tube wells, and parameters and frequency of monitoring.

xv. To 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.

As such, you are, hereby, afforded an opportunity of show cause to file objections, if any before the **Chairman of the Board either in writing or in person on 12.11.2020 at 11:00 A.M** in his office at Vatavaran Bhawan, Nabha Road Patiala as to why the directions proposed herein above may not be confirmed in pursuance to the directions of the Central Pollution Control Board, failing which it will be presumed that the industry has nothing to say in the matter and the action proposed above will be taken in accordance with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 without giving any further notice/ opportunity.

Sr. Environmental Engineer,
Zonal Office-II, Patiala

Endst. No. 3466 **Dated.** 2-11-2020

A copy of the above is forwarded to Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032 in reference to letter no. CPCB/IPC-V/ Directions Rice/2020 dated 25.9.2020 with the observation that the affected industrial unit M/s KRBL Ltd., Bhasaur, Tehsil Dhuri, District Sangrur has neither been involved nor given any hearing before the issuance of directions u/s 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 to the State Pollution Control Board. Hence, keeping in view the principle of Natural Justice as well as the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the State Pollution Control Board has extended an opportunity of hearing

6

to M/s KRBL Ltd., Bhasaur, Tehsil Dhuri, District Sangrur. It is also apprised that the report dated 2.7.2020 filed by the State Pollution Control Board before the Hon'ble National Green Tribunal on 26.7.2020 has not been considered by the Central Pollution Control Board in accordance with the orders dated 27.7.2020 of the Hon'ble National Green Tribunal in O.A No. 437 of 2019, while issuing directions u/s 18(1) (b) of the Water (Prevention & Control of Pollution) Act, 1974.

Sr. Environmental Engineer,
Zonal Office-II, Patiala
2/11/2020

Endst. No. 3467 **Dated** 2-11-2020

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Sangrur for information with a direction to inform the industry about the date of hearing and submit the report accordingly.

Sr. Environmental Engineer,
Zonal Office-II, Patiala
2/11/2020

ANNEXURE - IV

ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ
PUNJAB POLLUTION CONTROL BOARD

No. 4151 **REGISTERED /** Through e-mail **Dated:** 24/12/2020

To

M/s KRBL Ltd.,
Village Bhasaur, Tehsil Dhuri,
Distt. Sangrur.

Subject: **Proceedings of the personal hearing given on 10.12.2020 by the Chairman of the Board to M/s KRBL Ltd., Village Bhasaur, Tehsil Dhuri, Distt. Sangrur u/s 33- A of the Water Act, 1974 in pursuance to the directions issued by Central Pollution Control Board u/s 18(1) (b) of the said Act as well as show cause notice for revocation of consent to operate granted under the Water Act, 1974.**

The following were present:

From Board side:
1. Sh. Pardeep Gupta, CEE(B)
2. Sh. Rajeev Sharma SEE, ZO-II, Patiala

From industry side:
Sh. R. K Sharma, COO.

Senior Environmental Engineer, Zonal Office-II, Patiala brought out that the industry was granted Consent to operate under the Water (Prevention & Control of Pollution) Act, 1974 vide no. CTOW/varied/SGR/2016/4631889 dated 08.12.2016 valid upto 31.03.2021 and under the Air (Prevention & Control of Pollution) Act, 1981 vide no. CTOA/Varied/SGR/2016/4633319 dated 08/12/2016, valid upto 31/03/2021 for manufacture of Raw Rice @ 1448 T/day, Saila Rice @ 482 T/day, Rice bran oil @ 42 TPD, DOC @ 208 T/day, Power @ 10.5 Megawatt. Furfural @ 10 T/day and Furfuryl Alcohol @ 10 T/day and for discharge of treated Trade effluent @ 1349 KLD & Domestic effluent @ 85 KLD onto land for plantation purpose after treatment in ETP.

An application filed by Lakhwinder Singh, the matter relating to the violation of environmental norms by M/S K.R.B L Ltd Bhasaur, Tehsil Dhuri District Sangrur Punjab is under consideration of the Hon'ble National Green Tribunal in Original Application No. 473 of 2019. The Hon'ble Tribunal vide order dated 5.2.2020 has directed as under:

> "Let the CPCB and the Punjab State Pollution Control Board jointly visit the site and give an independent report within two months by email at judicial-ngt@gov.in. CPCB may be the nodal agency in this matter. CPCB may be at liberty to engage any other expert in this matter."

In compliance of the above directions of the Hon'ble National Green Tribunal, a Joint Team comprising of Regional Director, Central Pollution Control Board (CPCB), Chandigarh, Officials from Regional Office, Punjab Pollution Control Board, Sangrur, and Technical Expert (Shri N. K. Verma, Ex-Additional Director, CPCB) engaged by CPCB has inspected the industry namely M/s KRBL Ltd. and its vicinity on March, 18-19, 2020. The CPCB has filed its report dated, 22 05.2020 before the Hon'ble National Green Tribunal and the observations contained in the said report are summarized herein below:

1. The ETP installed by the industry for treating effluents generating from various production processes such as parboil plant, solvent extraction plant and furfuryl alcohol plant was found inadequate as the outlet quality of effluent leading to clear water tank consist of BOD 355 mg/ and COD 737 mg/l.
2. The ETP was found to be operated unscientifically as equalization tanks were made to function as aerobic biological treatment system by circulating bio-sludge (return sludge) into it rather to work for homogenization effluent to have uniform feed for effective aerobic treatment in the system.

3. The flow in second stage aerobic treatment system was reduced substantially compared to first stage and whereas in first stage it reduced drastically as received in raw sump well. It was also noted that at places, Pipe connections were leading underground.
4. The effluent passing from filter media system following clear water tank found to have BOD 39 mg/l and COD 89 mg/l. This reduction in BOD from 355 mg/l and COD from 737 mg/l is primarily due to mixing of discharges received as blow down and rejects from cooling tower and demineralisation plant respectively. The analytical results of effluents suggest that the industry has deliberately attempted to show the compliance with respect to disposal of effluent on land by mixing nearly 8,000 KLD water in the name of blow-down and rejects as against the consented discharges of 320 KLD together from cooling tower and demineralisation plant.
5. The treated effluent to the tune of 1440 KLD is disposed on land using Karnal Technology over an area of 30 acres. No detailed scheme for treated effluent utilization as land application seems to have been designed and put in place. The land size, soil characteristics, effluent quality and quantity, annual weather and other associated parameters such as eva-transpiration rate were not taken into consideration while the effluent was disposed on land. This has resulted in effluent stagnation or over dosing and under utilization of land as well. Further, in absence of properly designed pipe network, the effluent utilization on land remains far from satisfactory as no monitoring system found in place.
6. The raw water requirement is met by abstracting it from ground to the tune of 2800 KLD using four tube wells. However, no permission for groundwater withdrawal has been obtained from Central Ground Water Authority.
7. The groundwater quality of tube wells of Mr. Jagar Singh and Mr. Jagtar Singh near the industry premises and close to land application has shown presence of BOD and COD indicating organic contamination.

   The concentration of TDS in the groundwater samples drawn from the tubewells ot Mr Jagar Singh is 812 mg/l, Mr. Jagtar Singh is 804 mg/l & 884 mg/l and from Mr. Jagrail Singh is 1114 mg/l which are higher than the drinking water specification of 500 mg/l prescribed by BIS 10500:2012. The higher concentration of TDS indicates the possible impact of unscientific effluent disposal on land resulted in percolation reaching groundwater aquifer could not be ruled out.
8. The analytical results of groundwater samples drawn from tube well Installed at the residential colony of industry and piezometer well installed at plantation area used for land application indicate concentration of Nitrate (as Nitrogen) of 0.5 mg/l to 3.5 mg/l respectively. The maximum Nitrate (as Nitrogen) concentration of 4.0 mg/l in groundwater found at tube well of Mr. Jagtar Singh. The variation (from below detectable limit to 4.9 mg/l and averaging of 1.9 mg/l in Nitrate (as Nitrogen) concentration across groundwater is estimated to be large given the geo distances among the tube wells and no other noticeable discharge in vicinity.
9. The analytical results of all seven groundwater (tube wells) samples do not exhibit any linear relation between total alkalinity and total hardness, three groundwater samples found With total alkalinity higher than total hardness showing natural groundwater formation but remaining tour ground water samples have recorded concentration of total hardness higher than total alkalinity indicating Calcium and Magnesium carbonates formation and transportation of the same in ground water, probably due to effluent disposal on land. The concentration of Calcium (1 12 mg/l) and Magnesium (121 mg/l) in groundwater sample drawn from tube well of Mr. Jagrail Singh is also suggesting the same.

The Hon'ble National Green Tribunal after consideration of the report filed by the Central Pollution Control Board as well as the State Pollution Control Board has passed a further order dated 27.07.2020 which read as under:

"We find that the unit is clearly violating environmental norms in discharging pollutants and drawing groundwater in overexploited area without any permission. Such violations need to be immediately stopped and accountability fixed for

M/s KRBL Ltd.
Vill Bhasaur
Tah. Dhuri, Dist-SAS

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.

An action report may be filed jointly by CPCB and State PCB before the next date 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.

List for further consideration on 09.02.2021."

Now, CPCB vide its letter dated 25.09.2020 has issued following directions to Punjab Pollution Control Board in exercise of the powers conferred under section 18 (1) (b) of the Water (Prevention and Control of Pollution) Act, 1974, in respect of M/s KRBL Ltd., Dhuri, Sangur;

i. To seal all tube wells used to draw groundwater for industrial production until (a) grant of permission from Central Ground Water Authority, and (b) satisfactory completion of pollution control measures are adopted in compliance of the direction.

ii. To levy Environmental Compensation on account of unauthorised drawal of groundwater for industrial use and having caused damage to land environment (soil and groundwater) due to effluent disposal.

iii. To develop and place a mechanism to recover the environmental compensation in a time bound manner.

iv. To revise the consents issued under Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981 and to incorporate all such conditions required to comply with theses directions and the order passed by the NGT.

v. To ask the industry to submit a time bound Action Plan and work scheme for compliance of the directions and Punjab Pollution Control Board shall examine the submission of the industry before allowing its implementation.

vi. To allow production only for seven days to have trial run of the scheme adapted by the industry to comply with the directions after ensuring satisfactory accomplishment of approved Action Plan.

vii. That the Punjab Pollution Control Board shall further issue the directions under the provisions of the Water Act, 1974 to M/s KRBL Ltd.:

a) To stop immediately its production processes generating effluents and not resume production until necessary steps are taken to comply environmental norms and permission is obtained from Punjab Pollution Control Board.

b) To upgrade the ETP installed for treating its effluents generating from production processes to achieve Zero Liquid Discharge norms

c) To provide an independent system of achieving Zero Liquid Discharge norms for cooling tower blow-down and demineralisation plant rejects

d) To stop disposing any effluent on land using Karnal Technology for utilization of the same

e) To obtain permission from Central Ground Water Authority for abstracting required quantity of groundwater using tube wells.

f) To provide electromagnetic flow meters at all sections generating effluent and at those points required to monitor performance of ETP.

g) To undertake an environmental audit, to determine minimal raw water requirement for the given set of technology adapted in production process vis-à-vis

-3

effluent treatment besides efficacy and adequacy of effluent treatment.

h) To engage scientific and skilled personnel for operating ETP as per the standard operating procedure and to maintain records of design parameters monitored.

i) To establish a groundwater quality monitoring network in consultation with Central Ground Water Board and Punjab Pollution Control Board to decide number, location and depth of tube wells, and parameters and frequency of monitoring.

j) To 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.

After the receipt of the above directions from Central Pollution Control Board, it is observed that the industrial unit is required to be extended an opportunity to show cause before the issuance of such directions.

In view of the above, the industry was served with notice to issue directions u/s 33- A of the Water (Prevention and Control of Pollution) Act, 1974 in pursuance to the above directions issued by Central Pollution Control Board u/s 18(1) (b) of the said Act, 1974 as well as to show cause for revocation of consent to operate under the Water Act, 1974 alongwith an opportunity of personal hearing on 12.11.2020 (postponed to 17.11.2020 due to administrative reasons).

Sh. R.K Sharma, COO, of the industry appeared before the Chairman of the Board on 17.11.2020 and submitted a written request stating that they need some time as their management is pre-occupied and need some more time to discuss and finalize their response on this important matter. He further requested to give fresh date of personal hearing preferably about one month late. The request was considered and decided to give another opportunity of personal hearing on 08.12.2020 (postponed to 10.12.2020) as the matter is time bound.

The hearing was attended by Sh. R.K Sharma, COO of the industry and submitted written reply as under:

1. The present matter pertains to a complaint filed by Mr. Lakhwinder Singh along with other residents of Village Babanpur, Distt-Sangrur (Punjab) that is registered as OA No. 437/2019 before the Hon'ble National Green Tribunal ("NGT"). In this OA, it is primarily alleged that the unit of M/s. KRBL Ltd. is injecting dirty water into the groundwater through a borewell. Further alleged that M/s KRBL Ltd. is putting down the dirty water of the unit by digging borewell into the land, resulting in deterioration in quality of groundwater.

2. The Hon'ble NGT vide Order dated 24.07.2019 directed Punjab State Pollution Control Board ("PPCB") to look into the complaint and take action as per law.

3. PPCB in its report filed on 12.09.2019 stating that no borewell was found in the vicinity. The report further stated that the ground water samples from the irrigation tubewells were found to have traces of BOD, COD, TSS, Iron, Chloride, Ammonical Nitrogen, Boron etc, nothing wrong was found in the samples collected from the inlet and the outlet of KRBL's state of the art Effluent Treatment Plant ("ETP").

4. The Hon'ble NGT vide Order dated 23.10.2019 directed the PPCB to place on record a report from the Department of Soil Science for further action.

5. In January 2020, a study report was filed by Dr. D.K. Benbi, National professor, Department of Soil Science, which, *inter-alia*, stated that samples from the inlet and outlet of the ETP were under the limits prescribed by the board, samples from the plantation area & from the outlet of the ETP was also found to be within the limits prescribed by the board and no correlation could be found between the compounds in the groundwater samples and the effluents discharged from the industry.

6. The Hon'ble NGT vide Order dated 05.02.2020 directed a joint visit by Central Pollution Control Board ("CPCB') and the PPCB.

M/s KRBL Ltd
Vill Bhasaur
Teh Dhuri Distt SGR

7. A report dated 22.05.2020 was prepared by the CPCB, which again failed to correlate the effluents discharged by the industry and the contamination found in the ground water samples. Furthermore, the CPCB failed to mention the ground water samples from the borewells within the premises of KRBL and closest to the ETP were not found to be contaminated.

8. The Hon'ble NGT vide Order dated 27.07.2020 directed the CPCB to issue appropriate observations/directions after considering the report dated 02.07.2020 prepared by the PPCB.

9. At the outset, it is submitted that the allegations in the complaint are absolutely false and misconceived. As already stated in the notice/letter under reply, the unit of M/s KRBL Ltd. at village Bhasaur, Dhuri District Sangrur was granted consent to operate under the Water (Prevention & Control of Pollution) Act, 1974 vide no. CTOW/varied/SGR/2016/4631889 dated 08.12.2016 valid up to 31.03.2021. The officials of PPCB and the District Administration have inspected the unit of M/s KRBL Ltd. from time to time on numerous occasions, but have never found any such violations as alleged in the complaint. In fact, such a borewell, as alleged does not even exist in the premises of M/s KRBL Ltd. The visiting officials of the PPCB and District Administration were also unable to find any such borewell. Thus, it is clear that no such borewell was ever dug up by M/s KRBL Ltd. for discharging dirty water from its unit nor does M/s KRBL Ltd. intend to do so in the future. Further, it is stated that M/s KRBL Ltd. employs state of the art technologies in its ETP plant and it is ensured that any such discharge from the unit meets the standards approved by PPCB. Thus, the present complaint is baseless and appears to be filed with the sole motive to harass M/s KRBL Ltd.

10. Our point-wise reply regarding the directions proposed to be issued u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974 are as under:

i. That well before this complaint, M/s KRBL in compliance with the applicable laws, had applied for withdrawal of groundwater with Central Ground Water Authority ("CGWA"), NWR, Chandigarh way back in 23.10.2018 which was registered as 21-4/4588/PB/IND/2018. Despite filing the above application with the required documentation and being compliant with the terms of recharging groundwater, the CGWA refused to grant a No Objection Certificate (NOC) not just to KRBL but to any industry in the Country in furtherance of the directions/observations of the Hon'ble NGT in OA No. 176/2015. The CGWA on 24.09.2020 in furtherance of the directions of the Hon'ble NGT issued fresh guidelines, *inter alia*, which provide that entities who are replenishing groundwater alone are entitled to obtain an NOC. It is submitted that the unit at M/s KRBL Ltd. is replenishing the groundwater used by it since Sep, 2017, i.e. much before the above guidelines were issued. M/s KRBL Ltd. has created a pond on its own premises that has the capacity to recharge groundwater to the extent of about 90,000M^3. Further, water mapping has also been carried out to monitor the distribution and status of water supply. Furthermore, under the new guidelines, the additional documents required by CGWA were already part of the original application made to CGWA NWR Chandigarh save an Impact Assessment Report. The above requirements were intimated to M/s KRBL Ltd. vide email dated 22.10.2020 by CGWA thereafter which the work on the Impact Assessment Report was being carried out on a war footing and as per the accredited consultant. However, CGWA has now notified that Punjab government has started regulation of ground water, hence CGWA NOCAP portal has stopped processing of already existing applications.

We had already submitted an application dated 24.11.2020 for Permission to extract ground water for industrial use with the Punjab Water Regulation & Development Authority Chandigarh on 24.11.2020. We hope to get this permission very soon.

-5-

We have also taken action to get canal water from irrigation department Govt. of Punjab from a canal which is flowing at about 2 Km. from our plant site. Initial permissions from irrigation department, forest department and PWD department have been obtained. We have also started civil construction of canal water reservoir and pumping system at our plant. We hope to receive canal water also very soon.

ii. M/s KRBL Ltd. had duly submitted its application with CGWA for granting of permission but the same could not be approved for reasons beyond the control of M/s KRBL despite its best efforts & regular follow ups as explained at (i) above. As soon as CGWA resumed the process again, effective steps were taken for grant of permission as soon as possible. M/s KRBL Ltd. has now applied for permission with Punjab Water Regulation & Development Authority also. M/s KRBL Ltd. was also regularly paying the water cess on the groundwater used by it. Furthermore, no damage has been caused to the environment as KRBL has been recharging water at rate in excess of its withdrawal. It is also submitted that the unit has been discharging only the treated effluent on land for irrigation in the green belt within its premises developed as per KARNAL technology prescribed by PPCB and no untreated effluents are discharged. The treated effluent is regularly tested in-house and also periodically tested by PPCB as per schedule and is found to be meeting the prescribed standards. Dr. Dinesh Benbi, Agricultural University in his report of January 2020 submitted to PPCB had also concluded that the organic compounds present in tubewell water of farmer Mr. Jagtar Singh could not be correlated with the effluents generated from our industry. We would like to bring to your kind attention that no contamination has been found in our colony borewell water which is nearer to the green belt as compared to tubewell of Mr. Jagtar Singh. We therefore submit that Environmental Compensation ought not to be levied as the treated effluent discharged by KRBL has not caused any damage to the environment.

iii. The consents do not require any revision as no damage to the environment has been caused by the acts done pursuant to the consent. However, the consent may be revised only to include Sulphuric Acid as a raw material which is used in the furfural production process. Further, such revision may be incorporated in the revised consents to be issued w.e.f 01.04.2021 on the terms that may be acceptable to the board.

iv. M/s KRBL Ltd. is fully compliant with all norms, permits and environmental laws. However, a time bound Action Plan and work scheme for compliance of directions required to be implemented will be submitted to your office as soon as possible after the directions to be implemented are concluded.

v. M/s KRBL Ltd. submits that this can be considered after the directions to be implemented are concluded as mentioned at (iv) above depending on final action plan.

vi. It is submitted that such action ought not to be taken till the source of contamination present in the tubewell of Mr. Jagtar Singh is established. This is pertinent as no such contamination exists in the tubewells of M/s KRBL Ltd. On repeated inspections, including the expert report by Dr. D.K. Benbi in January 2020 neither have the ETP samples been beyond the permissible limits nor has any correlation been established between the compounds causing contamination in groundwater and the effluents discharged by the Industry.

vii. It is submitted that our existing ETP is fully adequate and state of the art for treating our effluents and no upgradation is necessary. KRBL has effluent treatment plant of 1440 KLD capacity to handle 1032 KLD organic effluent (578 KLD effluent generated from sella plant, 30KLD

M/s KRBL Ltd
Dal Bhasour
Tehsil Dhuri Distt Sangrur

effluent generated from solvent plant & 424 KLD effluent generated from furfural/furfuryl alcohol plant), 85 KLD domestic effluent and 317 KLD inorganic effluent generated from DM plant and boiler blow down. ETP has the following components:

Sr. No.	Component	Quantity	Dimension	Capacity
1	Raw Water Sump	1	4M*6M*3M	72 M^3
2.	Equalization tanks	2	9M*10M*3M	270 M^3 each
3.	AHR	1	Dia. 14.5M*9M Height	1485 M^3
4.	Primary aeration Tank	1	6M*7.5M*4M	180 M^3
5.	Secondary Aeration Tank	1	16M*8M*4M	512 M^3
6	Clarifier	1	Dia 8.9M *3M SWD	186 M^3
7.	SAFF Reactor	1	7.5M*6M*3M	135 M^3
8.	Clarifier	1	Dia 8.9M *3M SWD	186 M^3
9.	Clear Water Sump	1	6M*4M*2.5M	60M^3
10.	Dual Medial Filter	1	Dia. 2.5M*3M	14M^3

This is confirmed by the trade effluent results of the samples taken by the CPCB team as well as regular periodic samples taken by PPCB over the years.

viii. The cooling tower blow-down and demineralization plant rejects are discharged at the outlet of ETP where it mixes with the treated organic effluent as per the scheme approved by PPCB and the combined trade effluent is discharged on land for irrigation of green belt which is developed and maintained as per KARNAL technology as prescribed by PPCB. This method is scientific and ensures that no pollution is caused to the environment.

ix. As explained at (viii) above, treated effluent is disposed of on land using Karnal Technology as approved by PPCB. This practice is applicable throughout the state of Punjab as it is a scientific method of disposal of treated effluent.

x. As explained at (i) above, the application for obtaining permission from CGWA is pending with the authority. As advised by CGWA on its portal, M/s KRBL Ltd. has now submitted its application for permission to extract ground water with Punjab Water Regulation & Development Authority.

xi. Electromagnetic flow meters are already provided in the combined organic effluent pipeline going to ETP feed sump, organic effluent feed line from ETP sump to AHR of ETP as well as combined inorganic effluent pipeline going to ETP. Electromagnetic flow meter is also provided in the final treated effluent line after a clear water tank from where it goes to the green belt for disposal.

xii. M/s KRBL Ltd. agree to an Environment Audit conducted to determine minimum raw water requirement as well as checking the efficacy & adequacy of effluent treatment.

xiii. Scientific and skilled personnel for round the clock operation of ETP are already engaged at the unit as per standard operating procedure and records of monitored design parameters are maintained. However, if any specific improvement is advised to us, M/s KRBL Ltd. shall comply with the same.

xiv. M/s KRBL Ltd. agrees to establish a groundwater quality monitoring network in consultation with CPCB and PPCB to decide the number, location & depth of tube wells and parameters & frequency of monitoring.

xv. M/s KRBL Ltd. shall submit the data of groundwater quality monitoring to PPCB for examination and shall take mitigation measures as and when & if required.

Further please note our pointwise reply to the observations contained in the report dated 22.05.2020 submitted by CPCB before the Hon'ble NGT is given as below:

1. The ETP installed by us for treating Effluents generating from various production processes such as parboiling plant, solvent extracting plant and furfural plant is fully adequate as can be perused from the effluent results of samples analysed by us every day as well as periodic sampling done by PPCB which are all meeting with the prescribed standards. It is not correct to say that ETP of the industry was totally non-functional as even as per sample results of CPCB, it is reducing the organic load from 4950 mg/l to 355 mg/l which means that it is achieving a reduction of more than 90%. Sample results of treated water at the outlet of ETP, final discharge leading to plantation area, discharge at plantation area and water in the plantation area collected and analysed by CPCB all meet with the prescribed standards clearly proving that the ETP is functional as well as adequate.

2. The ETP is operated as per standard operating procedure. Equalization tanks have been converted into aeration tanks to improve the aerobic biological treatment system. The residence time is still available to the effluent for homogenization rather aeration helps in improving the effluent treatment efficiency.

3. During the visit itself we had pointed out that the flow in various stages of ETP varies from time to time as per inlet flow and it can be observed over a longer period of time. As pointed out during the visit regarding pipe connections leading underground, these pipe connections were laid underground for easy and safe movement of people. However after the visit we have brought all the pipe connections above ground to avoid any doubts. There is no question of any bypass line in ETP otherwise the water sample results of plantation area could not meet the prescribed standards as ultimately all water goes to the plantation area only.

4. The mixing of discharges received as blow down and rejects from cooling tower and demineralisation plant is as per our effluent treatment scheme approved by PPCB. Flow meters have been provided in the organic effluent as well as inorganic effluent streams. The industry is mixing various streams of waste water to reduce pollution load. In doing so no extra fresh water is extracted. Hence it cannot be interpreted as dilution.

5. The Treated effluent to the tune of 1440 KLD is disposed on land using Karnal Technology over an area of 30 Acres scientifically by dividing the 30 Acre area into 7 pockets and each pocket is assigned different weekly days to receive the treated effluent so that there is uniform application of treated effluent and there is no stagnation. Plot plan of plantation area showing area wise pockets is attached herewith. The disposal of treated effluent on land for irrigation using Karnal Technology is a scientific method approved by PPCB for industry in Punjab. The results of KRBL Ltd. colony borewell and piezometer in the plantation area water samples collected and analysed by CPCB clearly meet with the prescribed standards which proves that there is no percolation of water.

6. The raw water requirement is met by abstracting it from ground to the tune of 2800 KLD using four tube wells. It may please be noted that well before this complaint, M/s KRBL in compliance with the applicable laws, had applied for withdrawal of groundwater with Central Ground Water Authority ("CGWA"), NWR, Chandigarh way back in 23.10.2018 which was registered as 21-4/4588/PB/IND/2018. Despite filing the above application with the required documentation and being compliant with the terms of recharging groundwater, the CGWA refused to grant an No Objection Certificate (NOC) not just to KRBL but to any industry in the Country in furtherance of the directions/observations of the Hon'ble NGT in OA No. 176/2015. The CGWA on 24.09.2020 in furtherance of the directions of the Hon'ble NGT issued fresh guidelines, *inter alia*, which provide that entities who are replenishing groundwater alone are entitled to obtain an NOC. It is submitted that the unit at M/s KRBL Ltd. is replenishing the groundwater used by it since Sep, 2017, i.e. much before the above guidelines were issued. M/s KRBL Ltd. has created a pond on its own

w/s KRBL Ltd
vill Bhatoch Dhuri
Distt Sangrur

premises that has the capacity to recharge groundwater to the extent of about 90,000M³. Further, water mapping has also been carried out to monitor the distribution and status of water supply. Furthermore, under the new guidelines, the additional documents required by CGWA were already part of the original application made to CGWA NWR Chandigarh save an Impact Assessment Report. The above requirements were intimated to M/s KRBL Ltd. vide email dated 22.10.2020 by CGWA.

We have also submitted an application for permission to extract ground water for industrial use with the Punjab Water Regulation & Development Authority Chandigarh on 24.11.2020. We hope to get this permission very soon.

We have also taken action to get canal water from irrigation department govt. of Punjab from a canal which is flowing at about 2 Km. from our plant site. Initial permissions from irrigation department, forest department and PWD department have been obtained. We have also started civil construction of canal water reservoir and pumping system at our plant. We hope to receive canal water also very soon.

7. Regarding ground water quality of Mr. Jagar Singh and Mr. Jagtar Singh, we wish to submit that it is still not established that this contamination is due to our industry. In January 2020, a study report was filed by Dr. D.K. Benbi national professor, department of Soil Science, which, inter-alia, stated that samples from the inlet and outlet of the ETP were under the limits prescribed by the board, samples from the plantations from the outlet of the ETP was also found to be within the limits prescribed by the board and no correlation could be found between the compounds in the groundwater samples and the effluents discharged from the industry.
8. Regarding the analytical results of groundwater samples drawn from tube well installed at the residential colony of industry and piezometer well installed at plantation area used for land application and tube well of Mr. Jagtar Singh indicating concentration of Nitrate (as Nitrogen) could be due to several factors such as the amount of groundwater extracted from that area. Dr. Benbi's Report also indicated that the quality of groundwater of Mr. Jagtar Singh Tubewell improved significantly after 7 days of continuous running.

9. Regarding the analytical results all 7 groundwater (Tubewells) samples showing no linear relation between total alkalinity and total hardness, we submit that it cannot be concluded without study of hydrology of the area. Dr. D.K. Benbi's Report also concluded that the analytical results found in groundwater samples could be due to variety of surface activity and exhibition of certain parameters in a particular tubewell with respect to other tubewell of the area need to be studied in detail to pin point the cause of that parameter.

After hearing the officers of the Board and representative of the industry, it was observed by the Chairman that the industry has made most of the compliances with regard to the observations of CPCB. However, before proceeding further in the matter, the status of compliance by the industry may be got verified through independent agencies. It was therefore decided as under:

1. M/s Punjab Biotechnology Incubator, Mohali (State Water Lab.) may be requested to carry out within 15 days following performance studies and to submit a detailed report in the matter.
   a) Complete performance evaluation study of all components of the effluent treatment plant installed by the industry.
   b) Collection and analysis of ground water samples as well as of water of nearby tubewells (including tubewell under complaint) so as to adjudge extent of ground water contamination due to industry.
   c) 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 Guru Nanak Engineering College (Testing & Consultancy Wing), Ludhiana may be assigned to carry out within 15 days study involving mass water balancing audit of the industry as well as to suggest scopes to maximum reuse the treated water by the industry.
3. The industry shall within 15 days install Continuous Effluent Monitoring System (CEMS) at the outlet of effluent treatment plant and connect it with the website of the Board for continuous online display/monitoring.

-9-

To M/s KRBL Ltd
Vill Bhasowal Teh Dhuri
Distt Sgr

4. A copy of the above proceedings be sent to Central Pollution Control Board in reference to the recent communication dated 4.12.2020 received from them.
5. The industry shall be bound to bear expenses to be incurred on the studies being got conducted by the Board.

You are requested to ensure the compliance of the hearing decisions within the stipulated period and submit the compliance of the same at Regional Office, Sangrur.

24/12/2020

for & on behalf of
Pb. Pollution Control Board

Endst. No. 4152 **Dated** 24/12/2020

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Sangrur for information and necessary action.

24/12/2020

for & on behalf of
Pb. Pollution Control Board

No. 4153

Regd./E-mail

Date - 24/12/2020

To

The Chief Executive Officer,
Punjab Biotechnology Incubator,
C-134, Industrial Area, Phase VIII,
Mohali 160071

Subject: **Study of M/s KRBL Ltd., Village Bhasaur, Tehsil Dhuri, Distt. Sangrur.**

It is intimated that Competent Authority of the Board has decided to assign following study in respect of M/s KRBL Ltd., Village Bhasaur, Tehsil Dhuri, Distt. Sangrur to M/s Punjab Biotechnology Incubator, Mohali.

1. Complete performance evaluation study of all components of the effluent treatment plant installed by the industry through composite sampling as under:

Sampling Point	**Parameters to be analyzed**
Inlet and outlet of ETP	pH, TSS, TDS, FDS, COD, BOD, Chlorides, Sulphates, NO_3 –N, PO_4 –P, SAR
Aeration Tank	MLSS, MLVSS
Other Components	pH, TSS, TDS, COD, BOD

2. Collection and analysis of ground water samples as well as of water of nearby tubewells (including tubewell under complaint) so as to adjudge extent of ground water contamination due to industry.

Parameters to be analyzed
pH, TDS, COD, BOD, Total Hardness as $CaCO_3$, Calcium, Magnesium, Total Alkalinity as $CaCO_3$,Chlorides, NO_3 –N, PO_4 –P, Sodium, Potassium

3. 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.

Parameters to be analyzed
pH, Conductivity, Organic Carbon, Phosphorus, Potassium, SAR, Nitrogen

Contd...2

You are, therefore, requested to carry out the above study within 15 days and submit a detailed report in the matter. For these studies, Sh. Rajeev Gupta, Environmental Engineer, Regional Office, Sangrur (Mobile No. 95010-23220) will be the Nodal Officer on behalf of the Board. It is mentioned here that as per requirement of the project, Competent Authority of the Board may add/delete any of the parameter to be analysed.

Member Secretary
24.12.2020

Endst. No. 4154 **Dated** 24/12/2020

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Sangrur for information and necessary action.

Member Secretary
24.12.20

No. 4157

Date -24/12/2020

Speed Post
Kind Attention : Sh. S.K Gupta, AD & Div. Head, IPC-V

To

The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi- 110032.

Subject: **Directions under section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 in compliance of Hon'ble NGT order dated 27.7.2020 in the Matter of OA No. 437/2019 - Lakhwinder Singh Vs State of Punjab before NGT, Pb, New Delhi.**

Reference: **Your letter No. CPCB/IPC-V/Directions-Rice/2020/3106 dated 4.12.2020**

It is intimated that the Chairman of the Board had afforded personal hearing to M/s KRBL Ltd., Village Bhasaur, Tehsil Dhuri, Distt. Sangrur on 10.12.2020 u/s 33- A of the Water Act, 1974 in pursuance to the subject cited directions issued by Central Pollution Control Board u/s 18(1) (b) of the said Act as well as by issuing show cause notice for revocation of consent to operate granted under the Water Act, 1974. After hearing, it was observed by the Chairman that the industry has made most of the compliances with regard to the observations of CPCB. However, before proceeding further in the matter, the status of compliance by the industry may be got verified through independent agencies. It was therefore decided as under:

1. M/s Punjab Biotechnology Incubator, Mohali (State Water Lab.) may be requested to carry out within 15 days following performance studies and to submit a detailed report in the matter.
   a) Complete performance evaluation study of all components of the effluent treatment plant installed by the industry.
   b) Collection and analysis of ground water samples as well as of water of nearby tubewells (including tubewell under complaint) so as to adjudge extent of ground water contamination due to industry.
   c) 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.

Contd...2

2. M/s Guru Nanak Engineering College (Testing & Consultancy Wing), Ludhiana may be assigned to carry out within 15 days study involving mass water balancing audit of the industry as well as to suggest scopes to maximum reuse the treated water by the industry.
3. The industry shall within 15 days install Continuous Effluent Monitoring System (CEMS) at the outlet of effluent treatment plant and connect it with the website of the Board for continuous online display/monitoring.

A copy of the Proceedings of the said hearing is enclosed herewith for your kind information. A conclusive action taken report on the said directions shall be filed by the Board after completion of above studies assigned with respect to the industry.

DA[redacted]s above

Member Secretary

24.12.21

Endst. No. 4158 **Dated** 24/12/2020

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Sangrur for information and necessary action.

Member Secretary

24.12.20

made to function

No. 4155

Date - 24/12/2020

REGISTERED/E-mail (tcc@gndec.ac.in)

To

The Dean, (Testing and Consultancy Cell)
M/s Guru Nanak Engineering College,
Ludhiana.

Subject: **Study of M/s KRBL Ltd., Village Bhasaur, Tehsil Dhuri, Distt. Sangrur.**

It is intimated that Competent Authority of the Board has decided to assign following study in respect of M/s KRBL Ltd., Village Bhasaur, Tehsil Dhuri, Distt. Sangrur to your institute.

1. Complete Mass water balancing audit of the industry.
2. To suggest scopes for the industry to maximum reuse the treated water.

You are, therefore, requested to carry out the above study within 15 days and submit a detailed report in the matter. For these studies, Sh. Rajeev Gupta, Environmental Engineer, Regional Office, Sangrur (Mobile No. 95010-23220) will be the Nodal Officer on behalf of the Board.

Please acknowledge the receipt of above letter and convey acceptance of the Project alongwith charges to be paid by the Board.

Member Secretary
24.12.2020

Endst. No. 4156 **Dated** 24/12/2020

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Sangrur for information and necessary action.

Member Secretary
24.12.2020

... system by circulating bio-

ANNEXURE - V

M/s KRBL Ltd.,
Vill. Bhasaur, Tehsil Dhuri,
District Sangrur.

ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ
PUNJAB POLLUTION CONTROL BOARD

No. 304 **REGISTERED** **Dated:** 3/12/2021

To

M/s KRBL Ltd.,
Vill. Bhasaur, Tehsil Dhuri,
District Sangrur.

Subject: Directions u/s 33- A of the Water (Prevention and Control of Pollution) Act, 1974 in pursuance to the directions issued by Central Pollution Control Board u/s 18(1) (b) of the said Act to M/s KRBL Ltd., Vill. Bhasaur, Tehsil Dhuri, District Sangrur.

Whereas, it is mandatory on the part of the industry to obtain the consent to operate of the Board to operate an outlet for discharge of effluents arising from its premises and to provide adequate and appropriate effluent treatment facilities so as to contain the various pollutants in accordance with the provisions of the Water (Prevention & Control of Pollution) Act, 1974.

And whereas, the industry was heard by the Chairman of the Board on 10.12.2020 in pursuance to the directions dated 25.9.2020 issued by the Central Pollution Control Board u/s 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 and subsequent notice dated 2.11.2020 issued on the basis of the said directions of CPCB for proposed directions u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974.

And whereas, after hearing the officers of the Board and the representative of the industry on 10.12.2020, the Chairman of the Board had taken certain decisions for performance evaluation of wastewater treatment and disposal arrangements of the industrial unit in the following terms:

1. M/s Punjab Biotechnology Incubator, Mohali (State Water Lab.) may be requested to carry out the following performance studies within 15 days and submit a detailed report in the matter.
   a) Complete performance evaluation study of all components of the effluent treatment plant installed by the industry.
   b) Collection and analysis of ground water samples as well as of water of nearby tubewells (including tubewell under complaint) so as to adjudge the extent of ground water contamination due to industry.
   c) 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 Guru Nanak Engineering College (Testing & Consultancy Wing), Ludhiana may be assigned to carry out 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'.

3. The industry shall within 15 days install Continuous Effluent Monitoring System (CEMS) at the outlet of effluent treatment plant and connect it with the website of the Board for continuous online display/monitoring.
4. A copy of the above proceedings be sent to Central Pollution Control Board in reference to the recent communication dated 4.12.2020 received from them.
5. The industry shall be bound to bear expenses to be incurred on the studies being got conducted by the Board.

And whereas, the proceedings of the hearing held on 10.12.2020 were conveyed to the industry namely M/s KRBL Ltd., Village Bhasaur, Tehsil Dhuri, District Sangrur vide letter no. 4151 dated 24.12.2020. To comply with the decisions taken during the hearing on 10.12.2020, CEO, PBTI, Mohali and Dean (Testing & Consultancy Cell) GNDE, Ludhiana were separately requested vide letter No. 4153 dated 24.12.2020 and 4155 dated 24.12.2020 respectively to carry out the requisite studies and to submit reports to the Board.

And whereas, on the same date i.e. 24.12.2020, an interim report informing about the compliance status of M/s KRBL Ltd., Village Bhasaur, Tehsil Dhuri, District Sangrur and decisions taken during the hearing on 10.12.2020 in pursuance to the directions dated 25.9.2020 of the Central Pollution Control Board alongwith a copy of the proceedings of the hearing dated 10.12.2020 was conveyed to the office of the Member Secretary, Central Pollution Control Board vide letter no. 4157 dated 24.12.2020.

And whereas, in reference to the decisions conveyed by the Board vide letter dated 24.12.2020, the Punjab Bio-technology Incubator(PBTI), Mohali submitted its report on the Performance Evaluation of ETP & Quality Evaluation of Ground Water and Soil in surrounding areas of M/s KRBL Ltd., Sangrur on 27.1.2021 and Guru Nanak Dev Engineering College, Ludhiana has submitted the report regarding mass water auditing as well as suggesting scope to maximum re-use the treated waste water by M/s KRBL Ltd., Sangrur on 28.1.2021.

And whereas, in view of above facts of the case, an opportunity of personal hearing was extended to the industry before the Chairman of the Board on 29.1.2021 in order to conclude the matter so that the Conclusive Report shall be furnished to the Central Pollution Control Board in pursuance to the directions dated 25.9.2020 and the interim report conveyed vide letter dated 24.12.2020. The reports of PBTI and Guru Nanak Dev Engineering College, Ludhiana were made available to the industrial unit.

And whereas, the representatives of the industry present during the hearing submitted pointwise written submissions on the decisions of the personal hearing held earlier on 10.12.2020 and the same were taken on record.

And whereas, the examination of the report of PBTI as well as earlier reports and monitoring results of CPCB & PPCB, reveals that the treated trade effluent being discharged and utilized onto land for plantation of the industry is meeting with the prescribed standards/norms laid down by the Board for such type of discharges. The TDS values in samples of two bore-wells located inside the industry are 710mg/l and 1100 mg/l. The TDS values in samples of bore-wells in the periphery of the industry is in the range of 541mg/l – 1102 mg/l and outside the industry premises at a distance of about 1.8 to 2.8 KM varies from 158 mg/l to 700 mg/l. The above 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/l but are well within the desirable limit of 2000 mg/l as per IS 10500:2012. The report further reveals that un-treated inorganic waste water which is mixed with treated trade effluent (ETP outlet) may be cause of increase in concentration of TDS, Chloride and Sulphates in the final outlet sample results which is being discharged for utilizing onto land for plantation. According to the contents of the report, SAR in all the soil samples has been found within limits. Total Organic Carbon (TOC) and Total Kjeldahl Nitrogen (TKN) in soil samples taken from plantation area has been found to be very high when compared to the control soil sample taken from outside the industry. The higher contents of TOC and TKN might be due to application of ETP sludge.

And whereas, the mass water balance auditing report submitted by GNDE, Ludhiana, reveals that the industry at present is operating at a capacity of 1800 TPD (maximum) against the allowed capacity of 2520 TPD as per the consent to operate granted by the PPCB. The daily water usage (maximum) at the present operating capacity is 2769 KLD against the maximum allowed ground water abstraction of 2800 KLD. The industry is required to obtain permission for increased ground water abstraction quantity from State Ground Water Authority, in case the industry has to operate at its full consented capacity. It has been further recommended in the report that treated trade effluent of the industry which is fulfilling the irrigation water standards (IS: 11624) can be utilized for irrigation purposes in administrative and residential green areas (5 acres approximately) within the premises of the industry.

And whereas, Dr. Dinesh Bembi, National Professor, Punjab Agriculture University, Ludhiana an expert in area of soil and water resources present in the hearing expressed the opinion that high TDS values in ground water in the plantation area of the industry can be due to application of mixed effluent of untreated inorganic wastewater stream with the treated trade effluent of Effluent Treatment Plant containing high concentration of Cholrides & Sulphates. As such, industry be asked to adopt some alternate measure and stop discharging inorganic stream of wastewater onto the land for plantation. He further opined that 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.

And whereas, to the above observations, the representatives of the industry present during hearing stated as under:

1. Effluent Treatment Plant has been found to be more than 90% efficient in reducing BOD and COD in final treated effluent. Treated Effluent is meeting the requirements of CPCB General Standards for Discharge of Environmental Pollutants Part-A: Effluents. These results clearly show that existing ETP is fully adequate and state of the art for treating our Effluents. TDS content is 2194 mg/l in final treated effluent being used for irrigation, against regulatory requirement of 2100 mg/l but within uncertainty level declared by the laboratory. Inorganic Effluent stream of 317 KLD will be treated in RO/MEE system

by installing the same in about 3 months to achieve ZLD. It is also submitted that industry is also going to use Canal Water, which has lower TDS level as compared to ground water, before end March, 2021. With these 2 measures, TDS level in treated Effluent will also reduce accordingly thus further improving the quality of treated Effluent.

2. Regarding ground water, TDS, Total alkalinity, total hardness, calcium, magnesium content in ground water samples inside the industry and in periphery were found above acceptable limits of 500 mg/l, however TDS content is within permissible limit (in the absence of alternate source) of 2000 mg/l as per drinking water standards IS 10500: 2012. However, these parameters were also found to be high in Tubewell no. 13, 14 and 15 situated at a distance of 2 to 3 kms towards West and North side of industry which clearly shows that the Ground Water in this area is having these characteristics and it cannot be attributed to the industry. Further, it is submitted that the industry is discharging its treated Effluent on land for irrigation of eucalyptus trees planted in our green belt based on Karnal Technology which is a well proven scientific method of disposal of Effluents/Sewage. This technology is specified even by PPCB for disposal of treated Effluent. This technology ensures that all the Effluent is utilised by eucalyptus trees and there is no percolation of water into the land. Based on available documents from ENVIS Centre Punjab on State Environment Issues, through this technique, it is possible to dispose off 0.3 to 1.0 ML of effluent per day per hectare. This means daily Effluent discharge of 1434 KL, even with minimum specified Effluent discharge of 0.3 ML, only 4.78 hectares of land is required whereas more than 11 hectares of land has been provided to ensure that there is absolutely no stagnation of water. That most of the time more than half of plantation area remains dry also proves this fact that area provided for discharge of Treated Effluent on land for irrigation is almost double than required. Thus there is no question of percolation of water into the ground.
3. With respect to soil samples, SAR (Sodium Adsorption Ratio) was found within limits in all soil samples collected from our plantation area. Although Total Organic Carbon (TOC) and Total Kjeldahl Nitrogen(TKN) was found to be high in soil samples but that is understood as treated Effluent is discharged on this land and also organic ETP Sludge is applied as manure as per treatment schemes submitted in consent applications with PPCB. Further hydrological study to be carried out to ascertain the directional flow of groundwater, industry agrees with that. It is strongly felt that the complaint of the farmer regarding ground water contamination has always been wrongly attributed to industry. In the original complaint, it has been mentioned that the industry is putting dirty water into the ground by digging borewell. The complaint should have been filed there itself when the farmer and other villagers failed to show any such borewell to PPCB as well as local administration who visited the industry. Thereafter the course of addressing the complaint was shifted to discharge of our treated

Effluent in plantation area. Here also it should have been established whether 1434 KLD of treated Effluent if discharged on land for irrigation of green belt grown in 28 acres of land would cause percolation of water into the ground. As explained above, this is not possible as per available information on Karnal Technology Plantation which is being followed. It is strongly felt that when ground water which is 2 to 3 Kms away from the industry has same characteristics as the ground water near the industry, the industry should not be made responsible for this. A proper hydrological study to establish the direction of flow of ground water as well as possibility of percolation of water into the ground would be a welcome step, which is felt not possible given the amount of water discharged and the available land on which it is discharged.

4. Report of Guru Nanak Engineering College (Testing & Consultancy Wing), Ludhiana involving Complete Mass Water Balancing Audit of the industry as well as to suggest maximum reuse of the treated waste water by the industry has concluded that the industry is using the Ground Water within its sanctioned quantity of 2800 M^3/day as sanctioned by Punjab Water Regulation and Development Authority. Study team has also verified this data during their study period. It has been recommended that the treated Effluent is fulfilling the irrigation water standards (IS: 11624), so it can be used for irrigation purpose in administrative and residential areas. PPCB is requested to kindly advise the industry further in this matter. It is also submitted that ground water extraction is not going to increase beyond 2800 M^3/day even when the Paddy milling production will be increased from present 1800 tons/day to consented capacity of 2880 tons/day as the increase in production will be of Raw paddy only which requires very less water and the total raw water requirement will still be below 2800 M^3/day.
5. Regarding unauthorized withdrawal of ground water, the industry is replenishing the ground water used by it since Sept, 2017 i.e. much before the guidelines were issued. The industry has created a pond in its own premises having capacity of about 90,000 m^3 to recharge the ground water. Further, water mapping has also been carried out to monitor the distribution and status of water. The industry had applied for permission for withdrawal of ground water with CGWA way back on 23.10.2018. Despite filling the above applications with the required documentation and being compliant with the terms of recharging groundwater, the CGWA refused to grant a No objection certificate (NOC) not just to KRBL but to any industry in the country in furtherance of the directions/ observations of the Hon'ble NGT in OA no. 176/2015. The CGWA on 24.09.2020 in furtherance of the directions of the Hon'ble NGT issued fresh guidelines inter alia, which provide that entities who are replenishing groundwater alone are entitled to obtain an NOC. Furthermore, under the new guidelines, the additional documents required by CGWA were already part of the original application made to CGWA NWR Chandigarh save an impact Assessment Report. The above requirements were intimated to M/s

KRBL Ltd. Vide email dated 22.10.2020 by CGWA thereafter which the work on the Impact Assessment Report was being carried out on a war footing and as per the accredited consultant. However, CGWA has now notified that Punjab Government has started regulation of ground water hence CGWA NOCAP portal has stopped processing of already existing applications. The industry had submitted an application dated 24.11.2020 for permission to extract ground water for industrial use with Punjab Water & Development Authority and the permission for extraction of ground water @ 2800 KLD has been granted by the said Authority vide no. PWRDA/01/2021/L3/1 dated 07.01.2021. The industry has already deposited Rs. 29,32,800/- on account of ground water withdrawal charges.

6. A purchase order for Continuous Effluent Monitoring System (CEMS) with facility to connect it with the website of the Board for continuous online display/monitoring has already been placed. The same shall be installed and made operational as soon as possible as per terms and conditions of purchase order and hopefully within February 2021.

And whereas, after hearing the officers of the Board and commitments made by the representatives of the industry during hearing and also keeping in view the directions dated 25.9.2020 issued by the CPCB, proposed directions dated 2.11.2020 issued by the PPCB, material facts of the case and also considering the reports submitted by Punjab Bio-technology Incubator, Mohali and Guru Nanak Dev Engineering College, Ludhiana, the Chairman of the Board decided that :

As brought out by officers of the Board and opinion given by Dr. Dinesh Bembi, high TDS values in ground water in plantation area of the industry can be due to application of mixed effluent of untreated inorganic wastewater stream with the treated trade effluent of Effluent Treatment Plant containing high concentration of Cholrides & 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, the industry is required to be issued directions u/s 33-A of Water Act, 1974 as under:

(i) The industry shall achieve Zero Liquid Discharge (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 the standards operating ETP as per the standard operating procedure and to maintain records of design parameters monitored.

(vi) The industry shall establish a groundwater 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 discharged 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.

As such, the Punjab Pollution Control Board in exercise of the powers conferred upon u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974 as amended in 1988, hereby, directs as under:

(i) The industry shall achieve Zero Liquid Discharge (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.

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(ix) The industry shall utilize its treated trade effluent discharged 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.

In case of failure to comply with the above said directions, the industry and its Managing Directors or any other person(s) responsible to comply with the above directions under the Water (Prevention & Control of Pollution) Act, 1974 are liable for action u/s 41 (1) of the Water (Prevention & Control of Pollution) Act, 1974 as amended in 1988.

Senior Environmental Engineer,
Zonal Office-II, Patiala
3.2.2021

Endst. No. 305 **Dated** 3/2/2021

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Sangrur. He is directed to ensure the compliance of aforesaid directions and submit report accordingly.

Senior Environmental Engineer,
Zonal Office-II, Patiala
3.2.2021