BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 204 OF 2021

IN THE MATTER OF:

CHANCHAL DEVI .....APPLICANT

VERSUS

CENTRAL POLLUTION CONTROL BOARD & ORS. ... RESPONDENTS

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2.	**Annexure-1** True copy of the said report of National Sugar Institute.	
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4.	Proof of Service	

NEW DELHI
DATE: 07.02.2023

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BEFORE THE NATIONAL GREEN TRIBUNAL, NEW DELHI

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CENTRAL POLLUTION CONTROL BOARD & ORS. .....RESPONDENTS

REPLY ON BEHALF OF RESPONDENT, U.P. POLLUTION CONTROL BOARD

I, Vikas Mishra, S/o. Shri Ganga Sharan Mishra, aged about 44 years, Regional Officer, U.P. Pollution Control Board, Moradabad currently having additional charge of Regional Officer, U.P. Pollution Control Board, Bijnor, U.P. also at present at New Delhi do hereby solemnly affirm and declare as under:

1. That I in the abovenoted capacity am well conversant with the facts and record of the present case, hence am competent to swear this affidavit.

2. That the abovenoted matter came up for hearing on 11.01.2023 when this Hon'ble Tribunal passed an order directing the Regional Officer and Member Secretary, U.P. Pollution Control Board to explain why any action has not been taken for so long against the industry for causing pollution and why appropriate action be not taken against them for non-compliance of statutory provisions.

3. That in compliance of the said order the present affidavit is being filed.

4. That on the basis of the reading in online monitoring system on 10.01.2019 it was found that the ETP installed in the sugar industry is not meeting the norms. Hence, penalty of Rs. 1,00,000/- was imposed vide letter dated 29.01.2019 which was deposited by the unit on 05.04.2019.

5. That on the basis of inspection conducted on 24.01.2019 it was found that ETP of the unit was not complying with the norms, hence a penalty of Rs. 1.5. lakhs was imposed on 12.02.2019.

6. That an inspection was conducted on 03/04.12.2019 by the officers of the Board alongwith officers of the NSI, Kanpur wherein it was found the unit is not complying with the norms for COD and it was found 287 mg per liter against the norms of 250 mg per liter. Hence on 26.06.2020 a showcause notice was issued as to why consent be not revoked and unit be not closed.

7. That on receiving the reply of the unit again an inspection was conducted on 13.01.2020 when the unit was found complying with the environmental norms, hence for past violation of norms for 41 days a compensation of Rs. 8.20 lakhs was imposed on 03.07.2020 and showcause notice was withdrawn with the condition that the unit will comply with the recommendations made by the Committee and submit its compliance report and the unit will also comply with the consent condition word by word. The unit has deposited the said amount on 15.01.2022.

8. That a joint inspection of the unit was conducted on 11.11.2021 as per the directions of this Hon'ble Tribunal

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wherein certain deficiencies have been found. Hence, the Board vide letter dated 31.03.2022 directed the unit to comply with the recommendations of the joint committee and submit a compliance report within 15 days.

9. That thereafter, further inspection was carried on 11.08.2022 by the officers of the Board when it has been found following recommendations have not been complied with:

S. No.	Recommendations	Compliance Status of the Industry
1.	It is recommended that the unit shall revise its Water Consent issued by UPPCB as the ETP has overcapacity for effluent treatment (i.e. 2800 KLD). The unit shall not be allowed for violation the consent condition at any level.	Unit has not obtained revised water consent from UPPCB. Unit has submitted reply of letter issued by UPPCB dated 31.03.2022 in which informed that unit has been operating that ETP strictly with in the permitted capacity 1660 KLD which can be verified through OCEMS.
2.	The unit shall install Condensate Polishing Unit (CPU) as the unit has pressure boiler of 105 kg/cm2 as recommended by expert institute (NSI) in ETP validation report 2019-20.	CPU has not been installed by the unit. Unit has submitted reply of letter issued by UPPCB dated 31.03.2022 in which informed that unit does not require as the boiler water requirement fulfilled by return condensate of steam supplied by various processes such as heat exchanger.

10. That on the basis of the said inspection a showcause notice was issued on 13.10.2022 to the unit to comply with

the directions of the joint committee within 15 days and also as to why it should not be closed.

11. That the unit has submitted a reply that on 15.12.2022 wherein on the basis of report of National Sugar Institute it was mentioned as follows:

> "1. Point No. 1: Revise its water Consent issued by UPPCB as the ETP has overcapacity for effluent treatment.
>
> Comment by National Sugar Institute:-
>
> "The present capacity of the ETP plant (2100 KLPD) is adequate to handle the generated effluent from the plant at licensed capacity of 10000 TCD. Keeping in view the surges in production process, few sub-units of ETP are considered with slightly excess retention time, however, this may not adversely affect the performance of ETP. Also, the process performance parameters of ETP system viz. DO/MLSS etc. were found as per norms during the period of visit."
>
> 1. Point No. 2: Install Condensate Polishing Unit (CPU) as the unit has pressure boiler of 105 Kg/CM2 as recommended by expert institute (NSI).
>
> Comment by National Sugar Institute:
>
> "Since, the factory has provided Aerobic/MBR based Tertiary Treatment Plant (TTP) followed by RO system for sugar ETP treated water for use as

fermenter dilution process and colling tower make-up water etc. in adjacent distillery unit, hence considering it, the condensate polishing unit (CPU) may not required by the unit."

The report of National Sugar Institute was also annexed.

True copy of the said report is being enclosed herewith and marked as **Annexure-1**.

12. That in view of report of NSI, Kanpur regarding the compliance of aforesaid two points, showcause notice dated 13.10.2022 issued to the industry has been withdrawn on 29.12.2022.

13. That regarding past violation a compensation of Rs. 12,90,000/- has been imposed on the unit on 27.01.2023.

14. That regarding the incident mentioned in I.A. No. 76 of 2022 it is submitted that no information of the said incident was reported to U.P. Pollution Control Board. The said incident has caused during the hydraulic test of wash settling tank of the distillery unit of M/s. Wave Industries Pvt. Ltd. on 12.03.2022 at the time of testing and trial of the unit.

15. That as far as the relation of efficiency of ferti-irrigation plan of the unit it is submitted that the unit has got the evaluation of ferti-irrigation plan by National Sugar Institute, Kanpur. A copy of the said report is being enclosed herewith and marked as **Annexure-2**.

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16. That the U.P. Pollution Control Board is taking the steps for abatement and control of pollution within its limited resources. The deponent submits his unconditional apology if any action has not been taken or taken with delay.

DEPONENT

VERIFICATION:

I, the abovenamed deponent, do hereby verify that the contents of above affidavit are true to my knowledge derived from official record. No part of the same is false and nothing has been concealed therefrom.

VERIFIED ON THIS THE 04TH DAY OF FEBRUARY, 2023 AT NEW DELHI.

DEPONENT

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ATTESTED
RENU BALA REG No. 16727
NOTARY DELHI
GOVERNMENT OF INDIA
04 FEB 2023

Annexure – 1 442

REPORT ON VALIDATION OF ETP PERFORMANCE

FOR

M/s WAVE INDUSTRIES PVT. LTD.
MALAYSIA, MANDI DHANAURA
AMROHA- 244231
UTTAR PRADESH

PREPARED BY:

NATIONAL SUGAR INSTITUTE
Government of India
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1. GENERAL INFORMATION

1	**Name and address of the factory**	M/s Wave Industries Pvt. Ltd. Malaysia, Mandi Dhanaura District – Amroha, UP- 244231	
2	**Standalone/ integrated (with co-generation) Sugar/ Sugar refinery**	Backend Sugar Refinery Integrated with Co-generation	
3	**Licensed capacity of Sugar Mill (TCD)**	10000 TCD	
4	**Average actual crush rate (TCD)**	9238 TCD (Avg. from 16.11.2022 to 28.11.2022)	
5	**Co-generation plant capacity (MW)**	30 MW	
6	**Date/ Period of visit**	30.11.2022 to 01.12.2022	
7	**Assessing officials**	**Designation**	**Contact No. & E-mail**
	1. Shri Anoop Kumar Kanaujia	Asst. Professor (Sugar Engineering)	7054202100 akk.nsi@gmail.com
	2. Shri Anurag Verma	Technical Assistant (Sugar Technology)	anurag.nsi131118@gmail.com
8	**Factory officials consulted**	**Designation**	**Contact No. & E-mail**
	1. Shri S. P. Tomar	Unit Head	8009091735 sp.tomar@waveindustries.in
	2. Shri D. P. Singh	General Manager (Production)	9927721666 dp.singh@waveindustries.in
	3. Shri Prabhat Kumar Kanaujia	Manager (Production)	7617426126 prabhat@waveindustries.in

2. OPERATIONAL INFORMATION

S. NO.	PARTICULAR	STATUS/ QUANTITY	REMARK
1	**Fresh water abstraction**		
	a. No & capacity of bore well	04 nos. Capacity- 110, 150, 200 & 220 m^3/hr	
	Installation of flow meters Type of flow meters	Yes Electromagnetic	
	b. Recording & maintaining of log books of water abstraction	990 KLD	Logbook details attached as **Annexure - 01**
	c. Measurement facility of fresh water used in sugar plant & maintaining of log books	Nil	c=b-d-e
	d. Measurement facility of fresh water used at co-generation & maintaining of log books	843 KLD	Logbook details attached as **Annexure - 02**
	e. Measurement facility of fresh water used for human needs, residential buildings & maintaining of log books	148 KLD	Logbook details attached as **Annexure - 02**
2	**Measurement of Cold-water usage**		
	a. Power turbine	Flow meter not available	Flow meter to be provided.
	b. Fibrizer & other cane preparatory devices	Flow meter available, (Avg. 2100 m^3/day)	Logbook details attached as **Annexure - 03**
	c. Mills & drives		
	d. DM/RO plant at boilers	Flow meter available, (Avg. 600 m^3/day)	Logbook details attached as **Annexure - 02**
	e. Cooling towers of co-generation	Flow meter available, (Avg. 250 m^3/day)	Logbook details attached as **Annexure - 02**
	f. SO_2 gas cooling	-	Not Applicable
	g. B & C massecuite cooling	Flow meter available, (Avg. 0.0 m^3/day)	Logbook details attached as **Annexure - 03**
	h. Final molasses cooling	Flow meter available, (Avg. 300 m^3/day)	Logbook details attached as **Annexure - 03**
	i. As make up water at spray pond/ process CT and at any other unit operation (Evaporator cleaning)	Flow meter available, (Avg. 400 m^3/day)	Logbook details attached as **Annexure - 03**
	j. Compressor/ pumps gland cooling	Flow meter available, (Avg. 26 m^3/day)	Logbook details attached as **Annexure - 03**

3	**Measurement of Hot-water usage**		
	a. Imbibition water at mills	Flow meter available, (Avg. 3400 m³/day)	Logbook details attached as **Annexure - 03**
	b. Filter cake wash water	Flow meter available, (Avg. 350 m³/day)	Logbook details attached as **Annexure - 03**
	c. Pan boiling, molasses conditioning	Flow meter available, (Avg. 450 m³/day)	Logbook details attached as **Annexure - 03**
	d. Wash water at centrifugals	Flow meter available, (Avg. 110 m³/day)	Logbook details attached as **Annexure - 03**
4	**Measurement of effluent generation**		
	a. From mill house	**Avg. 910 KLD *i.e.* 98.5 Litre per ton of cane @ 9238 TCD**	Logbook details attached as **Annexure - 04**
	b. From boiling house		
	c. From steam generation		
	d. Spray pond/ Cooling tower over flow	Flow meter installed, **(Avg. 897 KLD *i.e.* 97.1 Litre per ton of cane @ 9238 TCD)**	Logbook details attached as **Annexure - 04**
	e. Gross effluent generation at ETP inlet	Flow meter installed, **(Avg. 1806 KLD *i.e.* 195.5 Litre per ton of cane @ 9238 TCD)**	Logbook details attached as **Annexure - 04**
	f. ETP outlet	Flow meter installed, **(Avg. 1797 KLD *i.e.* 194.5 Litre per ton of cane @ 9238 TCD)**	Logbook details attached as **Annexure - 04**
5	**Cooling arrangement & recirculation of cooling water**		
	a. Power turbine	Cooling tower of 6000 m³/hr capacity is provided.	
	b. Mill drives & mill bearings	Common UGR for Hot & Cold water, fan cooling tower of 150 m³/hr.	UGR- 1000 m³
	c. Fibrizer & other cane preparatory devices		
	d. B & C massecuite cooling		
	e. SO2 gas coolers	-	Not Applicable
	f. Surplus condensate	Common UGR for Hot & Cold water, Two stage fan & fan-less cooling towers of 150 m³/hr & 100 m³/hr capacity respectively.	UGR- 1000 m³

6	Construction of small pits near various pumps to collect gland cooling water for recirculation.	Small pits have been constructed.	
7	Construction of Hazardous tanks of adequate capacity to collect wash water generated during chemical/ mechanical cleaning of evaporators and discharging it in a controlled manner.	01 no. 110 M^3 capacity hazardous tank is provided.	
8	Installation of CPU (Condensate Polishing Unit) and circulation of polished condensate to co-generation plant cooling towers as a make-up water for more than 45 kg/cm² working pressure boilers and to other purposes.	Tertiary Treatment Plant (TTP) is provided for sugar ETP treated water for use as fermenter dilution process and cooling tower make-up water *etc.* in adjacent distillery unit.	Flow diagram attached as **Annexure - 05**
9	Use of membrane based (2 stage) or other suitable technologies to attain a brine recovery of at least 80 % in sugar refineries having IER.	Two stage BRS with 85% recovery is provided.	Logbook details attached as **Annexure - 06**
10	Closed loop hot and cold-water circulation systems.	Yes	Hot & Cold Water circulation details attached as **Annexure - 07**
11	Sulphate removal system installed for spray pond/ process CT over flow. (System details with flow diagram to be enclosed)	-	Not applicable being sugar refinery.
12	**Retention/contact time in various units of ETP**	**Retention time (At Licensed Capacity *i.e.* 10,000 TCD @ 195.5 liters/ ton of cane)**	**Remarks**
	a. Bar screen chamber	30 mins	Adequate; DSM Screen also provided
	b. Oil & grease trap chamber	54 mins	Adequate
	c. Equalization tank with aeration	11 hrs	Adequate; Diffused aeration provided
	d. pH correction tank	10 mins	Adequate
	e. Primary clarifier	8 hrs 36 mins	Adequate
	f. Aeration tank	45 hrs 12 mins	Adequate; Diffused aeration provided

	g. Secondary clarifier	8 hrs 36 mins	Adequate
	h. Multi grade filter	Surface loading rate 6.62 $m^3/m^2/hr$	Adequate
	i. Activated carbon filter	Surface loading rate 6.62 $m^3/m^2/hr$	Adequate
	j. Sludge drying bed or	0.08 m^3/ton of cane	Adequate
	Centrifuge or	5 m^3/hr	Decanter
	Filter press		
13	**ETP Analysis (performance parameters), average value**	**As per record**	**As per sample taken during the visit**
A	**ETP Inlet**		
	a. Generated effluent flow rate (m^3/hr)	75.3 m^3/hr (195.5 liters/ ton of cane)	
	b. Sulphur (mg/L)	Not applicable	Not applicable
	c. pH	7.4	5.35
	d. COD (mg/L)	1160	1040
	e. BOD (mg/L)	380	270
	f. TSS (mg/L)	120	450
	g. TDS (mg/L)	680	439
	h. Oil & Grease (mg/L)	Not measured	-
B	**ETP Outlet**		
	a. Treated effluent flow rate (m^3/hr)	74.9 m^3/hr (194.5 liters/ ton of cane)	
	b. Sulphur (mg/L)	Not applicable	Not applicable
	c. pH	7.48	7.30
	d. COD (mg/L)	84	120
	e. BOD (mg/L)	19	22
	f. TSS (mg/L)	26	14
	g. TDS (mg/L)	1570	458
	h. Oil & Grease (mg/L)	BDL	Not observed
C	**ETP Analysis (other parameters), average value**		
	a. MLSS (mg/L)	3140	3000
	b. DO (mg/L)	1.8	2.0
D	**Sulphate removal system analysis**		Not applicable
	Inlet		
	a. Effluent flow rate (m^3/hr)	-	-
	b. Sulphur (mg/L)	-	-
	Outlet		
	a. Effluent flow rate (m^3/hr)	-	-
	b. Sulphur (mg/L)	-	-

14	**Condensate Polishing Unit (CPU) Analysis**		Tertiary Treatment Plant (TTP) is provided for sugar ETP treated water.
	Inlet		Logbook details attached as **Annexure - 08**
	TDS (mg/L)	593	
	BOD (mg/L)	16	
	Outlet		
	TDS (mg/L)	8.29	
	BOD (mg/L)	Nil	
15	**Storage of treated effluent**		
	a. No & size of lagoons	One no. of capacity 20000 m^3	Retention time is about 10 days @ 195.5 Lit/tonne of cane
	b. Lagoon type- permeable/ impermeable	Impermeable	
16	**Recirculation of treated effluent in sugar plant**		
	Consumption points	**Quantity consumed (m^3/day)/ % cane**	**Measured/Estimated**
	a. To TTP for distillery use	1535 m^3/day	TTP use= Total Discharge- Irrigation use
	b. To irrigation	235 m^3/day	Measured quantity Logbook details attached as **Annexure - 09**
17	**Operation and maintenance staff of ETP**		
	Details	**Qualification**	
	Sr. Mgr. Q.C.- 01 ETP Incharge- 01 ETP Chemist- 04 ETP Operator- 03 ETP Helper- 04	Details attached as **Annexure - 10**	
		Status	**Remark**
18	**Analytical facility (laboratory)**	Factory has proper analytical facilities/ infrastructure for measuring important parameters *viz.* BOD, COD, TSS, TDS *etc.*	
19	**Adoption of rainwater harvesting system**	Adopted.	
20	**Dry cleaning of factory floors etc. using bagasse**	Adopted.	

4. CONCLUSION

1. Necessary flow meters are installed at major unit operations *e.g.* pan boiling & centrifugals washing, filter cake washing *etc.* to ascertain and control hot and cold water requirement, for other few places factory is required to provide flow meters.

2. The present capacity of the ETP plant (2100 KLPD) is adequate to handle the generated effluent from the plant at the licensed capacity of 10,000 TCD. Keeping in view the surges in the production process, few sub-units of ETP are considered with slightly excess retention time, however, this may not adversely affect the performance of ETP. Also, the process performance parameters of ETP system *viz.* DO/ MLSS *etc.* were found as per norms during the period of visit.

3. The effluent discharge through ETP is 195.5 liters/ tonne of cane as per flow meter reading, which is considered to be in order as per CPCB guidelines.

4. As per the analytical details submitted by the factory and also observed that the treated effluent quality was in conformity with the CPCB guidelines in the matter.

5. Since, the factory has provided Aerobic/ MBR based Tertiary Treatment Plant (TTP) followed by RO system for sugar ETP treated water for use as fermenter dilution process and cooling tower make-up water *etc.* in adjacent distillery unit, hence considering it, the Condensate Polishing Unit (CPU) may not be required by the unit.

6. The existing air pollution control device/ on-line stack monitoring system shall be adequate to handle load at the proposed capacity of 10,000 TCD.

13/12/'22

(Anoop Kumar Kanaujia)
Asst. Professor (Sugar Engineering)

NATIONAL SUGAR INSTITUTE
An ISO 9001:2015 Certified Institute
Ministry of Consumer Affairs, Food & Public Distribution
Department of Food & Public Distribution
(Government of India)

TRUE COPY

Annexure-2 450

UTILIZATION OF TREATED EFFLUENT FOR IRRIGATION PURPOSE

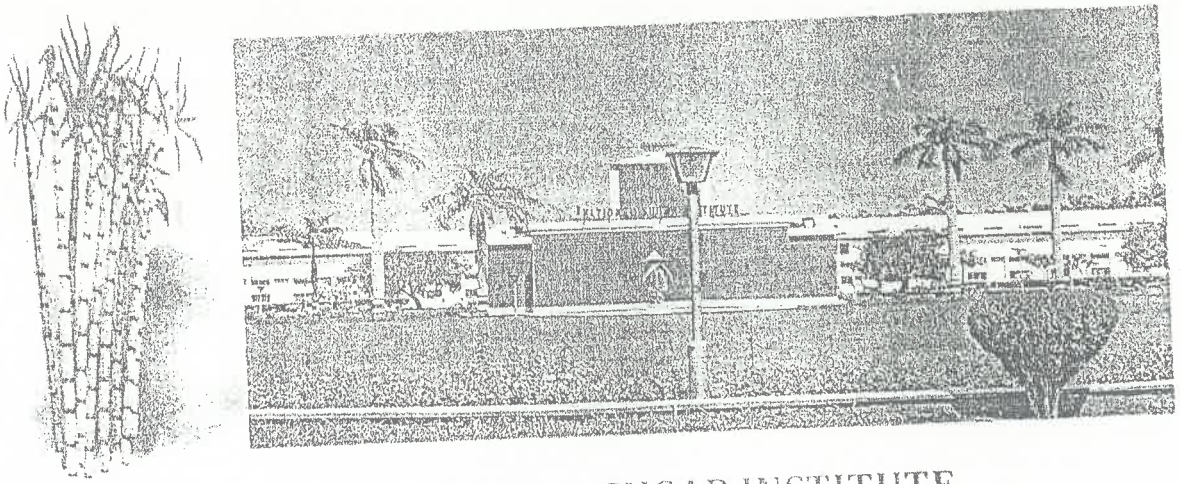
FOR

M/s WAVE INDUSTRIES.PVT.LTD.

DHANAURA

District-AMROHA, Uttar Pradesh

PREPARED BY:



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1. Introduction

M/s Wave Industries Pvt. Ltd, Dhanaura, DistrictAmroha (UP) was incorporated in 1993 for producing Plantation White refined Sugar. It is spread in 60 acres land, operates as a sugar manufacturing company which having co-generates power etc. It has installed capacity of 8300 TCD.

Factory Performance:

S. No.	Particulars	2014-15	2015-16	2016-17
1.	Duration of season (days)	150.92	136.75	157.28
2.	Average sugarcane crushed per day (TCD)	6519.1	6722.5	6430.6
3.	Total sugarcane crushed (Qts)	99,75,495.3	91,07,069.69	102,89,017.63

2. VISIT UNDERTAKEN:

A visit was paid to the factory on 26th Sept.2017 by Dr. Ashok Kumar, Assistant Professor(Agriculture Chemistry). Factory officials, namely, Shri B.S Aneja (Unit Head), Shri V.S Sharma, Senior GM (Production),Shri D.P Singh G.M. (Production), Environment Chemist ShriLuckyChoudhary and ShriJagatvir Singh GM(Cane) were present at the site during the visit.

3. OBSERVATIONS & DISCUSSIONS:

To assess the adequacy of the ETP Plant, a separate visit was paid by the Institute officials. Since the visit was undertaken during the off-season of the sugar factory, it was not possible to physically observe the working of the Effluent Treatment Plant and verify the processing and other conditions, particularly, with respect to water usage, its conservation and quantity & quality of waste water discharge. The adequacy of the irrigation plan is also based on the data provided by the factory with respect to area available, crop pattern and tie up made with the farmers.

4. **Effluent generation:** Copies of analysis reports of treated effluent and data communicated to UPPCB server is **attached as Annexure-I.**Broad details of effluenttreatment plant are **attached asAnnexure-II (Newly installed E.T.P.).** A schematic diagram of the effluent treatment plant is attached **as Annexure-III.**

5. **Storage lagoon: 4000 M^3 Old unit s of E.T.P. converted into storage lagoon.**

6. **Cropping pattern of the area:** The principal crops are: (i) wheat, (ii) paddy, (iii) sugarcane, (iv) bajra, and (v) urd at command area of M/s Wave Industries. Pvt. Ltd., Dhanaura.Sugar-cane is grown as main cash crop and wheat is secondary rabi cropwith its area about 10 percent only.

7. **Quantity of effluent available for land application (1660 KL/day):**

   a. Capacity of the Sugar plant – 8300 TCD

   b. Estimated average Effluent generation per d @200 liters/ton of cane crushed -1660KL/day

   c. Net effluent generation left for irrigation after treatment – 1660KL/day

   d. Total treated effluent generated for average crushing for 160 days (days considered on the basis of past track record)
   = 160x 1660 = 2,65,600KL/Crushing Season

8. **Characteristics of treated effluent:**

S. No.	Particular	Range
1.	pH	7-7.50
2.	BOD	8-29mg/liter
3.	COD	43-75mg/liter
4.	TSS	24-40mg/liter

The above values are as per data transmitted by M/s Wave industries. Pvt. Ltd., Dhanaura to CPCB/PCB server through Real time monitoring system during crushing season 2016-17 (16th November, 2016 to 25th April, 2017). The copies are enclosed as **annexure-I.**

9. **Command area:**

S. No.	Soil texture	Effl ient loading rate(KL/hectare/day)
1	Sandy Loam	170-225 (average 197 m^3/hectare/day or say 200 m^3/hectare/day)
2	Sandy	240M^3/hectare/day

On the basis of soil test report, the soil of the command area of factory is sandy loam while under factory premisessoil is sandy.

10. Command area identified:

S. No.	Total available area (hectare)	Area available at 70 % land efficiency	Distance from unit (Km)	Mode of Effluent Transport
1.	124.43	87.10	Within 1.0 km.	MS Pipe Lines
2.	44.57	31.20	Within 1.0km.	MS pipe and Pumping set
3.	20	14	Within1.0. km.	HDPE Pipe Lines
	Total = 189 (hectare)	**132.30**		

Details of farmer fields to be used for irrigation purpose with farmer's name, area, distance and crops cultivated **attached as Annexure-IV.**

11. Details of crop area:

S. No.	Location/Village	Total available area (Ha)	Crop area under effluent application		
			Kharif	Rabi	Annual
1.	Malaysia	124.43	-	13.23	111.20
2.	Musallepur	44.57	-	5.27	39.30
	Total	169	-	**18.50**	**150.5**

12. Total treated effluent water balance with respect to land available for irrigation for different crops keeping in view of the loading rates for different soil textures:

S. No	Land Particular	Area (Hect.)	Area available at 70 % land efficiency (hectare)	Water loading	Irrigation interval (days)	Average Crushing days	Water Requirement Kl.
1.	Factory land, lawn & Green belt, forest tree with yard (Sandy Soil)	20	14	240	05	160	1,07,520
2.	Sugarcane	150.5	105.35	200	15	160	2,24,746.67
3.	Wheat	18.5	12.95	200	25	160	16,576
						Total	3,48,842.67

13. Effluent application scheme:

A. **Storage and transportation:** Treated effluent is stored in a lagoon of 4000 KL Capacity (Old E.T.P. will be utilized as lagoon). Treated effluent is to betransported to the farmers' land and also to the premises of M/s Wave Industries.Pvt. Ltd. Dhanaura(Factory land, lawn &Green belt area).

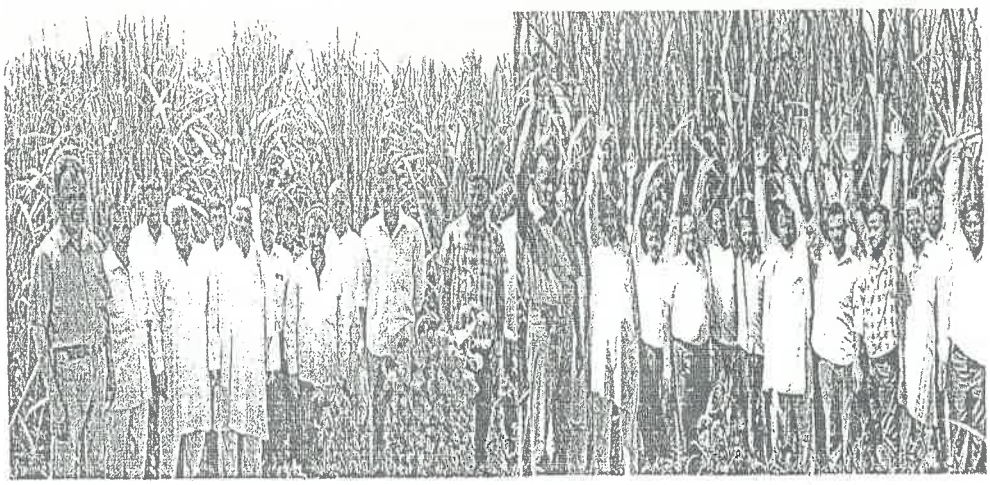
B. **Irrigation schedule & plan of the command area:** The treated effluent is available from November to April depending upon the duration of crushing season which is

generally below 160 days (**attached as Annexure-V**). In Amroha area, intensive agriculture is practiced by farmers where in wheat is immediately sown after ratoon cane harvest and land is not left vacant. This intensive agriculture requires continuous use of water. The effluent provided to the farmer is a great help to them as it is available on weekly rotation schedule of the farmers.

According to the weather condition of area, the farmers provide irrigation to cane field at 12-15 days interval. Similarly, wheat is also provided irrigation within 3 week interval. Sugarcane is a crop which requires water in abundant through its life span. After sugarcane, wheat is the major crop of area and it is efficient in taking up moisture of sub soil. For raising wheat crop successfully, water is required in abundant quantity particularly for germination, crown root initiation, tillering, flowering and grain formation stage.

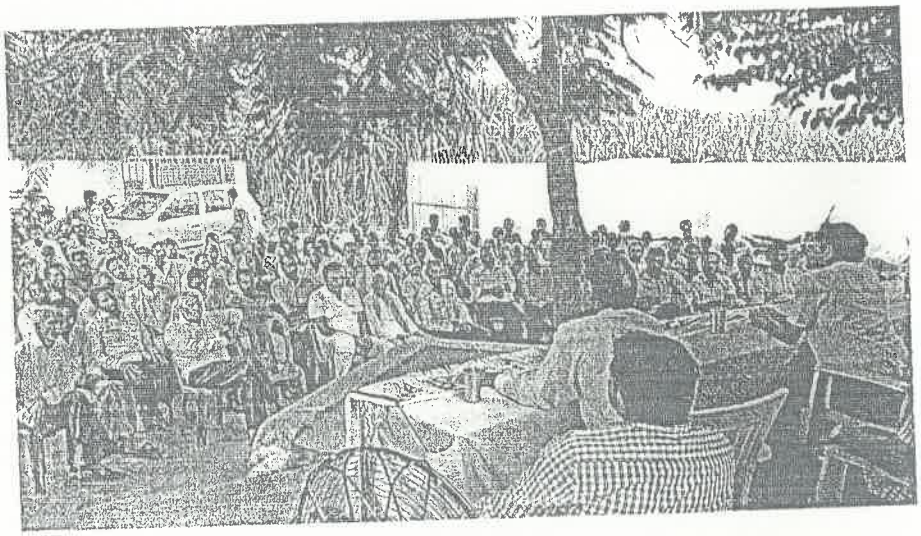
C. **Agreement with farmers: Attached as Annexure-VI.**

D. **Demonstration farm trials:** The cane department of the factory undertakes demonstration of farmtrials are regularly to the farmers of the area (Photo attached). The demonstration is not restricted to cultivation of the new sugar varieties but also about the best agricultural practices including irrigation techniques. In each of the demonstration, large no. of the farmers participates who are imparted the knowledge about such techniques by the staff of the factory.



E. **KishanGosthi:**Gosthis are regularly organized on various aspects of crop production by factory's cane department. Conservation of natural resources and proper use of treated effluent in irrigation is a regular point of village meeting and farmer Gosthis.

S. No.	Activity	Schedule
1	KishanGosthi	Bimonthly
2	Field monitoring	Monthly



14. Basic requirement and monitoring schedule:

The basic requirement of irrigation plan is un-interrupted supply of treated effluent and monitoring of fields for proper use. Four skilled field staff is deputed to look after the irrigation supply independently. They visit fields under irrigation and interact with farmers on day to day basis. However, the system needs to be strengthened.

15. Technical backup and man power deployed:

M/s Wave Industries Pvt. Ltd, Dhanaura has a backup of technical team for repairing of effluent supply line & daily maintenance requirement through its existing maintenance staff. In addition, Cane professionals deputed by M/s Wave Industries Pvt. Ltd, Dhanaura are guiding and will continue to guide farmers about the use of treated water proficiently.

16. **Physico-chemical properties of soil:**

The factory reported following details with respect to analysis of the soil of the envisaged area where treated effluent is proposed to be used for irrigation purposes:

S. No.	Particular	Average
1.	pH	7.2
2.	EC	0.321
3.	Bulk density	1.42 g/cc
4.	Particle density	2.83 g/cc
5.	Porosity %	49.83 %
6.	Sand	61.0 %
7.	Silt	25.00 %
8.	Clay	14.00 %
9.	Ca	136.00 mg/kg
10.	Mg	44.0 mg/kg
11.	Na	76.0 mg/kg
12.	K	21.0 mg/kg
13.	P_2O_5	0.89 mg/kg
14.	$CaCO_3$	298.18 mg/kg
15.	Cl	136mg/kg
16.	SO_4	46 mg/kg

Analysis report of soil is attached as **Annexure-VII**. It may be seen from the analysis report the factory command area mostly have Sandy Loam.

CONCLUSION:

1. The irrigation management plan proposed by M/s Wave Industries Pvt. Ltd, Dhanaura, may be considered to be in order for irrigation to be carried out for the autumn and spring planted sugarcane & also for wheat. The proposed system shall be able to cope up with the requirement of utilization of the generated effluent for irrigation purposes.

2. Since the factory visit was undertaken during off season when treated effluent was not available, as such, the actual assessment shall be possible during crushing only when the sugar plant will be in operation.

3. However, the factory should strengthen its strength for supervising and maintaining the irrigation plan while using the treated effluent. They should clearly prepare a responsibility chart for implementation.

04/10/17

(Dr. Ashok Kumar)
Assistant Professor (Agril. Chemistry)

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OA No 204 Of 2021 Chanchal Devi Vs CPCB

From: Pradeep Misra (pradeepmisra@yahoo.com)

To: mansichahal104@gmail.com; office@vsalegal.in

Date: Monday, February 6, 2023 at 06:52 PM GMT+5:30

Madam,

Please find attached the Reply Affidavit on behalf of U P Po90lluton Control Board In the matter of OA No 204 Of 2021 Chanchal Devi Vs CPCB

With Regards,

(PRADEEP MISRA)

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