BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 530 of 2023

IN THE MATTER OF:

Anuj Kumar — Applicant

Vs.

State of Uttarakhand & Ors. — Respondent(s)

WITH

ORIGINAL APPLICATION NO. 495 of 2023

IN THE MATTER OF:

Mohd. Amjad & Anr. — Applicant(s)

Vs.

State of Uttarakhand & Ors. — Respondent(s)

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	by Central Ground Water Authority (CGWA) having validity upto 25.11.2024 to the unit, M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Distillery section), Laksar, Haridwar, Uttarakhand.	
5.	**Annexure-4:** Details of Green Belt.	
6.	**Annexure-5:** A copy of the Consolidated Consent & Authorization issued by UKPCB to the unit, M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Sugar section), Laksar, Haridwar, Uttarakhand having validity upto 31.03.2024.	
7.	**Annexure-6:** A copy of the No Objection Certificate issued by Central Ground Water Authority having validity upto 28.12.2024 to the unit, M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Sugar section), Laksar, Haridwar, Uttarakhand.	
8.	**Annexure-7:** A copy of the SRS Layout of the unit, M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Sugar section), Laksar, Haridwar, Uttarakhand.	
9.	**Annexure-8:** A copy of the Process Flow chart of the unit, M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Sugar section), Laksar, Haridwar, Uttarakhand.	

Adit Kumar Vidyarthi

(A. K. Vidyarthi)

Scientist F

Central Pollution Control Board

Delhi-110032

Dated: 24.01.2024

Place: Delhi

JOINT INSPECTION REPORT

OF

M/S R.B.N.S LTD.

IN COMPLIANCE TO

HON'BLE NGT ORDER DATED 22.11.2023

IN THE MATTER OF

MOHD. AMZAD & ANR.

Vs

STATE OF UP & ORS.[OA No. 495/2023]

DATE OF INSPECTION: 13th & 14th Dec, 2023

PREPARED BY JOINT COMMITTEE OF
CENTRAL POLLUTION CONTROL BOARD, DELHI (CPCB),
REGIONAL OFFICE, ROORKEE, NMCG, UKPCB, MoEF&CC
& DISTRICT ADMINISTRATION, ROORKEE

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1. SUBJECT MATTER

1.1 Matter:

OA no. 495 of 2023, Mohd. Amzad & Anr. Vs State of U.P. & Ors.

1.2 Subject:

Detailed factual report in compliance to Hon'ble NGT order dated 22.11.2023 in O.A. No. 495/2023 in the matter of Mohd. Amzad & Anr. Vs State of U.P. & Ors. in reference to complaint against M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Distillery & Sugar unit), Village- Laksar, Dist.-Haridwar, Uttarakhand.

1.3 Background:

In response to the water pollution issue at Shukratal Ganga Ghat in Muzaffarnagar, Uttar Pradesh, the Hon'ble National Green Tribunal (NGT), vide its order dated 14/08/2023, in O.A. No. 495/2023 (Mohd. Amzad & Anr. Vs State of U.P. & Ors.), directed the formation of a Joint Committee to verify the factual position. The NGT stated, *"In view of the averments made in the application, we consider it appropriate that a Joint Committee be constituted to verify the factual position. Accordingly, we constitute a Joint Committee comprising of Central Pollution Control Board (CPCB), Regional Office, Ministry of Environment, Forest and Climate Change (MoEF&CC), National Mission for Clean Ganga (NMCG), Uttarakhand Environment Protection and Pollution Control Board (UEPPCB), Uttar Pradesh Pollution Control Board (UPPCB) and District Magistrates (DMs) of Haridwar and Muzaffarnagar and direct the same to meet within one week, undertake visits to the site, look into the grievances of the applicant, associate the applicant and representatives of the concerned project proponents, verify the factual position which shall include (i) details of industries located in Laksar Industrial area and Muzaffarnagar Industrial area which are discharging effluents in the drain connecting to the River Banganga; (ii) details of industries which are functioning without consent/EC; (iii) functioning of STP/ETP and other waste water treatment mechanism and (iv) mechanism for utilization of waste water for agriculture and other land use purposes rather than discharging in the drain and take appropriate remedial action by following due course of law and giving opportunity of being heard to the concerned project proponents. The CPCB will be the nodal agency for coordination and compliance."*

The Hon'ble NGT vide order dated 23/08/2023, in O.A. No. 530/2023 (Anuj Kumar Vs State of U.P. & Ors.), directed that, "*Since the Committee has already been constituted, therefore, we direct the said Committee to look into and consider the grievance of the*

present application also and submit the report in respect thereof along with the report in terms of the earlier directions."

In this regards, two visits by the committee was carried out, the details of the same are as follows;

I. Site visit on 14th -15th, September, 2023

a) Interaction with complainant Md. Amjad in OA 495/2023 and Mr. Anuj Kumar in O.A. No. 530/2023.
b) Interaction with project proponent of M/s RBNS Sugar & Distillery and Cavendish India Ltd.
c) Industrial inspection of M/s RBNS Sugar & Distillery, Laksar and M/s Cavendish India ltd, Laksar.

II. Post -monsoon committee visit on 11th -12th, October, 2023

a) Mapping and monitoring of River Banganga
b) Mapping and monitoring of River Solani
c) Mapping and monitoring of Laksar drain
d) Mapping and monitoring of Hadwa drain

The detailed report of the Joint Committee was filed on 21.11.23 before Hon'ble Tribunal in compliance to orders dated 14.8.23. and 23.08.23.

Further, vide order dated 22/11/2023 **(Annexure – 1).** Hon'ble NGT directed the following:

"17. …… We direct that the Secretary, UKPCB as also Secretary, CPCB will remain personally present before the Tribunal by virtual mode on the next date to appraise the Tribunal about the correct factual position as also the details of contents of the report. 18. The fresh report in terms of the directions of the Tribunal dated 23.08.2023 be submitted by the joint Committee after carrying out the inspection of M/s Rai Bhadur Narayan Singh Sugar Mills Limited (Distillery and Sugar unit). Let the report be submitted within six weeks. A copy thereof be dully supplied at the time of filling of the report to the Counsel for the respondent nos. 7 and 8 in O.A. No. 495/2023. Objection, if any, to the report will be filed by the concerned respondents within two weeks thereafter.

In compliance of Hon'ble NGT order dated 22.11.23, the Committee inspected the following two units during operational period on 13th –14th, December, 2023

a) M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Distillery Unit)
b) M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Sugar Unit)
c) Sampling from upstream & downstream of unit from Laksar drain

2. INSPECTION CARRIED OUT BY JOINT TEAM ON 13th – 14th, DECEMBER, 2023

2.1 Site visit to industrial complex of M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Distillery and Sugar Unit)

As observed by the joint committee, both industrial units i.e. Molasses based distillery plant (120 KLPD) and Sugar plant (10,000 TCD) of M/s Rai Bahadur Narayan Singh Sugar Mills Ltd., Laksar, Haridwar, Uttarakhand were found operational. Also, a Bottling plant was found operating within the industrial complex of M/s Rai Bahadur Narayan Singh Sugar Mills Ltd., Laksar, Haridwar, Uttarakhand. All three units have separate Consent to Operate (CTO) having validity upto 31/03/2024 for Molasses based distillery & Sugar plant and 30/09/2024 for Bottling plant. All the units were found operational on the day of inspection.

The joint team carried out detailed inspection of these units w.r.t. Spent wash & Effluent management, solid waste management, verification of Zero Liquid Discharge (ZLD) system, analysis of ground water quality as well as availability of valid Consents to Operate/Consolidated Consent & Authorization (CCA) under Water & Air Act and No ObjectionCertificates (NOC) for ground water withdrawal.

Joint team also collected samples from various ZLD units for performance evaluation of ZLD system and groundwater samples from the industrial complex to assess the ground water quality. Wastewater and groundwater samples were analyzed in laboratory of CPCB at Head Office-Delhi.

Also, the joint team verified the flowmeters installed at various locations and collected relevant documents, copy of CTO/CCA under Air, Water and Hazardous Acts issued by UPPCB, copy of NOC issued by Uttar Pradesh Ground Water Department (UPGWD). Copies of logbook for spent wash generation, alcohol production, freshwater consumption etc. from both Distillery and Sugar plants were also collected by the team.

Ambient air monitoring and stack emission monitoring was carried out by official from Regional office, Roorkee, UKPCB. UKPCB has engaged officials from PCRI, Haridwar for stack and ambient air monitoring. Analysis results of ambient air quality and stack air monitoring are mentioned in sugar section 2.1.2 (Table 16 and 17).

The detailed reports of Distillery unit of M/s Rai Bahadur Narayan Singh Sugar Mills Ltd., Laksar, Haridwar, Uttarakhand is presented in subsequent section 2.1.1 and Sugar unit of M/s Rai Bahadur Narayan Singh Sugar Mills Ltd., Laksar, Haridwar, Uttarakhand is presented in section 2.1.2.

2.1.1 Compliance report of Molasses based Distillery plant

A. Consents & Authorization

I. The unit has obtained Consolidated Consent & Authorization issued by UKPCB dated 06/10/2023 under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974, under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981and under Rule – 6 (2) of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 having validity upto 31/03/2024 **(Refer Annexure – 2).**

II. The salient conditions of the Consolidated Consent to Operate are as follow:

i. The unit shall carry out production of Rectified Spirit (RS)/ ExtraNeural Alcohol (ENA)/Ethanol @ 120 KLPD using C–Heavy/ B–Heavy molasses @ 372 KLPD.

ii. Unit shall comply with the conditions of NOC issued by Ground Water Department Govt. for abstraction of ground water.

iii. Unit shall maintain Zero Liquid Discharge, and no effluent is allowed to discharge outside the premises.

iv. The final storage capacity of lagoon for storage of concentrated spent wash after MEE to be utilized in bio-composting shall be strictly restricted to thirty days equivalent of Concentrated spent wash.

v. The unit having uncovered bio-compost area shall stop its bio-compost activities in monsoon period. The Unit shall make extra land arrangement for storage of press mud and ready bio-compost.

vi. The unit shall use bio-composting only up to December 2023, thereafter no fresh concentrated spent wash shall be disposed through bio-composting yard and spent

wash shall be totally disposed through spray dryer.

vii. Flow meter to be installed in all water abstraction points and usage of fresh water to be minimized.

viii. Industry shall maintain Online Continuous Effluent and emission Monitoring System (OCEMS) on ETP and stack & connect it with SPCB and CPCB server, before start of production as per the direction of CPCB.

ix. The industry should ensure the operation of the air pollution control system (APCS) in such a manner that the air emission confirms with the standards prescribed under the E.(P) Act 1986 as amended.

B. Compliance status of conditions stipulated in Consolidated Consent and Authorization:

I. Production Capacity:

i. During visit the joint committee observed that the distillery unit has 02 nos. of distillation plants each having 60 KLPD production capacity (120 KLD Total). The unit representative informed that the old distillation plant was commissioned in 2014 and the new distillation plant was commissioned in 2022.

ii. On the day of visit, both the distillation plants were found operational at total production capacity of 100 KLPD against the consented production capacity of 120 KLPD using B – heavy molasses as raw material.

iii. As informed by the unit representative, the unit has resumed its manufacturing operations from. 23/11/2023.

iv. The joint team collected/obtained the data for alcohol production certified by Excise Department for duration 23/11/2023 to 12/12/2023. Average production is mentioned in Table 1 below:

Table 1: Month wise Alcohol production

Month	**No. of operational Days**	**Alcohol Production (KL)**	**Alcohol Production (KLPD)**
Nov 2023	07	666.29	95.18
Dec, 2023	12	1224.92	102.07
Total operational days: 19 **Total Alcohol production: 1891.21 KL** **Average alcohol production: 99.53 KLPD**			

v. As per the data provided by unit for duration 23/11/2023 to 12/12/2023, the average production of alcohol is 99.53 KLPD against the permitted capacity of 120 KLPD using B – heavy molasses as raw material, which is in compliance with consent condition.

II. Groundwater abstraction and groundwater quality:

i. The Central Ground Water Authority (CGWA) granted No Objection Certificate (NOC) to the unit for groundwater abstraction from 01 no. of borewell, having validity upto 25/11/2024. As per the conditions of NOC, the unit can abstract groundwater at a maximum rate of 500 KL/day. (**Refer Annexure – 3**)

ii. On the day of the visit, the joint team observed that the unit has installed 01 Borewell within distillery premises and 01 Borewell in sugar premises.

iii. The joint team observed that to meet the fresh water requirement in distillery and sugar unit, the unit has made provisions for consuming freshwater from both the borewells whenever required.

iv. The unit has not installed flow meters at any of these two borewells, however the unit has installed flowmeters at freshwater consumption points in Distillery plant and Sugar plant.

v. Readings shown in flow meter during visit are mentioned in Table 2 below:

Table 2: Readings of flow meter installed at line carrying freshwater to distillery plant

Parameter	**Value**
Instantaneous flow rate (m^3/hr)	119.02
Totalizer (m^3)	240590.22

vi. The joint team obtained the logbooks for freshwater consumption in distillery plant for duration 23/11/2023 – 12/12/2023, the average fresh water consumption is shown in Table 3 below:

Table 3: Month wise groundwater/fresh water abstraction from Borewell located within premises of molasses based distillery plant

Month	**Total Fresh water Consumption (KL)**	**No. of days**	**Average fresh water consumption (KLD)**
Nov, 2023	1127	07	161
Dec, 2023	2071	12	172.59
Total fresh water consumption: 3198 KL **No. of days: 19**			

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Average fresh water consumption: 168.3 KLD
Specific fresh water consumption
= total freshwater consumption / total alcohol production
= 3198 KL / 1891.21 KL
= 1.69 KL/KL of alcohol

vii. Specific fresh water consumption by distillery plant is 1.69KL/KL of product. However, overall specific water requirement is 6KL/KL of product. As per the logbook data, the unit is reusing the condensate after CPU into molasses dilution hence, out of specific water requirement of 6KL/KL of product unit is using treated water @4.5KL/KL of product. Also, the CPU is processing the excess condensate from Sugar mill along with MEE condensate.

viii. As per the logbook provided for freshwater consumption, the unit has consumed groundwater @ 168.3 KL/day.

ix. Samples were collected from borewell and piezo well located within premises of distillery plant to assess the ground water quality. Analysis results of the ground water are mentioned in Table 4 below:

Table 4: Analysis results of groundwater samples collected from Borewell and Piezo well within premises of molasses based distillery plant

Parameters	Borewell	Piezo well	Handpump located outside the unit	BIS IS 10500:2012 (Permissible limit in absence of alternative source)
pH	7.9	7.5	7.5	**6.5-8.5**
Conductivity (µmho/cm)	485	505	857	**-**
TDS	264	254	456	**2000**
COD	BDL	**33**	**6**	**-**
Total Hardness	223	179	285	**600**
Chloride	15	42	48	**1000**
Phosphate	BDL	BDL	BDL	**-**
Fluoride	0.28	BDL	BDL	**1.5**
Colour (Hazen)	BDL	09	BDL	**15**
Sulphate	11	25	42	**400**
Nitrate	0.11	0.51	0.10	**45**
Total Alkalinity	414	207	416	**600**

Note: All values are in mg/l except pH, colour, and conductivity

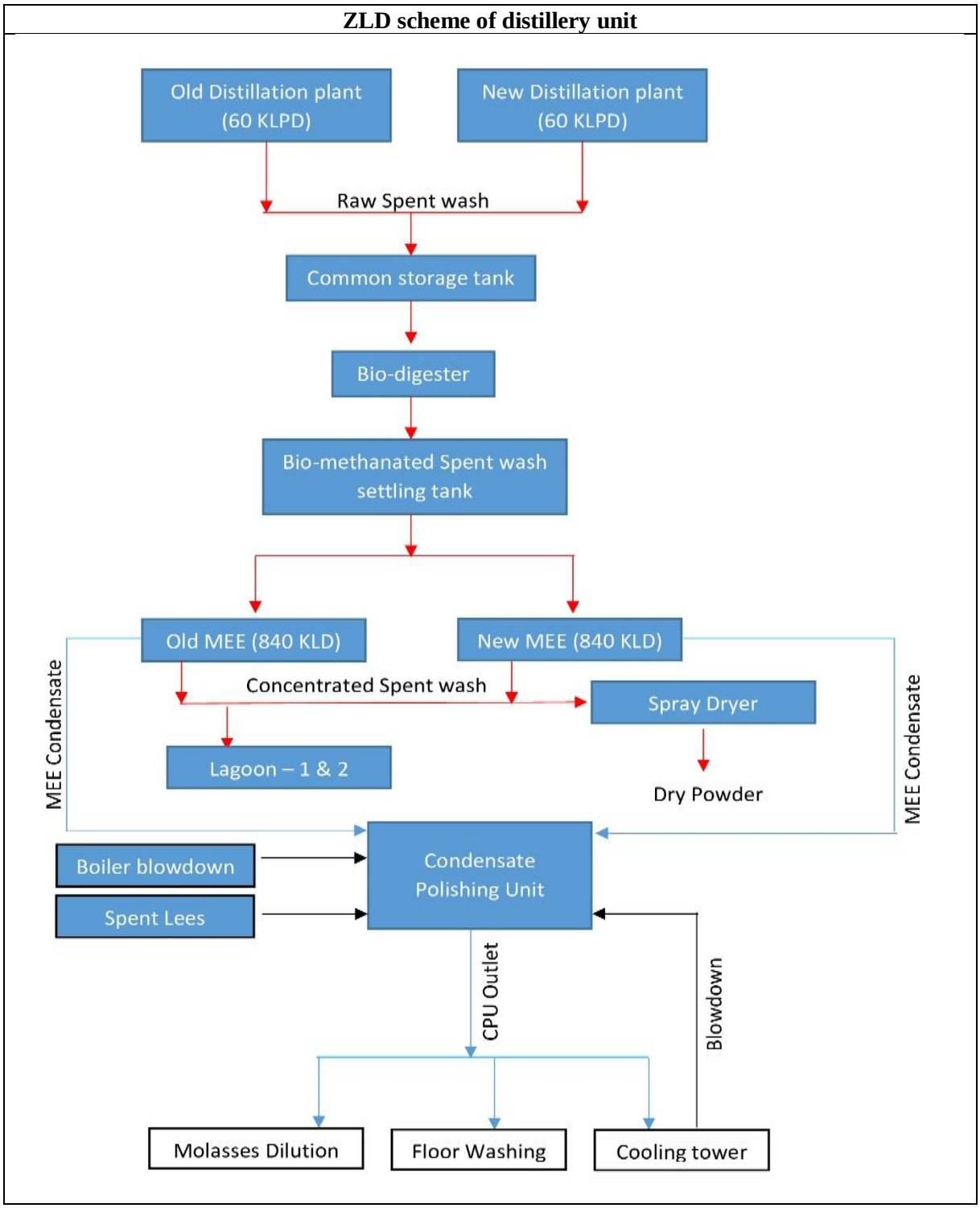
x. Analysis results of samples collected from Borewell and piezo well located within

molasses based distillery plant were found within the permissible limit as per BIS IS 10500:2012. However, **COD (33 mg/l)** was found in the sample collected from Piezo well near lagoon area of distillery.

xi. Analysis results of samples collected from handpump located outside of the unit shows COD- **6 mg/l.**

C. Verification of Zero Liquid Discharge (ZLD) as stipulated in Consolidated Consent and Authorization issued by UKPCB on 06/10/2023:

ZLD scheme of distillery unit



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I. Effluent management scheme of old and new distillation plant:

i. For management of spent wash, the unit is currently following below mentioned scheme:

Raw Spent Wash (old plant)→ Bio-methanation→Standalone MEE →lagoon→Bio composting

Raw Spent Wash (new plant)→ Bio-methanation→Integrated MEE→Standalone MEE→Dryer (Dry powder sold to M/s Peptech Bio-sciences Ltd, M/s Jaipur bio-fertilizers, & M/s CMC Organics)

ii. Details of spent wash management scheme are mentioned in Table 5 below:

Table 5: Details of spent wash management scheme

S.No.	Particulars	Nos.	Old Plant Size /capacity / feed rate	New Plant Size /capacity / feed rate
1.	IMEE (for new plant)	01	NA	3 falling film
2.	Bio-digesters	04	1000 m^3 (2 no.) & 7500 m^3 (in use) 7500 m^3 (standby)	
3.	Settling tank (for storage of BMSW)	01	1925 m^3 (common for both the plants)	
4.	Evaporator (6 stage)	01	4 falling film & 2 forced circulation	2 falling film & 2 forced circulation
5.	Capacity of MEE	01	840 m^3	840 m^3
6.	Lagoon for storage of concentrated spent wash	02	01 Lagoon of Capacity 1375 m^3 01 Lagoon of Capacity 1975 m^3 Total capacity = 3297 m^3	
7.	Status of lagoons	-	One lagoon of capacity 137 5m^3 found filled with approx. 800 m^3 of spent wash Another lagoon of capacity 1925m^3 was found filled with 5-10% of spent wash	
8.	Lagoon for storage of sugar water	01	3500 m^3	Used to store sugar treated water

iii. The raw spent wash generated from both the molasses based distillation plants is first subjected to bio-digesters of capacity 10000 m^3 (2 nos.) and 7500 m^3 for bio-methanation.

iv. Bio-methanated spent (BMSW) from all the bio-digesters is sent to a settling tank of capacity 1925 m^3. Bio-methanated spent wash is fed parallely into 02 nos. of Multi Effect Evaporator (MEE) of capacity 840 KLD each.

v. For concentration of bio-methanated spent wash, the unit has installed 02 Multi Effect Evaporator (MEE) of capacity 840 KLD each.

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vi. The concentrated spent wash generated from both the MEE is stored in lagoons of capacity 137m^3 & 1975 m^3 and then used in bio-composting as well as in spray dryers whereas condensate generated from MEEs is fed into Condensate Polishing Unit (CPU) of capacity 1050 KLD for further treatment.

vii. Both MEE and one dryer were found operational at the time of visit.

viii. The unit has installed mass flow meters with totalizer at inlet and outlet of both the MEE. All mass flow meters are connected to CPCB server.

ix. Reading of mass flow meters installed at different locations in distillery plant were also noted by the joint team during visit and are mentioned in Table 6 below:

Table 6: Reading of mass flow meters installed at different locations in distillery plant

S. No.	Location of flow meter	Instantaneous reading (kg/hr)	Totalizer reading (kg)
1.	Raw spent wash (old distillation plant)	27613	458902910
2.	Old MEE Inlet	15462.99	467906323.38
3.	Old MEE outlet	3997.89	153144017.4
4.	New MEE Inlet	15856.17	70134333.84
5.	New MEE outlet	4636.26	20911052.59

x. The joint team obtained the logbooks for raw spent wash generation for duration 24/11/2023 – 12/12/2023. Details of raw spent wash generation are mentioned in Table 7 below:

Table 7: Month wise raw spent wash generation and specific spent wash generation from molasses based distillery

Month	No. of Operational days	Total RawSpent wash generation (KL)	Avg. Raw Spentwash generation (KLD)
Nov, 2023	07	3826.27	546.61
Dec, 2023	12	7034.49	586.21
Total raw spent wash generation: 10860.76 KL **No. of days: 19** **Average raw spent wash generation: 571.62 KLD** **Specific raw spent wash generation** **= total raw spent wash generation / total alcohol production** **= 10860.76 KL / 1891.12 KL** **= 5.74 KL/KL of alcohol**			

xi. The joint team obtained the logbooks for feed to both MEE, concentrate and condensate generation for duration 24/11/2023 – 12/12/2023. Details of the same are mentioned in Table 8 below:

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Table 8: Month wise raw spent wash generation, feed to MEE, Condensate and concentrate generation from MEE

Month	Raw spentwash generation(MT)	Feed to MEE (MT)	Concentrated spent wash generation (MT)	Condensate generation (MT)
Nov, 2023	3982.92	3982.56	1201.33	2781.23
Dec 2023	7322.48	7045.24	2184.31	4860.93
Total	11305.40	11027.81	3385.65	7642.16

xii. The joint team in its previous inspection recommended to concentrate all the spent wash stored in lagoons through MEE before use in Bio-composting or spray dryer. On the day of the visit, the joint committee observed that the lagoon of capacity 1925m^3 was almost 90% empty and another lagoon of 1375m^3 capacity was approx. 50% empty.

xiii. As per the logbook regarding MEE operation verified by the committee through flowmeter readings, it has been observed that the unit has started operating its old MEE from 21st November 2023 (i.e. 03 before starting of manufacturing operations) and the data indicates that the unit has consumed 1676.75 MT of legacy spent wash from the lagoon.

xiv. The unit has installed two MEEs of capacity 840KL each i.e. total 1680 KL. As calculated, the specific spent wash generation rate is 5.74 KL/ KL of product, therefore at full production capacity of 120 KLPD, the unit will generate 688.8 KL/day of raw spent wash approximately. This indicates that the unit is having adequate MEE to handle the spent wash generated by the unit when operating at full capacity.

xv. The team collected samples of raw spent wash, feed to MEE, Bio-methanated spent wash, feed to dryer and spent wash consumed in bio-composting. The analysis results are mentioned below in Table 9:

Table 9: Analysis results of spent wash samples collected from unit

S.No.	Sample Location	pH	COD (mg/l)	BOD (mg/l)	TS (mg/l)	(% Total Solids)
1.	Raw spent wash (new plant)	4.6	132599	48000	112960	11.29
2.	Raw spent wash (old plant)	4.5	134602	59600	101788	10.17
3.	BMSW (settling tank)	5.1	144617	66000	173628	17.36
4.	MEE Concentrate (new plant)	5.3	443865	186000	376176	37.16
5.	MEE Concentrate (old plant)	5.2	477515	218667	392164	39.21
6.	Conc. Spent wash used in Bio-	5.4	459088	148667	467156	46.71

	Composting					
7.	Conc. Spent wash feed to dryer	5.7	460690	194667	402568	40.25

xvi. Analysis results of the samples collected the analyzer column of new and old plant from shows pH- 4.6, & 4.5, COD – 132599 mg/l, & 134602, BOD – 48000 mg/l & 59600, Total Solids 112960 mg/l & 101788mg/l respectively.

xvii. Analysis results of the samples collected from the settling tank contains BMSW shows pH- 5.1, & 4.9, COD – 144617 mg/l, BOD – 66000 mg/l, and Total Solid % is 17.36.

xviii. Analysis results of the samples collected the outlet of MEE from new and old plant shows pH- 5.3, & 5.2, COD – 443865 mg/l, & 477515, BOD – 186000 mg/l & 218667, Total Solid % 37.16 & 39.21 mg/l respectively.

xix. Analysis results of the samples collected the tank located at backside of bio-compost yard, which contains conc. spent wash and is used for bio-composting show pH- 5.4, COD – 459088mg/l, BOD – 148667 mg/l, Total Solid -46% respectively.

xx. Analysis results of the samples collected the feed to dryer show pH- 5.7, COD – 460690 mg/l, BOD – 194667 mg/l, Total Solid 40% respectively.

II. Condensate Polishing Unit (CPU)

i. For treatment of MEE condensate, and other low strength effluents, the unit has installed common Condensate Polishing Unit (CPU) of capacity 1050 KLD (for sugar and distillery unit). The treatment scheme of CPU is as below:

Inlet – Equalization tank → UASB reactor →Aeration tank → Secondary clarifier → Chemical dosing tank → Lamella clarifier → Dual Media filter → Activated Carbon Filter → Outlet to cooling tower makeup and for molasses dilution in fermenters.

ii. Samples were collected from the inlet and outlet of CPU and analysis results are shown below in Table 10:

Table 10: Analysis results of samples collected from CPU

S. No.	Sample Location	pH	COD (mg/l)	BOD (mg/l)	Sulphate (mg/l)	TDS (mg/l)
1.	CPU inlet	4.0	6117	3930	114	2456
2.	CPU outlet	7.8	128	42	38	1768

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iii. Analysis result of sample collected from the outlet of CPU shows pH- 7.8, COD – 128 mg/l, BOD – 42 mg/l, Sulphate-38 mg/l and Total Dissolved Solid – 1768 mg/l. The unit is using the CPU outlet as make up water for cooling tower and for molasses dilution in the process.

III. Lagoons:

i. For storage of concentrated spent wash, unit has 02 lagoons of capacity 1925 m^3, and 1372 m^3 (total capacity 3297 m^3).

ii. The joint team observed that out of these 02 lagoons, one lagoon of capacity 1925m^3 was found filled with approx. 10% of spent wash and another lagoon of capacity 1372 m^3 was found filled with approx. 50% spent wash.

iii. Also, a settling tank of capacity 1925m^3 was observed besides above mentioned two lagoons. The same is used for storing Bio-methanated spent (BMSW) from all the bio-digesters. The characteristics of the sample collected from this settling tank are tabulated in Table 9 above.

iv. The team also observed that the unit has two more lagoons of capacity 3500 m3 and 2800 m^3. Out of which one lagoon of capacity 2800 m^3 was found filled with mud/ boiler ash and the another lagoon of capacity 3500 m^3 was found filled with rain water. The unit claims that this lagoon is used to store treated effluent from ETP of sugar plant. Sample was collected from this lagoon and the details of the same are mentioned in the compliance report of sugar unit at section 2.1.2.

v. Samples were collected from the lagoons and analysis results are shown below in table 11:

Table 11: Analysis results of spent wash samples collected from lagoons

S. No.	Sample Location	pH	COD (mg/l)	BOD (mg/l)	TS (mg/l)	(% Total Solids)
1.	Lagoon-1	5.3	446268	216667	412960	41.29%
2.	Lagoon-2	4.9	377365	132500	363552	36.35%

vi. Analysis result of sample collected from lagoon-1 and lagoon-2 shows pH- 5.3, & 4.9, COD – 44628 mg/l, and 377365 mg/l, BOD – 216667 mg/l, and 412960 mg/l and Total Solid % of spent wash is 41.29 and 36.35% respectively.

vii. Analysis results indicate that the unit is storing conc. spent wash in lagoons-1 & lagoon -2. This indicates that unit is operating its and MEE properly.

IV. Dryer

i. To achieve Zero Liquid Discharge, the unit has installed two spray dryers of capacity 45 TPH each for both the distillation plants (60 KLD each), however only one dryer (old plant) was found operational on the day of visit.

ii. The feed rate of one dryer is 180TPD and of another is 230.4 TPD i.e. total feed rate is 410TPD. Average concentrated spent wash generation is 178.18TPD. Currently the unit was operating dryer having feed rate of 180TPD which is adequate to handle the current spent wash generation. However, the unit is having approx. 1000KL of legacy concentrated spent wash stored in lagoon 1 & 2 hence, to consume the concentrated spent wash generated from MEE and stored in lagoons unit shall operate its both dryers.

iii. The unit is making dry powder by using conc. spent wash, which is further sold to third party agencies i.e. M/s Peptech bio-sciences Ltd., M/s Jaipur bio-fertilizers and M/s CMS Organics etc.

iv. Unit is using bagasse and bio-gas as fuel for meeting energy requirements in Dryer.

v. The details of dryer are mentioned in Table 12 below:

Table 12: Details of dryer installed for spent wash management

S. No.	Equipment	Fuel used	Air Pollution Control Device (APCD)	Stack Height
1.	Spray dryer (45 TPD)	Bagasse	Wet scrubber	40 m
2.	Spray dryer (45 TPF)	Biogas		

vi. Unit has installed volumetric based flow meters at feed to both spray dryers and readings noted by joint team during visit are mentioned below in Table 13:

Table 13: Reading of flow meters at feed to both spray dryers

S. No.	Location of flow meter	Instantaneous reading (m^3/hr)	Totalizer reading (m^3)
1.	Feed to old dryer	3.5	47903
2.	Feed to new dryer	0.0	18758

vii. The joint team obtained the logbooks for concentrated spent wash feed to dryer and used in bio-composting for duration Nov. to Dec, 2023. Details of the same are mentioned in Table 14 below:

Table 14: Month wise conc. spent wash feed to dryer/ consumed in bio-composting

Month	Concentrated spent wash generation (MT)	Conc. Spent wash feed to dryer (MT)	Conc. Spent feed to lagoon (MT)	Conc. Spent wash send from lagoon to Bio-compost yard (MT)	Dry powder generation (MT)
Nov, 2023	1201.33	516.69	684.64	653	193.62
Dec 2023	2184.31	1739.95	444.37	262	683.62
Total	3385.65	2256.64	1129.01	915	877.24

V. Bio-composting

i. As per the consent, the unit is allowed to carry out bio-composting only up to December 2023, thereafter no fresh concentrated spent wash shall be disposed through bio-composting yard and spent wash shall be totally disposed through spray dryers.

ii. The joint team observed that the unit is having total 14.02 acres of Bio-composting area. Out of 14 acres, 4.28 acres of land is covered and the remaining 9.74 acres of land is open/uncovered where four cycles of bio-compost per annum can be carried out. The unit has extra 4 acre of area for storage of press mud.

iii. On the day of the visit no spray of concentrated spent wash in bio-compost yard was observed however, five windrows were observed. The unit representative has informed that windrows dressing and laying started from 18.11.2023 and consumption of press mud and spent wash started from 21.11.2023. As per the logbook data the concentrated spent wash from MEE outlet was sent to lagoon in Bio-compost yard till 7.12.23 thereafter, the entire spent wash is either being consumed in dryer. The unit has consumed total of 1260 MT of press mud in five windrows.

iv. Ready bio-compost was found stored in the covered shed. Bio-compost yard, leachate collection drain and pits were not observed around the periphery of bio-compost yard for leachate management. Leachate was found filled in the bio-compost yard.

v. A tank of capacity 300 KL was observed in the bio-compost yard which is used for storing concentrated spent wash for bio-composting purpose.

D. Green belt Area

I. The unit has developed green belt inside the unit premises, outside the unit's main

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gate, in the ETP area, outside the boundary wall of industry premises. The unit has provided the details of green belt area developed by them.

II. As per the documents provided by the unit regarding land and green area, the unit is having total 50 hectare of land, out of which 8-hectare is used as agricultural land area, 27 hectares is covered area and cane yard area and the remaining 15hectare land is used for green belt which is approximately 35.71% of total land area. As per the information provided, the unit has approx. 5000 nos. of big trees and approx. 18000 nos. of small trees inside the premises. The description of area along with the green belt developed is annexed at **Annexure-4**.

E. Other Observations:

I. As recommended by the committee in its previous inspection report regarding preparing adequacy and performance assessment report of ZLD scheme for molasses based distillery as unit has expanded its production capacity from 60 KLPD to 120 KLPD and has installed spray dryers as ZLD system. In this context, the unit submitted a letter dated 30/11/2023 to CPCB wherein the unit has requested NSI, Kanpur carry out the adequacy at the earliest. The unit has submitted a fees of Rs. One Lakh Twenty-Nine Thousand & Eight hundred to NSI.

II. As informed by the unit representative, the Laksar drain which is flowing within the industrial premises of M/s RBNS has made concreted drain upto a stretch of 1100 mtr.

III. The unit has installed dryer of capacity 45 TPH in both the plant to dry the concentrated spent wash into powder, hence installation of incineration boiler is not required.

IV. The unit has installed one CO_2 recovery plant of 24 Ton within the premises. The unit is recovering approx. 20 Ton of CO_2 daily. The recovered CO_2 is sold to third party.

V. The unit has separate Consolidated Consent & Authorization for bottling issued by UKPCB dated 06/10/2023 under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974, under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981and under Rule – 6 (2) of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 having validity upto 30/09/2024.

VI. The consent is granted for the production Country liquor (Dabang) 3000 Cases/day and IMFL 1000 Cases/day. This CCA is valid for bottling, formulation and Packaging process only.

F. Conclusion

I. The unit has obtained Consolidated Consent & Authorization issued by UKPCB dated

06/10/2023 under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974, under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981and under Rule – 6 (2) of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 having validity upto 31/03/2024.

II. The unit has obtained No Objection Certificate (NOC) for groundwater abstraction from Central Ground Water Authority (CGWA) for 01 no. of borewell, having validity up to 25/11/2024. As per the conditions of NOC, the unit can abstract groundwater at a maximum rate of 500 KL/day. As per the log book data the unit is abstracting 168 KLD of average fresh water from Borewell-1.

III. Analysis results of samples collected piezo well located within molasses based distillery plant shows **COD (33 mg/l)** in the sample collected from Piezowell, which indicates posing potential threat to ground water and need urgent attention towards improvement of housekeeping, prevention of seepage, spillage etc.

IV. Analysis results of samples collected from handpump located outside of the unit shows **COD- 6 mg/l**.

V. All the plant machineries were found operational on the day of inspection.

VI. Analysis result of sample collected from the outlet of CPU shows pH- 7.8, COD – 128 mg/l, BOD – 42 mg/l, Sulphate-38 mg/l and Total Dissolved Solid 1768 mg/l. This indicates that CPU treated water is not suitable to use in cooling tower makeup.

VII. Analysis result of sample collected from lagoon-1 and lagoon-2 indicates that the unit is storing conc. spent wash in lagoons-1 & lagoon -2 with 41.25% and 36.35% Total solids.

VIII. The feed rate of one dryer is 180TPD and of another is 230.4 TPD i.e total feed rate is 410TPD. Average concentrated spent wash generation is 178.18TPD. Currently the unit was operating dryer having feed rate of 180TPD which is adequate to handle the current spent wash generation. However, the unit is having approx. 1000KL of legacy concentrated spent wash stored in lagoon 1 & 2 hence, to consume the concentrated spent wash generated from MEE and stored in lagoons unit shall operate its both dryers.

IX. To achieve ZLD in distillery, the unit has installed dryers for making dry powder from conc. spent wash which is further provided to third party for potash granulation, hence installation of incineration boiler is not required.

X. The unit is having total 50 hectare of land, out of which 8-hectare is used as agricultural land area, 27 hectares is covered area and cane yard area and the remaining 15-hectare

land is used for green belt which is approximately 35.71% of total land area.

G. Recommendations

I. The unit shall install flow meters at the abstraction points on both the bore wells of sugar and distillery unit.

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

III. The unit shall consume the concentrate spent wash stored spent stored in lagoons of capacity 1925m3 and 1375 m3 in dryer in environmentally sound manner thereafter, unit shall dismantle all the 02 lagoons in compliance to the recommendations of the joint committee report dated 21/11/2023.

IV. After completion of the bio-composting cycle, the unit shall sell all the bio-compost and after that the unit shall clean the bio-compost area and shall submit photographic evidence to UKPCB.

2.1.2 Compliance report of M/s Rai Bahadur Narayan Singh Sugar Mills Ltd. (Sugar Unit), Laksar, Haridwar, Uttarakhand

A. GENERAL INFORMATION

1.	**Name of Contact person**	**Designation**	**Contact No. & E- mail**
	Mr. S.P. Singh	Unit Head	Contact No.-7830778880 E-mail- edprbns@yahoo.com
2.	**Spatial Co-ordinates** **Latitude and longitude (in Decimal format only)**	**Latitude:** 29.74451230 **Longitude:** 78.02722760	
3.	**Type of Sugar Mill**	**Integrated Complex (Sugar with Distillery Plant) with cogeneration**	
4.	**Co-generation capacity, MW**	30.0 MW/Hr. (12-13 MW surplus power supply to national grid))	
5.	**Type of Turbine (Condensing Turbine/Back Pressure Turbine)**	Back pressure turbine	
6.	**Capacity of Boilers & Numbers (kg/cm^2 steam pressure)**	Tot. 03 nos. (Capacity: 90 Tonne/Hr, 70 Tonne/Hr, 30 Tonne/Hr- used in off season) (operate on 67 kg/cm^2 steam pressure)	
7.	**Condensate Polishing Unit Adopted by the Sugar Mill**	Installed in attached distillery plant (Excess condensate after utilizing in sugar mill sent to CPU of distillery, which is being used in process in distillery plant)	
8.	**License capacity of sugar Mill (TCD)**	Cane crushing capacity- 10,000 TCD (Sugar Production- 30,000 MT per day)	

9.	**Average actual crush rate (TCD)**	6843.23 TCD- (including stoppages) (Sugar Production- 618.06 MT per day as per DMR dated 13th Dec, 2023)
10.	**Attached Distillery capacity, KLPD**	120 KLPD
11.	**Quantity of Juice/Syrup/BH diversion to distillery, MT/day**	B- Heavy Diversion (400 MT/day)
12.	**Consent status& its Validity with date** (Expired/Applied for renewal/First time applied/Never applied) Air Consent Water consent Hazardous Waste Authorization	Consolidated Consent to Operate (CTO) and Authorization valid up to 31/03/2024
13.	**NOC from CGWA & its Validity with date** (Expired/Applied for renewal/First time applied/Never applied)	Valid up to 28/12/2023 (CGWA)

B. OPERATIONAL STATUS

14.	**Start period of crushing season**	16/11/2023
15.	**No. of operational days at the time of inspection**	31 days
16.	**Operational status during visit (operational/ closed/ temporary closed/ permanent closed)**	Operational
17.	**Sources of fresh water**	
	a. Bore well/Tube well/ Any other & its No's	Bore well (01 nos.)
	b. Flow meter Installation at wells	Yes
	c. Reading of Flow Meter during visit	Flow (during visit): 50.378 m^3/hr. Totalizer: 938620.91 m^3
	d. Any Logbook maintained (Yes/No), if yes, attach.	Yes, enclosed
	e. Quantity of water withdrawal (KLD)	336.71 KLD- Average 388 KL- (Previous day)
18.	**Fresh water consumption (KLD)- Average**	
19.	i. Sugar plant: (Process plant) ii. machinery cooling make-up iii. Spray pond/PCT make-up iv. Any other, such as Cleaning and human requirements including lab requirements v. Co-generation/Boiler section: vi. Cooling tower make-up vii. Wet Scrubber make-up	336.71 KLD
20.	Total fresh water Consumption (KLD)	336.71 KLD
21.	Log book maintained (Yes/ No) If any, details to be collected	Yes
22.	**Specific water consumption, L/t of cane**	**49.20 L/t of cane**

23.	**Details of Hot & Cold-water recycling system (Yes/No.)**	**Number**	**Capacity**
	a. Details of Hot water UGR.	03	Hot water UGR No.1: ~800 m^3 Hot water UGR No.2: ~800 m^3 Hot water UGR No.3: ~350 m^3
	b. Cold water UGR	02	Cold water UGR N0.1: ~910 m^3 Cold water UGR N0.1: ~500 m^3
	c. Other UGR	02	ETP outlet UGR N0.1: 600 m^3 ETP outlet UGR N0.1: 115 m^3
24.	**Hot water**- Location of flow meter & its Installation **(Yes/No)-**	**Flow meter reading**	**Quantity of water (KLD)**
	1. Imbibition water at mills (Yes)	Flow: 116.5 m^3/hr Totalizer: 15341.5 m^3	1369.90 KLD
	2. Filter cake wash water at rotary vacuum filter (Yes/No)	Flow meter not approachable	300.23 KLD
	3. Sugar melting, pan boiling, molasses conditioning (Yes)	Flow: 00.00 m^3/hr Totalizer: 27153 m^3	319.23 KLD
	4. Wash water at Centrifugal (Yes)	Flow meter readings not visible	209.42 KLD
	5. Wet Scrubber make-up (No)	From blow down and excess condensate	
25.	Cold water -Location of flow meter & its Installation.	**Flow meter reading**	**Quantity of water (KLD)**
	Power turbine cooling	No flow meter installed	
	1. Mills, fibrizer bearing, pumps cooling	No flow meter installed	
	2. Cooling tower of co-generation make-up	No flow meter installed	
	3. SO_2 gas cooling (Yes)	Totalizer: 242811 m^3	195.55 KLD
	4. B and C massecuite cooling	No flow meter installed	
	5. Final molasses cooling	No flow meter installed	
26.	**Waste water (Influent) generation (KLD)**	**Flow meter reading**	**Quantity of water (KLD)**
	a. Process cooling tower /spray pond over flow (for double sulphitation) (SRS Outlet)	**ETP inlet flow meter:** Flow: 29.32 m^3/hr Totalizer: 28978 m^3	879.87 KLD
	b. Mills, boiling house, D.M./ R.O. Plant boilers etc.	**RO Outlet:** Flow: 29.68 m^3/hr Totalizer: 147671.2 m^3 **RO reject flow meter:** Flow: 13.3 m^3/hr Totalizer: 177270.632 m^3	1. RO (outlet) treated water→Ion Exchange Resin→DM Plant→Boiler steam (Log book not maintained) 2. RO reject→cold water UGR (Log book not maintained)
	c. Soda/Acid boiling water (Hazardous)	Not Applicable (no chemical cleaning of evaporator tubes take place)	
	d. Co-generation	No flow meter installed (Recycled water)	
	e. Brine solution reject after regeneration. (For refine sugar)	Not Applicable	

	f. IER wash water generation.	Not Applicable	
	g. Brine reject from brine recovery system	Not Applicable	
	h. Reject acid after regeneration of IER column.	Not Applicable	
	i. Common / total influent generation.	879.87 KLD (including SRS treated effluent)	
27.	**Waste water (Effluent) discharge, KLD**	865.97 KLD	
28.	**Specific effluent discharge, L/t of cane**	**126.54 L/t of cane**	
29.	**Treated effluent used from lagoon for irrigation, KLD**	Irrigation of treated effluent not observed	
30.	**Spray pond /PCT overflow**	**Flow meter reading**	**Quantity of water (KLD)**
	a. Flow meter Installation	No flow meter installed	
	b. Provision of separate spray pond overflow treatment (**Yes)**	**SRS inlet:** Flow: 19.2 m^3/hr Totalizer: 42586.078 m^3	207.55 KLD
31.	**Details of tube cleaning method adopted (chemical/ hydrojet/ any other appropriate method if any), provide details**	Hydrojet	
32.	**Availability of Hazardous tank to collect wash water generated during chemical/Mechanical cleaning of evaporator tubes. (Yes/No), if Yes give Details.**	Yes, Capacity: 75.84 m^3 (However, no generation of chemical wash due to the adoption of hydro-jet cleaning)	
33.	Condensate polishing system adopted by the factory (for boilers >45 kg/cm^2 steam pressure) (Yes/No)	Yes, however, CPU installed in distillery premise, which receives condensate from sugar plant and condensate used in molasses dilution, cooling tower make-up etc.	
34.	If yes, then provide the details of condensate polishing system		
35.	Quantity of excess condensate used as fresh water, KLD	No flow meter installed	
36.	**Construction of small pits with smooth inner surface with ceramic tiles in the centrifugal section. (Yes/No), give details**	RCC flooring and pits available	
37.	**Mixing arrangement in equalization tank**	No	
38.	**Type of aeration in aeration tank Diffused/ surface/ any other**	Surface aeration (06 nos. of surface aerators were found installed in aeration tank)	
39.	**Tertiary treatment (Yes/No), give Details**	Yes, Secondary treated effluent filtered through ACF, MGF followed by chlorination	
40.	**Schematic diagram of ETP (flow chart to be collected)**	ETP flow chart enclosed	
41.	**Rain water harvesting system**	Adoption of rain water harvesting system not	

	adopted	applicable	
42.	**Treatment Capacity of ETP (KLD)**	1000 KLD	
43.	**Treatment capacity of ETP (KLD)**	**Retention Time/Contact Time (Mentioned in CPCB charter)**	**As per Industry**
	1. Bar screen Chamber, LxWxH = ------m^3	30 minutes	NA
	2. Oil & grease tank, LxWxH = ------ m^3	45 minutes	37.5 minutes
	3. Equalization tank with aeration, LxWxH = ------m^3	6 hrs	10.2 hrs.
	4. Primary Clarifier, -----m dia. x --m ht=-------- m^3	5-6 hrs	9 hrs.
	5. Aeration tank- LxWxH = ------m^3	24-28 hrs	31 hrs.
	6. Secondary Clarifier- ---m dia. x ---m ht=--------- m^3	7-8 hrs	16.31 hrs.
	7. Sand/multi grade filter, ------m dia. x -----m ht Design basis: Surface loading rate- 12 m3/m2/Hr	-	13 minutes
	8. Activated carbon filter, -------m dia. x -----m ht Design basis: Surface loading rate- 12 m^3/m^2/Hr	-	13 minutes
	9. Sludge drying bed	-	-
	10. Centrifuge	No centrifuge installed	
	11. **Any further treatment after ETP**	No further treatment of effluent take place after ETP	
44.	**Brief processing details (flow chart)**	Sugar process manufacturing flow chart enclosed	
45.	**Number of Piezometric wells available in the unit premises**	Yes, 01 nos.	
46.	**Storage of treated Effluent**		
	a. No. & size of lagoons	01 nos. Size: 1289.90 m^3	
	b. Retention time	Approx. 8 Days	
	c. Lagoon type- permeable/impermeable	Impermeable	
47.	**Sludge Handling Process (Yes/No), gives details.**		
	a. Sludge Digestion Method	Not applicable	
	b. Sludge Drying Process	Sun drying	
	c. Final Disposal of Sludge	Utilized in own agriculture land	
	d. Whether mechanical sludge handling system installed	No (manual handling)	
48.	**Any Hazardous Substances (Yes/No), if yes, give details. (Quantity & way of Disposal)**	Yes, Used Oil as per Schedule-I (Category 5.1) Quantity: Log book not maintained. Disposal: Mixed with bagasse and used as	

		supporting fuel in boilers.
49.	**Manpower employed for ETP operation & maintenance.**	Environment Manager- 01 Lab Chemist- 02 Operator- 04 Helper- 04
50.	**Details of irrigation system & treated effluent used quantity**	
	1. Own land area for irrigation	Yes, ~23 hectare
	2. Farmer land area and their agreement.	Not available
	3. Net effluent generation left for Irrigation (KLD)	Log book not maintained (however it is approximately 9 KLD as per unit representative)
	4. Flow meter to measure amount of water used for irrigation.	Flow meter not installed
	5. Distance of land Area from the Unit (Km)	Land area attached with unit unit's boundary wall
	6. Total Available Area (Hectare)	~23 hectare
	7. Soil Texture of land (Sandy, Sandy loam, Loam, Clay loam, Clay)	Sandy loam
	Crop area under effluent application	Sugarcane and Wheat
	Cleaning mechanism at Mills and factory floor	Wet cleaning
51.	**Color coding of pipelines for water distribution network**	No
52.	**Mode of disposal (route to reach Ganga)**	As informed by the unit representative, treated effluent is being recycled and balance effluent and balance effluent discharge in to Laksar drain. Use of treated effluent in irrigation was not observed.
53.	Emission control system or Air Pollution Control Device (APCD) installed	Yes
	Name of installed Emission control system/APCD	Wet scrubber
	Stack height	60 meter
	Stack monitored	Yes
	SPM level mg/Nm³	Refer Table 16 and 17
	On-line emission (stack) monitoring system installed	Yes
54.	**Ash Details:**	
	Quantity of ash generated, MT/day	0.8 T/hr. x 24 hrs.= 19.2 TPD (As per unit representative)
	Method of disposal of Ash	160 T/hr.- Low lying area 80 T/hr.- Bio-composting
55.	**Sewage management section**	
	Quantity of sewage generated (KLD)	Unit has placed purchase order for the installation of 03 STP with MBBR design. **Specification:** Design parameter: flow-15 m^3/day, COD- 700 to 150 mg/l, BOD- 350 to 20 mg/l, pH- 6.5 to 7.5
	Quantity of treated sewage discharged	40 KLD

C. OBSERVATIONS

1. The unit is engaged in production of Sugar with consented capacity of 30,000 MT/day (10,000 TCD) using Sugarcane as raw material. On the day of inspection, unit was found operational & reportedly crushing @ 9000 TCD. The unit started its crushing season 2023-24 on November 16th, 2023.
2. As per Daily Manufacturing Reports (DMRs) provided by the unit, average cane crushing from 16/11/2023 to 13/12/2023 is found to be 6843.23 TCD (Sugar production 618.06 MTD), which is under the consented capacity of 10,000 TCD.
3. The unit has also provided RT-8(C) for the crushing season 2022-23, wherein 8,497 TCD of cane crushing was reported.
4. UPPCB issued Consolidated Consent to Operate and Authorization (CCA) under Section -25 of the "Water (Prevention & Control of Pollution) Act, 1974" and under Section -21 of the "Air (Prevention & Control of Pollution) Act, 1981" and Authorization under "Rule-6(2)" of the "Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" to the unit, which is granted up to 31/03/2024 (**Annexure-5**).
5. The CCA is valid for production of crushing, milling, juice heating, clarification, evaporation, sulphitation, crystallization, separation and drying process only.
6. No bypass of untreated or partially treated effluent was observed by the joint team during the inspection.
7. The unit has 30 MW cogeneration plant in which 18 MW is consumed in captive plant and surplus power i.e. 12 MW exported to national grid. The unit is having boilers with capacity of 90 TPH and 70 TPH facilitated with air pollution control device i.e. Wet Scrubber.

Table 15: Details of boilers.

S. No.	Air Pollution Source	Capacity of Boiler	Type of Fuel	Stack No.	Air Pollution Control System (APCS)	Stack Height
1.	Boiler-I	90 TPH	Agro Waste	Stack-I	Wet Scrubber	60 meter from ground level
2.	Boiler-II	70 TPH	Agro Waste	Stack-II	Wet Scrubber	60 meter from ground level

8. Bagasse (Agro Waste) is being used in boiler as fuel with waste oil and grease by the unit.

9. Stack monitoring of both the boilers (I & II) (both stack have-60 meter of height from ground level) and ambient air monitoring were carried out by the PCRI, B.H.E.L., Ranipur, Haridwar, Uttarakhand at the time of inspection.

Table 16: Analysis result of stack emission for Particulate Matter (PM)

S. No.	Boiler stack	Parameter	Unit	Result	Standards
1.	Stack-I (90 TPH)	Particulate Matter (PM)	mg/Nm^3	137	150.0
2.	Stack-II (70 TPH)			74	150

10. Monitoring result of both the stack for Particulate Matter (PM) shows value 137 mg/Nm^3 and 74 mg/Nm^3 against 150.0 mg/Nm^3 which are complying as per the notified standard mentioned in MoEF&CC Notification G.S.R. (E) dated 14th January, 2016.

Table 17: Analysis result of ambient air monitoring for Particulate Matter (PM).

S.No.	Location of Sampling	Parameter	Unit	Results	NAAQ Standards
	Near ETP	PM 10	$\mu g/m^3$	**118**	100
		PM 2.5		36	60
		SO_2		BDL	80
		NO_2		7	80
	Near guest house	PM 10		**127**	100
		PM 2.5		54	60
		SO_2		0.5	80
		NO_2		12	80

11. Analysis results of air samples collected from two locations i.e. near ETP and near guest house are complying for PM 2.5 (36 $\mu g/m^3$ & 54 $\mu g/m^3$), SO_2 (BDL & 0.5 $\mu g/m^3$), NO^2 (7 $\mu g/m^3$ & 12 $\mu g/m^3$) w.r.t. the National Ambient Air Quality Standards (NAAQS) PM 2.5-60 $\mu g/m^3$, SO_2- 80 $\mu g/m^3$ and NO2-80 $\mu g/m^3$ published vide Gazette Notification No. B-29016/20/90/PCI-L dated 18th November, 2009. **However, analysis results of samples for Particulate Matter (PM 10) at near ETP and near guest house shows 118 $\mu g/m^3$ and 127 $\mu g/m^3$ respectively, which are non-complying against NAAQ standard of 100 $\mu g/m^3$**.
12. The unit has installed Air Pre Heater (APH), which converts cold air to hot air used in boiler to air the fuel.
13. Ash generated (quantity-5774.45 MT- 10% of Bagasse as per DMR) and disposal details not provided from boiler and APH was observed to be dumped in the low lying areas within the mill premises.

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14. The joint team has observed that the unit has not maintained the proper record of ash disposal in low lying area.
15. During visit, fugitive emission of bagasse particles observed in and around the boiler and near bagasse storage area.
16. The unit has three DG sets of 625 KVA × 01 nos., 1010 KVA × 01 nos. & 320 KVA × 01 nos. with acoustic enclosure & proper stack height.
17. Used/waste oil is being mixed with bagasse and used as fuel in boiler by the unit. The unit has not maintained the record for the disposal of used oil.
18. The unit has provided the covered and RCC floor for hazardous waste storage viz. used oil drums and containers, however, hazardous waste generation & disposal display Board at the entry gate were not observed.
19. It was also observed that the unit has also provide covered/shaded structure to the storage of salt/caustic bags/lime, Sulphur, bacterial growth inhibitor, color reducer, enzyme etc.

Effluent Management:

20. The unit has ETP with treatment capacity of 1000 KLD for effluent treatment generated from sugar mill and separate Sulphate Removal System (SRS) (capacity-25 m^3/hr x24hrs=600 m3/day) for spray pond overflow treatment. Both the plant was found operational on the day of inspection.
21. The ETP is comprised of Bar screen → Oil skimmer → Equalization tank → pH correction tank (Lime dosing) →Primary Clarifier → Aeration tank → Secondary Clarifier → Multigrade Filter → Activated Carbon Filter.
22. Defunct condition of primary clarifier was observed by the joint team.
23. Flowmeter has installed at main inlet channel of ETP, wherein SRS treated effluent also added to ETP inlet. Flow meter has also installed at outlet of ETP to measure the treated effluent quantity. However, Flow at ETP inlet 29.26 m^3/hr (Totalizer-27844 m^3) and ETP outlet 37.79 m^3/hr (Totalizer-276018 Liter) were observed during visit.
24. The unit has installed Online Continuous Effluent Monitoring System (OCEMS). OCEMS reading w.r.t. flow- 29.26 m^3/hr, pH- 7.29, Temperature- 19.2 °C, COD- 61.5 mg/l, BOD- 14.5 mg/l and TSS- 10.88 mg/l were recorded during joint inspection. OCEMS is connected with CPCB and SPCB server.
25. The unit is complying w.r.t. final treated effluent discharge norms which is measured as 126.54 liter per ton of cane crushed against 200 L/T of cane crushed.

26. The team has collected effluent samples from mill ETP inlet & ETP outlet and various subunits of ETP and treated effluent storage lagoon. The analysis result is placed in Table below.

Table 18: Analysis results of samples, collected from, ETP inlet, outlet and various subunits of ETP and treated effluent storage lagoon.

Sample Analysis	Effluent flow rate (m^3/hr)	Sulphate	Color	SAR	pH	COD	BOD	TSS	TDS	Oil & Grease	MLSS/MLVSS
SRS Inlet	19.2	**188**	BDL	**-**	6.8	796	447	242	3864	-	-
SRS Outlet	No flow meter	**249**	BDL	**-**	9.7	719	391	308	3584	-	-
ETP Inlet	29.26	170	BDL	-	7.0	1002	446	184	3236	-	-
Equalization Tank	-	181	BDL		5.9	2283	1113	696	3352	-	-
Primary clarifier outlet	-	341	BDL	-	5.8	1721	643	174	3392	-	-
Aeration tank	-	-	-	-	-	-	-	-	-	-	2389/1480
Secondary clarifier outlet	-	99	BDL	-	7.6	118	39	48	4620	-	-
ETP Outlet	37.79	25	BDL	0.7	7.4	108	**33**	29	**3840**	**53**	-
OCEMS Reading during visit	37.79	-	-	-	7.29	61.5	14.5	10.88	-	-	-
Treated effluent storage lagoon	-	35	BDL	0.6	7.5	127	**46**	**32**	1732	-	-
Notified standards for land disposal	-	-			**5.5 to 8.5**	-	**100- on land/ 30-on surface body**	**100- on land/ 30-on surface body**	**2100**	**10**	-
NOTE: All *Parameters are in mg/l except pH, Color in Hazen.*											

27. The analysis of sample collected from aeration tank shows ration of MLVSS/MLSS 0.61, which need to be maintained as per the desired ratio of 0.70 to 0.80.
28. The analysis results of sample collected from the ETP outlet (pH- 7.4, COD- 108 mg/l, **BOD- 33 mg/l**, TSS- 29 mg/l, **TDS- 3840 mg/l**, **Oil & Grease- 53 mg/l**) indicates that the treated effluent from the ETP is not complying w.r.t. the notified standards for surface water discharge i.e. pH- 5.5-8.5, BOD- 30 mg/l, TSS- 30 mg/l, TDS- 2100 mg/l).
29. It was observed that the unit has facility to trap Oil & Grease, however, the location of oil and skimmer belt was not appropriate to collect the entire Oil & Grease content of the effluent.
30. Lime dosing and mixing system was not operating properly.

31. The unit has provided equalization tank in the ETP, however no arrangement for air mixing was provided.
32. It was observed that ETP outlet has 03 provisions: 1. To use treated effluent as makeup the spray pond loses, 2. To use treated effluent in irrigation, 3. To discharge the treated effluent in the drain. On the day of inspection, it was observed that the treated effluent was used in spray pond as makeup of loses.
33. It was observed that the treated effluent was being discharged into nearby Laksar Drain during visit.
34. The unit has not submitted the irrigation management plan.
35. The unit has setup environmental laboratory for the analysis of daily parameters.
36. The unit has 16 nos. of sludge drying bed having capacity of 680 m^3. ETP sludge is reported to be used as manure for horticulture within unit premises only. However, the unit has not maintained the sludge disposal record.
37. The unit is reportedly using the entire press mud/filter cake generated in its own distillery for making bio-compost with spent wash. However, press mud also provided to the brick kiln units to use as fuel if remains after bio-composting. The press mud generated (quantity-148.49 MT- 0.07% of total cane crushed up to 13th Dec., 2023).
38. The unit has installed one bore well (Lat. 29.747854, Long. 78.029738) to meet the requirement of fresh water. However, distillery unit also share the ground water from the same bore well as stated by the unit representative. As per log book records average ground water abstraction from bore well is measured as 336.71 KLD (permitted withdrawal 594 KLD), which is under the permitted quantity of ground water.
39. The unit has obtained No Objection Certificate (NOC) from Central Ground Water Authority for one bore well, which is valid up to 28/12/2023 (**Annexure-6**) and having permission to abstract 594 KLD or 77220 m^3/year as per NOC.
40. The unit has not installed flow meter at main bore well, only consumption point is facilitated with flow meter. This has not full filled the condition of CGWA, hence quantity of ground water abstraction is doubtful.
41. The unit has one piezometer well in the unit premises (latitude – 29.745695, Longitude – 78.032221, water level reading – 2.37 m).
42. As per the logbook provided for freshwater consumption, the unit has consumed groundwater @ 336.71 KL/day and specific fresh water consumption is measured as 49.20 Liter/Ton and of cane crushed.

43. Samples were collected from borewell, used for sugar mill to assess the ground water quality. Analysis results of the ground water are mentioned in Table below.

Table 19. Analysis results of groundwater samples collected from Borewell used for sugar manufacturing process.

Parameters	Borewell (Sugar Unit)	BIS IS 10500:2012 (Permissiblelimit in absence of alternative source)
pH	7.5	**6.5-8.5**
Conductivity (µmho/cm)	970	**-**
TDS	506	**2000**
COD	**12**	**-**
Total Hardness	454	**600**
Chloride	39	**1000**
Phosphate	BDL	**-**
Fluoride	BDL	**1.5**
Colour (Hazen)	BDL	**15**
Sulphate	60	**400**
Nitrate	0.07	**45**
Total Alkalinity	255	**600**
Note: All values are in mg/l except pH, colour, and conductivity		

44. Analysis results of samples collected from Borewell located in unit premise was found within the permissible limit as per BIS IS 10500:2012 except **COD (12 mg/l)** in the sample, which indicates posing potential threat to ground water and need urgent attention towards improvement of housekeeping, prevention of seepage, spillage etc.
45. The unit is having separate facility of Sulphate Recovery System (SRS) installed for treatment of spray pond overflow/cooling tower overflow. Flow meter was installed at inlet of SRS (19.2 m^3/hr, Totalizer-42586.078 m^3), however separate flow meter at outlet of SRS was not installed to estimate the treated effluent generation from SRS.
46. The SRS comprises of Collection tank → Reaction tank→ pH correction tank (Lime, Poly Electrolyte, Poly Aluminum Chloride) → Clarifier tank → Outlet to ETP inlet line (**Annexure-7**).
47. The team has collected sample from inlet and outlet of SRS for physico-chemical analysis. The analysis results of SRS outlet shows pH- 9.7, COD- 719 mg/l, BOD- 391 mg/l, TSS- 308 mg/l, TDS- 3584 mg/l, Sulphate- 249 mg/l.
48. Analysis results of sample collected from SRS outlet showing reduction of ~12.53% in BOD, ~9.68% in COD and ~7.25% in TDS. However, Sulphate was increased by 24.5%

from inlet to outlet, **which indicate inefficient operation and maintenance of SRS system**.

49. The unit has not yet prepared a comprehensive irrigation management plan validated by SPCB/Agricultural Universities for utilizing the treated effluent in irrigation as per notified treated irrigation protocol for sugar industries.
50. The unit has installed energy meter for ETP and the log book record of the energy consumption was found maintained by the unit.
51. The unit has 03 separate cooling tower, 01 for turbine cooling and 02 for condensate cooling.
52. The unit has installed RO system for treatment of ground water, which was used in boiler, having capacity of 35m^3/hr (35 m^3/hr x 24 hrs= 840 m^3/day).
53. As per the information provided by the unit representative, the RO reject is being transferred to cold water UGR and RO outlet/permeate to ion exchange resin column, which treated in DM plant and used in boiler for steam preparation.
54. Unit has submitted documents regarding purchase order for the installation of 03 nos. of STP based on MBBR technology.
55. The overall housekeeping of the sugar mill was found poor.
56. It was observed by the joint team that the no any safety equipment like helmet, mask in sugar packaging section etc. provided to the mill employees. Further, few iron platforms need repair and maintenance to avoid serious accidents. The unit has not submitted any periodic assessment of health and safety by the competent authority.
57. A leaked fresh water line/pipe in the mill was observed during the visit (Pic. - 20.)
58. The unit has provision to discharge treated effluent to lagoon and to Laksar drain via an open channel after tertiary treatment system.

D. Conclusion:

1. The unit has valid Consolidated Consent to Operate and Authorization (CCA) issued by the UPPCB.
2. Based on the DMRs, the average sugar production of the unit is under the consented capacity as per CCA.
3. The unit has two boilers with capacity of 90 TPH and 70 TPH facilitated with air pollution control device i.e. Wet Scrubber.
4. Monitoring result of both the stack for Particulate Matter (PM) shows **complying** results i.e. 137 mg/Nm^3 and 74 mg/Nm^3 as per the notified standard (against 150.0 mg/Nm^3) mentioned in MoEF&CC Notification G.S.R. (E) dated 14th January, 2016

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5. Ash generated from boiler and APH is being dumped in low lying area within the mill premises, however, concerned log books were not maintained.
6. Fugitive emission of bagasse particles observed in and around the boiler and near bagasse storage area.
7. Defunct condition of primary clarifier was observed by the joint team.
8. The unit is complying w.r.t. final treated effluent discharge norms which is measured as 126.54 liter per ton of cane crushed against 200 L/T of cane crushed.
9. The analysis results of sample collected from the ETP outlet (Sugar unit) (pH- 7.4, COD- 108 mg/l, **BOD- 33 mg/l**, TSS- 29 mg/l, **TDS- 3840 mg/l**, **Oil & Grease- 53 mg/l**) indicates that the treated effluent from the ETP is not complying w.r.t. the notified standards for surface water discharge i.e. pH- 5.5-8.5, BOD- 30 mg/l, TSS- 30 mg/l, TDS- 2100 mg/l).
10. The oil and skimmer belt was not placed at appropriate place to collect the entire Oil & Grease content of the coming effluent in the ETP.
11. Lime dosing and mixing system was not operating properly.
12. The ETP sludge is utilized as green manure for horticulture within unit premises only. However, the unit has not maintained the sludge disposal record.
13. Press mud is being used in horticulture purpose and also provided to the brick kiln unit to use as fuel. The concerned record for press mud generation from sugar mill has not maintained.
14. The unit has not installed flow meter at main bore well, only consumption point is facilitated with flow meter.
15. Analysis results of samples collected from Borewell located within Sugar Mill was found within the permissible limit as per BIS IS 10500:2012 except **COD (12 mg/l)** in the sample.
16. Analysis results of sample collected from SRS outlet (Sugar unit) showing increase in Sulphate content by 24.5% from inlet to outlet, which indicate **inefficient operation and maintenance of SRS system**.
17. The unit has not yet prepared a comprehensive irrigation management plan validated by SPCB/agricultural universities for utilizing the treated effluent in irrigation as per notified treated irrigation protocol for sugar industries.
18. Unit has submitted documents of purchase order for the installation of 03 nos. of STP based on MBBR technology.

19. No any safety equipment like helmet, mask in sugar packaging section etc. provided to the mill employees as well as, few iron platforms need repair and maintenance to avoid serious accidents.

E. Recommendations

1. The unit shall maintain the proper record of ash disposal in low lying area.
2. Unit must ensure regular water sprinkling in and around the boiler and near bagasse storage area of the unit to minimize the dust dispersion in the ambient environment.
3. The unit shall display board for Hazardous waste storage at the hazardous waste storage area.
4. The unit shall relocate the oil and skimmer belt at appropriate place to collect the entire Oil & Grease content of the effluent.
5. The unit shall install air mixing system in Equalization Tank for proper hominization of effluent.
6. The unit shall operate Primary Clarifier properly to avoid anaerobic condition in the tank.
7. The unit shall ensure proper functioning of lime dosing system.
8. The unit should get evaluation of its ETP for its performance from Expert Institute of Repute/Experts in the field.
9. The unit shall ensure to maintain the discharge norms as notified in the Gazette Notification G.S.R. 35(E) dated 14th January, 2016.
10. The unit shall calibrate its OCEMS regularly.
11. The unit shall install flowmeter at Borewell, SRS outlet and effluent generation point in the mill.
12. The unit shall install flow meters to quantify the excess condensate utilizing in distillery unit through CPU.
13. It is recommended that the unit shall prepare comprehensive irrigation management plan through reputed government institute/ university.
14. The unit shall maintain the proper record of sludge as well as press mud generation and disposal.
15. The unit shall ensure proper functioning of SRS unit, so that sulphate may be efficiently removed from the effluent.
16. The unit shall maintain Environment, Health & Safety protocols/rules/guidelines to avoid unwanted accidents and organized concerned periodic assessment by the competent authority.
17. The unit shall maintain water line/pipelines to avoid water leakages.

18. The unit shall maintain good housekeeping in the unit premises.
19. The unit shall maintain the record of used/waste oil properly.

2.2 Visit to nearby drain (Laksar):

To verify the allegation of the petitioner regarding the discharge of substantial portion of waste water/effluent in the nearby nala (Drain), the joint team collected the wastewater samples from upstream and downstream of Laksar drain which flows adjacent to the unit.

Characteristics of waste water samples collected from Laksar drain

In compliance to Hon'ble NGT order, the joint tram has collected samples of Laksar drain from 03 locations, which are as follows:

1. Laksar drain upstream of M/s R.B.N.S. Private Limited Haridwar
2. Laksar drain, downstream R.B.N.S. Private Limited Haridwar
3. Laksar drain near Akhoda Kalan village (1.68 Kms*), Downstream of Unit to before confluence with Hadwa drain

Wastewater samples from Laksar drain were collected from the above mentioned locations, which were submitted in the laboratory for analysis.

Table 20. Analysis results of samples collected from Laksar drain

S. no.	Sample Location	pH	NO_3	COD (mg/l)	BOD (mg/l)	TDS (mg/l)	TSS (mg/l)	SO_4^-
1.	Laksar drain upstream of M/s R.B.N.S. Private Limited Haridwar	7.4	0.5	112	35	1404	53	47
2.	Laksar drain, downstream R.B.N.S. Private Limited Haridwar	7.0	1.0	232	108	1804	60	98
3.	Laksar drain near Akhoda Kalan village (1.68 Kms*), Downstream of Unit to before confluence with Hadwa drain	5.4	0.7	**1638**	**626**	1808	158	88

Analysis result of sample collected from upstream of the Laksar drain shows pH- 7.4, COD – 112 mg/l, BOD – 35 mg/l, and Total Dissolved Solid-1404mg/l, Total suspended solids-53mg/l, SO_4^--47 mg/l and NO_3- 0.5 mg/l.

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Analysis result of sample collected from downstream of the Laksar drain shows pH- 7.0, COD – 232 mg/l, BOD – 108 mg/l, and Total Dissolved Solid-1804, Total suspended solids- 60 mg/l, SO_4^- - 98 mg/l and NO_3- 1.0 mg/l.

Analysis result of sample collected from downstream of the Laksar drain near Akhoda Kalan village shows pH- 5.4, COD – 1638 mg/l, BOD – 626 mg/l, Total Dissolved Solid-1808 and Total suspended solids- 158 mg/l SO_4^- - 88 mg/l and NO_3- 0.7 mg/l.

The above analysis results of the drain samples collected from upstream and downstream locations depict the following:

- The analysis result of sample collected from drain at U/s and D/s locations indicate the characteristics of domestic sewage.
- However, quality of Laksar drain near Akhoda Kalan village (1.68 Kms*) shows **Deteriorated condition** of drain, which indicate the possibility of effluent mixing with sewage in drain however, no bypass of industrial effluent (sugar/distillery) was observed from the unit during inspection.

3 Conclusion:

1. In compliance to Hon'ble NGT vide order dated 23/08/2023, in OA No. 530/2023 (Anuj Kumar Vs State of U.P. & Ors.), the joint team has carried out the inspection on 14-15.09.2023, which includes the following:

a) Interaction with complainant Md. Amjad in OA 495/2023 and Mr. Anuj Kumar in OA 530/2023
b) Interaction with project proponent of M/s RBNS Sugar & Distillery and Cavendish India Ltd.
c) Industrial inspection of M/s RBNS Sugar & Distillery, Laksar and M/s Cavendish India ltd, Laksar

Further, in continuation to the above order, a post monsoon visits by the joint team (committee) has conducted, wherein, a pollution source mapping study for the Rivers Banganga and Solani, as well as drains Laksar and Hadwa. on 11-12.10.2023, which includes the following:

a) Mapping and monitoring of River Banganga
b) Mapping and monitoring of River Solani
c) Mapping and monitoring of Laksar
d) Mapping and monitoring of Hadwa drain

The report of the Joint Committee was filed on 21.11.23 before Hon'ble Tribunal in compliance to orders dated 14.8.23. and 23.08.23.

2. In compliance to Hon'ble NGT vide order dated 22/11/2023,

a) The joint team has carried out the inspection on Sugar and Distillery unit on 13th -14th December, 2023, and the details are mentioned in section 2.1.1 and 2.1.2.

b) The Consent conditions of Sugar and Distillery units were verified and compliance status w.r.t. the CTO conditions are mentioned in the Section 2.1.1-A. and 2.1.2 –C.

3. In respect to the grievance made by the applicant/petitioner in O.A. No. 530 of 2023 following are submitted:

a) To achieve Zero Liquid Discharge (ZLD), the unit has installed Dryers, which is the part of ZLD system and the details of Dryers are mentioned in Section 2.1.1-C-IV.

b) As observed by the joint committee, the unit has constructed concreted drain up to a stretch of 1100 meter along the unit premise.

c) The unit has developed total 15 hectare of land as green belt (35.71%) within the complex, which is approximately 35.71% of total land area. The unit has approx. 5000 nos. of big trees and approx. 18000 nos. of small trees inside the premises.

4. Based on the analysis results, the quality of Laksar drain near Akhoda Kalan village (1.68 Kms*) shows **Deteriorated Condition**, therefore, the possibility of effluent mixing with sewage in drain cannot be ruled out. However, no bypass of industrial effluent (sugar/distillery) was observed from the unit during inspection.

5. Analysis results of air samples collected from two locations i.e. near ETP and near guest house (Sugar unit) are complying for PM 10 shows **118 µg/m^3** and **127 µg/m^3** respectively, which are **non-complying** against NAAQ standard of 100 µg/m^3.

6. The analysis results of sample collected from the ETP outlet (Sugar unit) (pH- 7.4, COD- 108 mg/l, **BOD- 33 mg/l**, TSS- 29 mg/l, **TDS- 3840 mg/l**, **Oil & Grease- 53 mg/l**) indicates that the treated effluent from the ETP is not complying w.r.t. the notified standards for surface water discharge i.e. pH- 5.5-8.5, BOD- 30 mg/l, TSS- 30 mg/l, TDS- 2100 mg/l).

7. Analysis results of sample collected from SRS outlet (Sugar unit) showing increase in Sulphate content by 24.5% from inlet to outlet, **which indicate inefficient operation and maintenance of SRS system**.

8. Analysis result of sample collected from lagoon-1 and lagoon-2 indicates that the unit is storing conc. spent wash in lagoons-1 & lagoon -2 with 41.25% and 36.35% Total solids.

9. To achieve ZLD in distillery, the unit has installed dryers for making dry powder from conc. spent wash which is further provided to third party for potash granulation, hence installation of incineration boiler shall not be required.

10. Analysis results of samples collected from Borewell (sugar unit), piezo well located within molasses based distillery plant and handpump located outside of the unit showed high value of COD in the range of 6 to 33 mg/l, which indicate posing potential threat to ground water and need urgent attention towards improvement of housekeeping, prevention of seepage, spillage etc.

11. Other sector specific conclusion and recommendations are mentioned in section 2.1.1 (Distillery) and section 2.1.2 (Sugar).

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F. Photographs taken during visit (Distillery Unit)

Photo 1: Entrance gate of unit

Photo 2: Lagoon filled with rain water

Photo 3: Piezo well with telemetry

Photo 4: Laksar drain adjacent to boundary wall of Lagoon - 2

Photo 5: Settling tank for bio-methanated spent wash

Photo 6: No wastewater in storm water drain near CPU

Photo 7: Feed to CPU

Photo 8: CPU inlet flow meter

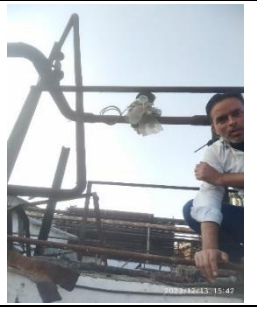

Photo 9: CPU outlet flow meter

Photo 10: UASB reactor in CPU

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Photo 11: Aeration tank in CPU

Photo 12: Secondary clarifier in CPU

Photo 13: Alum dosing and tube settler

Photo 14: Spray dryer and dry powder

Photo 15: Borewell in distillery plant

Photo 16: Spent wash storage in bio-compost yard

Photo 17: Damaged shed in bio-compost yard

Photo 18: No windrows in bio-composting

Photo 19: Laksar drain passing from the premises

Photo 20: Lagoon for storage of conc. spent wash

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Photo 21: Dryer	**Photo 22: Ready Dry powder from conc. spent wash**
	
Photo 23: Conc. spent wash stored in 300 KL tank for bio-composting	**Photo 24: Bio-composting yard**

F. Photographs taken during visit (Sugar Unit)

Pic.-01. Main gate of the sugar mill	**Pic.-02.Operational view of the sugar mill**
	
Pic.-03.Main inlet of ETP	**Pic.-04.Bar screen installed at main inlet channel**
	
Pic.-05.Oil & Grease tank	**Pic.-06.Lime dosing tank**

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Pic.-07.Equalization tank without air mixing arrangement

Pic.-08.Primary clarifier

Pic.-09.Aeration tank

Pic.-10.Secondary clarifier

Pic.-11.MGF and ACF

Pic.-12.Lagoon

Pic.-13.Sludge drying bed

Pic.-14.Spray pond overflow treatment unit

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Pic.-15.SRS outlet discharge to ETP inlet channel	**Pic.-16.Flow meter at main inlet channel of ETP**
	
Pic.-17.Flow meter at inlet of SRS	**Pic.-18.Imbibition water flow meter**
	
Pic.-19.Flow meter at centrifugal wash water	**Pic.-20.Leakages in fresh water pipeline**
	
Pic.-21.Sugarcane unloading area	**Pic.-22.Clear juice heater on computer system**

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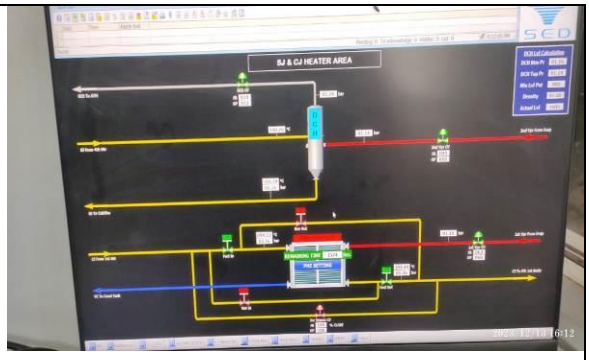
Pic.-23.PAN station



Pic.-24.Press mud conveyer belt

Pic.-25.Rotary vacuum filter

Pic.-26.Sugar bagging section

Pic.-27.Poly/Alum storage area

Pic.-28.Lime storage area

Pic.-29.Storage area for waste metal and O&G

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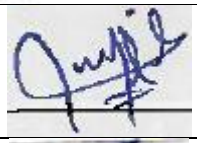
4 Joint Inspection Team:

Name of the inspecting officers	Designation	Signature
Mr. Gopal Singh Chauhan	**Sub Divisional Magistrate (SDM),** Laksar	
Dr. Krishnendu Mondal	**Scientist-D,** Regional Office, Ministry of Environment, Forest and Climate Change, Dehradun	
Mrs. Reena Satavan,	**Scientist-E,** Central Pollution Control Board, Delhi	
Dr.Ishaq Ahmad	**Scientist-C,** National Mission for Clean Ganga, Delhi	
Mr. S.P. Singh	**Regional Officer, Roorkee,** UKPCB, Uttarakhand	

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Annexure-1

Item Nos. 08 & 09 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 530/2023

Anuj Kumar Applicant

Versus

State of Uttarakhand & Ors. Respondent(s)

WITH

Original Application No. 495/2023

Mohd. Amjad & Anr. Applicant(s)

Versus

State of Uttarakhand & Ors. Respondent(s)

Date of hearing: 22.11.2023

CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Applicant: Mr. Prakash Pandey, Adv. for Applicant in OA 530/2023 (Through VC)
Mr. Rahul Khurana, Mr. Hasil Jain & Mr. Shaiem Hasan, Advs. for Applicant in OA 495/2023

Respondent: Mr. Mukesh Verma, Adv. for UKPCB in OA 530/2023 (Through VC)
Mr. Vikrant Pachnanda, Adv. for MoEF & CC in OA 530/2023
Mr. Pradeep Misra & Mr. Daleep Dhyani, Advs. for UPPCB in OA 495/2023 (Through VC)
Mr. Manish Jain & Mr. Vikash Kumar Verma, Advs. for R - 7 & 8 in OA 495/2023
Mr. Saurabh Balwani, Adv. for CPCB in OA 495/2023 (Through VC)

ORDER

1. The grievance raised in the Original Application No. 495/2023 is in respect of severe water pollution at Shukratal Ganga Ghat in Muzaffarnagar, Uttar Pradesh. In the connected Original Application No. 530/2023, the grievance is in respect of non-compliance of the environmental norms by respondent no. 7, M/s Rai Bahadur Narayan Singh Sugar Mills Limited. The Tribunal by order dated 14.08.2023

passed in O.A. No. 495/2023 had constituted a joint Committee and had also specified the action to be taken by the joint Committee by making the CPCB as nodal agency for coordination and compliance and by issuing the following directions:-

> *"4. In view of the averments made in the application, we consider it appropriate that a Joint Committee be constituted to verify the factual position. Accordingly, we constitute a Joint Committee comprising of Central Pollution Control Board (CPCB), Regional Office, Ministry of Environment, Forest and Climate Change (MoEF&CC), National Mission for Clean Ganga (NMCG), Uttarakhand Environment Protection and Pollution Control Board (UEPPCB), Uttar Pradesh Pollution Control Board (UPPCB) and District Magistrates (DMs) of Haridwar and Muzaffarnagar and direct the same to meet within one week, undertake visits to the site, look into the grievances of the applicant, associate the applicant and representatives of the concerned project proponents, verify the factual position which shall include (i) details of industries located in Laksar Industrial area and Muzaffarnagar Industrial area which are discharging effluents in the drain connecting to the River Banganga; (ii) details of industries which are functioning without consent/EC; (iii) functioning of STP/ETP and other waste water treatment mechanism and (iv) mechanism for utilization of waste water for agriculture and other land use purposes rather than discharging in the drain and take appropriate remedial action by following due course of law and giving opportunity of being heard to the concerned project proponents. The CPCB will be the nodal agency for coordination and compliance."*

2. In terms of the direction of the Tribunal, the joint Committee has filed the report on 21.11.2023. A perusal of the report of the joint Committee reveals that on the day of inspection, M/s Rai Bahadur Narayan Singh Sugar Mills Limited (Sugar and Distillery) were found to be non-operational on account of the monsoon season and the report mentions that they will resume operation after the rainy season. It has been pointed out that the concerned units have now resumed their operation and are now functional. Hence, the joint Committee is required to carry out the inspection of the Sugar and Distillery Units of M/s Rai Bahadur Narayan Singh Sugar Mills Limited and ascertain the position in respect of the set up and compliance of the environmental norms and conditions of CTO by these units and submit a fresh report.

3. Even in respect of the inspection done during the non-operational period of the units, certain recommendations has been made by the joint Committee for these units. Therefore, the units are expected to comply with the said recommendations unless they have any objection in this regard. The Counsel for respondent nos. 7 and 8 have sought time to file objection to the said report and hence the objection, if any, be filed within four weeks.

4. The Committee has carried out post-monsoon drain and river monitoring by visiting the site on October 11-12,2023 and the report of the Committee in this regard starts from paragraph 2.3 in respect of river Banganga. The entire length of river has been divided in three stretches. In respect of stretch one, the Origin to d/s of Sultanpur, the finding of the Committee is as under:-

> *"In this stretch, intermittent flow observed in the river. No source of fresh water draining into River Banganga was observed during this stretch including at origin. River receive discharge from runoff rain water, untreated sewage from Sultanpur drain and villages in the catchment area such as Mahtauli, Tanda, Mubarakpur, Chamrawal, Nehandpur Suthari and Muzaffarpur Gujra Jadeed. No water sample was collected."*

This clearly reflects that the river receives discharge from untreated sewage from Sultanpur drain and villages in the catchment area.

5. Similarly, in respect of river Solani, the entire length is divided in three stretches and in respect of stretch II, the finding is as under:-

> *"In this stretch, river receive major flow from discharge of 9 domestic drains (near Sultanpur) from Roorkee city, discharge of treated sewage from 33 MLD STP Roorkee along with one tributary namely Ratmau river which also originate from foothills of Shivalik range of Himalayas near Dehradun. Three river samples including one from Ratmau river were collected to analyze the status of river water quality in this stretch. Analysis results of Ratmau river water sample shows pH-8.1, DO-6 mg/l, BOD-1.17 mg/l, COD-9 mg/l, TSS-70 mg/l and TDS-204 mg/l. Values of Bio-chemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) in Solani river*

water samples are found in the range from BDL-7 mg/L and 7-29 mg/L, respectively indicating moderate organic load of polluting sources. Value of dissolve oxygen found in the range of 6-6.2 mg/l. However, the overall water quality observed in this stretch has characteristics of moderate pollution which may be attributed to the discharge of treated sewage from STP & untreated sewage of Roorkee via drains. Water quality of river Solani after confluence of river Ratmau was meeting primary water quality criteria for bathing w.r.t. pH (8.1), DO (6.2 mg/l) and BOD (BDL)."

6. While considering the monitoring of 33 MLD Saliyar STP- Roorkee, the Committee has found that the STP operating agency has not obtained CCA from UKPCB and the Committee has sought compliance of following directions from the STP operating agency:-

"STP operating agency shall be directed to comply the following:

a. *Augmentation of sewage network in STP catchment area to ensure optimum utilization of design capacity of STP.*
b. *Install OCEMS and provide its connectivity with CPCB/SPCB server.*
c. *Ensure consistent compliance with the discharge norms prescribed under Hon'ble NGT order dated 30.04.2019 in O.A. No. 1069/2018.*
d. *Optimize disinfection system as per feed flow condition.*
e. *STP shall obtain valid CCA from UKPCB."*

7. The sample analysis by the Committee in respect of the compliance of norms by the STP is as under:-

"j. Grab samples were collected from the inlet, outlet and SBR basin during the visit. Analysis results of samples collected from STP outlet indicate that STP is complying for w.r.t discharge norms prescribed under Hon'ble NGT order dated 30.04.2019 in O.A. No. 1069/2018 except ***total phosphorus-2.7 mg/l (against norm of 1 mg/l) and fecal coliform-14×10⁴ MPN/100 ml (against norm of <230 MPN/100 ml)."***

8. The above analysis clearly indicates that the STP is not functioning as the fecal coliform contents are very high.

9. In respect of pollution source mapping of Laksar drain, the Committee has found that untreated sewage of Laskar town is flowing

along with the storm water in the drain and the conclusion of the Committee in this regard is as under:-

> *"The Laksar drain originates from Laksar town in Uttarakhand and carries storm water along with the untreated sewage of Laksar town. From origin to confluence with River Banganga, Laksar drain carry untreated sewage of several villages in the catchment. The drain traverses a distance of approximately 20.37 kilometers before confluence with River Banganga near Idrishpur village in Uttarakhand. The monitoring team interacted with the residents of the villages in the catchment of the drain. The villagers informed that polluted water in Laksar drain is observed when the unit is in operation."*

10. The Committee has divided the entire length of the Laksar drain in three stretches and while considering the stretch one, the Committee has found that the solid waste was dumped along with the drain and the observation of the Committee in this regard is as under:-

> *"Further, at approximately 0.34 kilometers downstream, wastewater sampling was done from the Laksar drain at upstream of unit. Flow in the drain near lagoons was measured as 3.6 MLD. Municipal solid waste was dumped along the drain (**Figure-29**). Wastewater characteristics (BOD-14 mg/L and COD-76 mg/L) indicated that the drain carry sewage only."*

11. In respect of stretch II of the drain, the Committee has reached the following conclusion which clearly reflects the discharge of untreated water into the drain:-

> *"The Laksar drain passes through the industry premises via an open channel. The industry has installed five lagoons, of which three were used for storing spent wash, one was used for storing treated effluent while one was not in use. The drain flow adjacent to these lagoons, and damage to the lagoon walls at various locations indicated the possibility of episodic discharge of untreated wastewater into Laksar drain (**Figure-30**). Further, the Laksar drain passes adjacent to the ETP of Sugar plant with no defined boundary between the unit's ETP and Laksar drain which further indicates the possibility of discharge of untreated/partially treated effluent into the Laksar drain."*

12. In respect of pollution source mapping of Hadwa drain, the Committee in paragraph 2.3.3 has found that increased flow in Hadwa

drain was due to discharge of untreated sewage from nearby villages in the catchment such as Majri, Kheri Mubarakpur and Maheshwara.

13. The conclusion of the Committee in respect of the river Banganga and river Solani are as under:-

"3. Conclusions

1. Joint committee comprising of officials from CPCB, MoEF&CC, NMCG, UPPCB, UKPCB, and district administrations of Haridwar and Muzaffarnagar convened meeting and site visits in compliance to Hon'ble NGT orders dated 14.8.23 & 23.8.23 in OA No 495/2023 & 530/2023.

2. Details of the site visit undertaken by committee are mentioned in Para 2.2.

3. In compliance to Hon'ble NGT orders mentioned above the committee interacted with both applicants and same are mentioned in Para 2.2.2.2 & 2.2.2.5.

4. The committee verified the factual status w.r.t. industries located in Laksar & Muzaffarnagar areas and same are mentioned in Para 2.2 & 2.3.

5. Also, committee carrried out mapping and monitoring of River Banganga, its tributary (River Solani) and Laksar drain & its first order drain (Hadwada drain). The conclusion on water quality of rivers are mentioned in below point 6 onwards.

6. ***River Banganga:***

i. River Banganga originates near Mahtauli village in Roorkee district, Uttarakhand after receiving untreated sewage from villages such as Mahtauli, Tanda, Mubarakpur, Chamrawal, Nehandpur Suthari and Muzaffarpur Gujra Jadeed and confluences with river Ganga near Haiderpur wetland near Bijnor Ganga Barrage in Uttar Pradesh.

ii. River Banganga lacks freshwater source from its origin till downstream of Sultanpur town in Uttarakhand. River Banganga receive freshwater from Pathri river and, after confluence of Pathri river, water quality of river Banganga was meeting primary water quality criteria for bathing w.r.t. pH, BOD and FC.

iii. Near Idrishpur village in Roorkee district, Uttarakhand, Laksar drain confluences with river Banganga. No industrial pollution in Laksar drain was observed however during visit, the industries in the catchment of Laksar drain i.e., M/s R.B.N.S. Pvt. Ltd. (Sugar & Distillery) were found non-operational.

iv. Fishes were observed in Laksar drain after confluence of Hadwa drain till its confluence with river Banganga. Water quality of river Banganga improved after confluence of Laksar

drain and was meeting primary water quality criteria for bathing w.r.t. pH, DO, BOD and FC.

v. *At approximately 1.3 Kms upstream of Shukratal Ghat in Muzaffarnagar district, river Solani meets with Banganga and water quality of river Banganga was meeting primary water quality criteria for bathing w.r.t. pH, DO, BOD and FC.*

7. River Solani:

i. *River Solani originates from the Himalayan foothills, near Dehradun and runs along an approximate length of 145 km through Biharigarh, Bhagwanpur, Roorkee, Laksar city/towns before falling into River Banganga at upstream of Shukratal in Muzaffarnagar.*

ii. *River Solani receive flow from rain along with discharge of untreated sewage from nearby villages namely Kishanpur, Hasanpur etc and treated sewage of 33 MLD STP Roorkee. Moderate pollution in river was observed from origin to upstream of Laksar town. The STP was found complying w.r.t discharge norms prescribed under Hon'ble NGT order dated 30.04.2019 in O.A. No. 1069/2018 except Total phosphorus (2.7 mg/L against norm of 1 mg/l) and Faecal coliform (14 x 10^4 MPN/ 100 ml against norm of <230 MPN/100 ml).*

iii. *The water quality of river Solani before confluence with river Banganga was meeting primary water quality criteria for bathing w.r.t. pH, DO, BOD and FC.*

iv. *Water quality of River Banganga after confluence of River Solani at Shukratal Ghat, Muzaffarnagar was meeting primary water quality criteria for bathing w.r.t. pH, DO, BOD and FC.*

8. Due to non-operation of M/s RBNS Sugar & Distillery the industrial impact on Laksar drain couldn't be assesed. Analysis results of the samples collected from Laksar drain doesn't indicates any industrial pollution impact and after confluence with Hadwada drain fishes were observed in it till its confluence to Banganga river. However, industrial units namely M/s RBNS Sugar & Distillery units have potential to pollute Laksar drain. Similarly, M/s Cavendish India ltd. has potential to pollute the Hadwa drain which ultimately meets Laksar drain.

9. The recommendations of the committee w.r.t. Sugar unit, Distillery unit, M/s Cavendish India Ltd and STP as mentioned in respective sections may be implemented under supervision of UKPCB.

10. In view of colour in the groundwater sample collected from the handpump near the bio-compost yard of the distillery complex, it is recommended that UKPCB shall carry out detailed assessment of groundwater quality including ground water sampling & analysis in and around the unit to ascertain the groundwater contamination, if any, and need for remediation. Depending on such study, detailed remedial action plan be also prepared and executed by UKPCB in time bound manner."

14. Paragraph 10 of the report reveals that the assessment of ground water quality including the ground water sampling analysis in and around the unit is still to be done.

15. Hence, we direct that adequate immediate remedial action will be taken by the concerned authorities to cure the anomalies and violations which have been found in the report.

16. While considering the report, certain clarifications were sought from the Counsel for the UKPCB as also Counsel for CPCB, which they have failed to clarify by submitting that they do not have instruction in the matter since the report was submitted yesterday late at night.

17. In view of above, we direct that the Secretary, UKPCB as also Secretary, CPCB will remain personally present before the Tribunal by virtual mode on the next date to apprise the Tribunal about the correct factual position as also the details of contents of the report.

18. The fresh report in terms of the directions of the Tribunal dated 23.08.2023 be submitted by the joint Committee after carrying out the inspection of M/s Rai Bahadur Narayan Singh Sugar Mills Limited (Distillery and Sugar Unit). Let the report be submitted within six weeks. A copy thereof be duly supplied at the time of filing of report to the Counsel for the respondent nos. 7 and 8 in OA No. 495/2023. Objection, if any, to the report will be filed by the concerned respondents within two weeks thereafter.

19. List this matter on 31.01.2024.

Prakash Shrivastava, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

November 22, 2023
Original Application No. 530/2023
& Original Application No. 495/2023
SN

HEAD OFFICE
Uttarakhand Pollution Control Board
"Gauradevi Paryavaran Bhawan"
46B, IT Park, Sahastradhara Road, Dehradun
E-mail : msukpcb@yahoo.com, Phone No.-0135-2607092

Annexure-2

Letter No.: UKPCB/HO/Con-U-2/2023/920

Date: 06 .10.2023

REGD. POST

To,

M/S Rai Bahadur Narayan Singh Sugar Mills Ltd.,
(Distillery Unit)
Laksar, Distt. Haridwar
(Uttarakhand)

Subject: **Consolidated Consent to Operate and Authorisation hereinafter referred to as the CCA (Consolidated Consent & Authorization) Renewal under Section- 25 of the "Water (Prevention & Control of Pollution) Act., 1974"and under Section- 21 of the "Air (Prevention & Control of Pollution) Act, 1981"and Authorization under "Rule -6(2)"of the "Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016"notified under "Environment (Protection) Act, 1986"as applicable (to be referred hereinafter as Water Act, Air Act and HW Rules respectively).**

CAF ID: 9158	**Application No.** 2775076
CCA (Renewal)	**Date:-** 13.03.2023

Consolidated Consent and Authorization (CCA):

CCA is hereby granted to **M/S Rai Bahadur Narayan Singh Sugar Mills Ltd. (Distillery Unit)** located at Laksar, Distt. Haridwar (Uttarakhand) subject to the provisions of the **Water (Prevention and Control of Pollution) Act, 1974;** the **Air (Prevention and Control of Pollution) Act, 1981** and the **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** and the orders that may be made further and subject to following terms and conditions:

1. This CCA is granted for the period up to 31.03.2024, under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974, as amended.
2. This CCA is granted for the period up to 31.03.2024, under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981, as amended.
3. This CCA is granted for the period of 31.03.2024, under the Hazardous and Other Waste (Management & transboundary Movement) Rules, 2016 as amended.

4. **Production Capacity:**

S. No.	Declared by the industry		Permitted by Board	
	Raw Material/ Feedstock	Finished Product (KLD)	Raw Material/ Feedstock (M^3/Day)	Finished Product (KLD)
I.	C-Heavy/ B-Heavy Molasses- 372 M^3/Day	Ethanol/ENA/RS-60 KLD & Ethanol-60 KLD	C-Heavy/ B-Heavy Molasses- 372 M^3/Day	Ethanol/ENA/RS-60 KLD & Ethanol-60 KLD

5. Production Process Infrastructure:

	Declared by the unit				Permitted by the Board
S.no.	**Number of fermenters**	**Capacity of fermenters (M^3)**	**Type of fermentation technology adopted**	**Type of Distillation**	
1.	07	6.5	Feed Batch	Molasses based	As declared by Unit.

Molasses storage infrastructures:

Declared by the unit			Permitted by SPCB
Capacity	**No. of tanks**	**No. of lined pits***	
6000 Qtl. & 85000 Qtl.	02 Nos.	NA	6000 Qtl. & 85000 Qtl. (02 Nos.)

*The unit shall not store molasses in *Kaccha*/ unlined pits.

6. Water Conservation:

A. Fresh water Consumption

i. The unit shall obtain permission / NOC from State or Central Ground Water Authority for Groundwater abstraction and shall comply with the conditions mentioned in the NOC.

ii. Industry shall install separate sealed, calibrated Electro Magnetic Flow meters with flow totalizer at all water abstraction sources, utilization lines- process, domestic and boiler.

iii. The industry shall maintain duly signed logbook of fresh water consumption and utilization.

iv. The specific water consumption shall not exceed values mentioned below as per consented product type.

Category	Specific Water Consumption not to exceed
B-heavy / C-Heavy	8-10KL/KL of product
Cane syrup/ sugar cane juice	6-8KL/KL of product

	Declared by the Industry	Permitted by NOC issued by CGWA	CGWA conditions
No. of bore wells	01	01	To be complied.
Daily quantity of water to be abstracted (KLD)	200 KLD	500 KLD	

B. Effluent generation, treatment and disposal:

i. The quantity of maximum specific effluent generation shall be as specified below:

Category	Specific spent wash generation, not to exceed
B-heavy / C-Heavy	6-8KL/KL of product
Cane syrup/ sugar cane juice	4-6KL/KL of product

ii. The quantity of maximum daily effluent generation & discharge should not be more than the following:

S.No.	Kind of Effluent	Maximum daily generation	Maximum daily discharge, (KLD)	Treatment Facility and Discharge point

1	Domestic	15 KLD		Septic Tank & Soak Pits.
2	Industrial (Spent wash)	720 M^3/Day	Zero Liquid Discharge (ZLD) (Through MEE & Spray Dryers).	

iii. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. It should be ensured that domestic effluent should not be discharged in the storm water drain.

iv. The domestic effluent should be treated in sewage treatment plant (STP) and it should be in conformity with the norms of treated effluent as stipulated in E.P. Rules, 1986 as amended.

v. The unit shall identify recipient drains/ rivulets and their u/s & d/s locations in consultation with SPCB for monthly monitoring by industry to ensure ZLD from distilleries within 30 days. The monitoring report shall be submitted to CPCB on monthly basis.

S.No.	Name of recipient drain/rivulets	Latitude	Longitude	Name of the recipient river
1.	u/s of Laksar drain	$28^0 44' 59''$N	$78^0 01' 40''$E	Banganga
2.	d/s of Laksar drain	$29^0 44' 36''$N	$78^0 01' 53''$E	Banganga

vi. The industry shall maintain Zero Liquid Discharge (ZLD). ZLD refers to installation of facilities and system which will enable industrial effluent (all streams) for absolute recycling of or re-use in to industrial processes and converting solute (dissolved organic and in-organic compounds / salts) into residue in solid form by adopting method such as concentration/ evaporation/drying. ZLD will be recognized and certified based on two broad parameters that is, water consumption versus waste water reused or recycled (permeate) and correspondingly solids recovered (percent total dissolved / suspended solids in effluents).

C. Effluent Management Infrastructure:

Bio-digester

S.no.	No. of digesters	Designed Capacity (m3)	Sludge generation from digester	Method of disposal/ utilization of sludge
1.	03	10000 x 02 nos. 7500 x 01 nos.	--	MEE & Spray Dryers

Multi Effect Evaporator (MEE)

S.No.	Nos. of MEE	Design Capacity (m3)	Type of technology of MEE (stages)	Mass flow meter installed at inlet and outlet of MEE
1.	02 Nos.	5028 Sq. Meter	Multi-Effect Evaporation	Yes.

Condensate Polishing Unit (CPU):
****For treatment of MEE condensate and other low-strength effluent**

S.No.	Design Capacity (m3)	Type of technology of CPU	Sources of effluent coming into CPU with Quantity	Quantity of treated effluent from CPU and its utilization	Quantity of CPU sludge & its disposal mechanism
1.	1050	USAB	Condensate of MEE	485 KLD Reused in	Sludge Drying Bed.

				cooling and processes.	To be used as manure.
Reverse Osmosis (RO) system					
S.No.	**Design Capacity (m3)**	**No. of stages**	**Quantity of RO permeate (m3) & purpose of utilization**	**Quantity of RO reject (m3) & disposal mechanism**	
1.	The Unit shall establish RO system of appropriate capacity by March, 2024.				

i. All process and non-process effluents such as Spent lees, Process condensates, Boiler RO reject, CT blowdown, Softener/DM plant backwash, Pump gland cooling water etc. should be treated through CPU and recycled back in the process.
ii. The unit shall install mass flowmeters with totalizers at inlet and outlet of Multi Effect Evaporator (MEE) (concentrate) and shall connect the same with CPCB and Uttarakhand Pollution Control Board's servers.
iii. The unit shall install electromagnetic flowmeters with totalizer at CPU inlet & outlet and at water recirculation points like make up water for cooling towers & in process. The unit shall have separate energy meter for ETP/CPU and maintain the duly signed logbook of the same.
iv. The unit shall maintain duly signed logbooks of spent wash generation, MEE feed, MEE condensate, MEE concentrate, CPU inlet & outlet, cooling tower make up water and treated effluent reused in process.
v. The unit shall ensure proper marking and colour coding of all the pipelines carrying industrial effluent accordingly.

Distilleries opting for Bio-composting;

i. The final storage capacity of lagoon for storage of concentrated spent wash after M.E.E to be utilized in bio-composting shall be strictly restricted to thirty days equivalent of concentrated spent wash (40% by volume of spent wash generated and solid concentration shall be maintained 30%). The lagoon shall be impermeable and properly lined.

ii. **Details of lagoons**

Declared by unit				**Permitted By Board**
S.no.	**No of Lagoons**	**Dimensions of lagoon**	**Capacity of lagoon (m3)**	
1.	03 nos.	22 x 25 x 3.5 Meter 14 x 28 x 3.5 Meter	1925 x 02 nos. 1372 x 01 nos.	As declared by Unit.

iii. For concentrated spent wash having total solids 27 - 30 %, the filler material (press mud) to spent wash ratio prescribed is 1: 1.6 for 60 days' cycle.
iv. Impervious compost yard area based on material balance (plus ready compost storage area) should be made available. The unit shall strictly implement the Standard Operating Procedure (SOP) for Bio-composting operation for Molasses based distilleries. (Link: https://cpcb.nic.in/ngrba/Biocomposting_SOP_for_distillery-Final_10.08.2018.pdf).
v. The unit having uncovered bio-compost area, shall stop its bio-compost activities in monsoon period (July –September). The unit shall make extra land arrangements for storage for press mud and ready bio-compost.

vi. Unit must install and maintain online connectivity of PTZ web cameras at the bio-compost yard and lagoons with server of CPCB and Uttarakhand Pollution Control Board's servers.

vii. Details of Bio-composting area requirement; as permitted by the Board:

S.No.	Total area for bio-composting	Active area for bio-composting (excluding the land arrangements for storage for press mud and ready bio-compost)	Covered area (Acres)	Uncovered area (Acres)	Number of Piezometric wells available around the compost
1.	14.02 Acres	14.02	4.28	9.74	01

viii. Obtaining valid registration/certification for the production and quality of bio-enriched Organic manure (bio compost) as per Gazette Notification S.O. 2776 (E) dated 10.10.2015 under the Fertilizer (Control) Fourth Amendment Order, 2015 issued by Ministry of Agriculture and Farmers Welfare (Dept. Of Agriculture, Cooperation and Farmers Welfare) from the Ministry of Agriculture/ concerned agency – within a time period of four months.

ix. The finished bio-compost shall be packed in sealed poly bags super scribed with quality and composition of bio compost along with the name of the manufacturer industry.

x. The unit shall maintain a record of procurement/ availability of press mud, sell of compost and compost quality on monthly basis.

xi. The unit shall not be sale ready bio-compost in open tractors/trolleys.

xii. **The Unit shall use bio-composting year only up to December, 2023. Thereafter, no fresh concentrated spent wash shall be disposed through Bio-Composting yard and spend wash shall be totally disposed through spray dryers.**

Distilleries opting for Incineration;

i. Minimum Solid % in feed for slop fired incinerator shall be 55-60% in case of C-Heavy and B-Heavy molasses as feedstocks and 50-55% in case of sugar syrup/sugarcane juice as feedstock.

ii. Maximum storage of raw spent wash utilized in MEE followed by incineration shall strictly be restricted to seven days (07) equivalent of concentrated spent wash generated. Excess storage facilities beyond this shall be levelled and dismantled.

iii. The unit shall collect ash generated from Incineration boiler through screw/belt conveyor from common silo and should be disposed of as fertilizer or for any other use.

iv. Fly ash shall be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or regime during rainy season by flowing along with storm water. Direct exposure of workers to fly ash & dust shall be avoided.

v. The unit shall sell potash rich ash to industries for potash recovery plant, Fertilizer Company or sell the ash to the farmers after meeting FCO conditions.

vi. Unit shall dispose the spent wash through MEE followed by use of concentrated spent wash (as stated in point i) fuel in the Incineration boiler of appropriateTPH.

S.no.	Type of Boiler	Capacity of Boiler (TPH)	Type of subsidiary fuel used	Quantity of subsidiary fuel consumed (MT/day)	Quantity of ash generated (MT/day)	Method of Ash Disposal
--NA--						

Distilleries opting for dryer;

i. Minimum Solid % in feed for dryer shall be 40-45%.
ii. Maximum storage of Bio-methanated spent wash utilized in dryer shall strictly be restricted to seven days (07) equivalent of concentrated Bio-methanated spent wash generated. Excess storage facilities beyond this shall be levelled and dismantled.
iii. The unit shall collect powder produced from dryer in common silo and should be disposed of as fertilizer.
iv. Unit shall dispose the spent wash through Bio-methanation followed by Bio-methanated spent wash MEE followed by use of concentrated bio-methanated.

D. Domestic sewage

i. The domestic effluent should be treated separately in sewage treatment plant/ soak pit so that it should be in conformity with the following norms.

Trade effluent and domestic sewage shall be treated separately and also to be monitored for compliance w.r.t. notified norms separately. However, Single outlet can be provided after mixing for outside disposal.

ii. Industry shall install the flow meter at STP inlet and outlet and maintain the daily logbook.
iii. Industry shall explore the possibility to recycle the treated used water shall be utilised in gardening, irrigation, industrial utility and toilet flushing to minimise the fresh water consumption up to 20 % per year.

7. Air pollution mitigation:

i. The industry shall use following fuel and install air pollution control devices (APCD) of adequate capacity to comply with the following;

S. No.	Equipment	Fuel used	Stack height (m)	Air Pollution Control Device (APCD)	Stack Emission standards
I.	Spray Dryer (45 TPD)	***Bagasse-168 TPD***	***40***	Wet Scrubber	PM-150 mg/N M^3
II.	Spray Dryer (45 TPD)	***Biogas-1500 M^3/day***			

ii. The industry shall operate in a manner so that all emissions be emitted through designated chimney/stack only. Porthole, platform and stairs shall be provided as per prescribed guidelines for stack emission monitoring.
iii. The APCS will be maintained and operated in such a manner that emissions always conform to the standard laid down under the E.P Act 1986 as amended. The ash generated from the Boiler shall be disposed of properly in such a manner that not affect the environment adversely.
iv. The unit shall install Online Stack Emission Monitoring System (OEMS) for PM and ensure with its connectivity (24x7) to CPCB server and Uttarakhand Pollution Control Board's dashboard.
v. The unit shall submit manual stack emission monitoring report and ambient air quality report on quarterly basis during operation of the plant.
vi. Water shall be sprinkled on the roads and premises for suppression of road dust.
vii. The solid waste namely boiler ash shall be disposed of properly and ensure that there is no fugitive emission from their transportation, storage and handling.
viii. The industry shall provide ports in the chimney/stack and facilities such as ladder, platform etc. as per requirement for monitoring the air emissions and the same shall be open for inspection and use at all time) by the Board's staff, the chimney/stack attached

to various sources of emission shall be designated by number such as S-1, S-2 etc. and these shall be painted/ displayed to facilitate identification.

8. Noise Pollution Mitigation:

i. Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as prescribed for respective areas/zones (Industrial and Commercial) which are as follows: -

Standards for Noise level in db.(A) L_{eq}			
Industrial Area		**Commercial Area**	
Day	Night	Day	Night
75	70	65	55

Day time: from 6.00 a.m. to 10.00 p.m., **Night time:** from 10.00 p.m. to 6.00 a.m.

ii. The industry shall take adequate measures to control of noise from its own source so as to comply with the standards as may be applicable.

iii. The industry shall provide acoustics enclosure on DG sets as per Environment (Protection) Rules, 1986.

9. Conditions under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016: -

Hazardous Waste Management:

i. Number of authorization and date of issue: As above.

ii. Reference of application (No. and date) : As above.

iii. The **Factory Manager** of **M/S Rai Bahadur Narayan Singh Sugar Mills Ltd.** is hereby granted an authorization for generation, collection, reception, storage, transport, reuse, recycling, recovery, pre-processing, co-processing, utilization, treatment, disposal or any other use of hazardous or other wastes or both on the premises situated at Laksar, District Haridwar (Uttarakhand).

Details of Authorization

Sl. No.	Category of Hazardous Waste as per the Schedules I, II and III of these rules	Authorised mode of disposal or recycling or utilisation or co-processing, etc.	Quantity (ton/annum)
--NA--			

iv. The authorization shall be valid for a period of .....NA.....

v. The authorization is subject to the following general and specific conditions (Please specify any conditions that need to be imposed over and above general conditions, if any):

A. General conditions of authorization:

1. The authorized person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the State Pollution Control Board.
3. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorization.
4. Any unauthorized change in personnel, equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.

5. The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site-specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
6. The person authorized shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"
7. It is the duty of the authorized person to take prior permission of the State Pollution Control Board to close down the facility.
8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorization.
11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
12. An application for the renewal of an authorization shall be made as laid down under these Rules.
13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

General Conditions

1. Environmental management system:
   i. Industry shall setup the environmental management cell including unit head, purchase/store manager, process operation head, ETP in charge to effectively monitoring of environmental compliance
   ii. Industry shall setup the environmental laboratory for testing of minimum wastewater quality parameters like pH, TSS, BOD, COD, MLSS and DO to effectively monitoring of ETP control parameters and ETP discharge norms.
2. The applicant shall get analyses the samples of effluent/emission/hazardous wastes at least once in a three month from the laboratory recognized by the MoEF&CC and shall report to the SPCB.
3. The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gases emission or sewage waste from the unit.
4. Treated waste water and domestic waste water shall be disposed jointly at one disposal point. The applicant shall provide discharge measurement equipment at final disposal point.
5. The applicant shall strictly comply with conditions of this CCA and submit compliance report of stipulated conditions with 30 days of receipt of this CCA. If, at any point of time, it is found that the industry is not complying with stipulated conditions or any further direction/instruction issued by the **Board**, legal action shall be initiated against the applicant.
6. The applicant shall maintain good housekeeping. All valves/pipes/sewer/drains etc. must be leak-proof.
7. The industry shall provide uninterrupted entry to this STP's/ETP's inlet and outlet points, Air Pollution Control equipment and stack for smooth sampling/monitoring of efficiency of pollution control measures.
8. The industry shall provide "Inspection Book" at the time of inspection to the Board's officials. Whenever due to any accident or other unforeseen act or event, such emission occurs or is apprehended to occur in excess of standards laid down, such information shall

be reported to the Board's offices and all other concerned offices. In case of failure of pollution control equipment, the production process connected to it shall be stopped with immediate effect

9. In case of any damage to the agriculture productivity, human habitation etc. by the operation of industry, it shall be imperative to stop production in the industry with immediate effect and such information shall be reported to Board's offices. The industry shall be liable to pay compensation also in such cases as decided by the Competent Authority.
10. The applicant shall apply before the 60 days of expiry of CCA or any change in production types/production capacity/manufacturing process/capacity enhancement etc. or any change in effluent discharge point or emission point.
11. The **Board** reserves the right to revoke/add/modify any stipulated conditions issued along with CCA, as may be necessary.
12. Any unauthorized change in personnel, equipment as working condition as mentioned in the application by the person authorized shall constitute a breach of his authorization.
13. It is the duty of the authorized person to take prior permission of the **Board** to close down the facility.
14. The authorization is valid for temporary storage of Hazardous Waste within premises only.
15. It is duty of the authorized person to take prior permission of this Board to close and clean up the facility for treatment, storage and disposal of hazardous waste.
16. Industry shall submit the latest copy of Audit Balance sheet/C.A. Certificate (Fixed Assets + Current Assets-Current Liabilities) so that the Consent fee payable by the industry may be verified.
17. Generated hazardous waste shall be stored temporarily in the factory premises and disposed of through authorized TSDF after obtaining the authorization from the Board
18. Unit shall develop green belt as per the protocol of Central Pollution Control Board.
19. The industry shall comply with the provisions of Environment (Protection) Amendment, Rules 2018 notified by MoEF&CC by Notification no 49 Dt. 25.01.2018, Environment (Protection) Act 1986, Water (Prevention and Control of Pollution) Act, 1974 as amended, Air (Prevention and Control of Pollution) Act, 1981 as amended, Plastic Waste Management Rule 2016, E-Waste (Management and Transboundary Movement) Rules 2016 (whichever is applicable).
20. If closure order is issued by CPCB or SPCB against the unit then CCA will remain suspended during the closure period. After ensuring the compliance and after revocation of the closure order, the CCA will automatically be effective from the date of issuance of the closure revocation/modification order with additional conditions mentioned in the closure revocation/modification order.

(S.K. Pattnaik)
Member Secretary

Copy to:

Regional Officer, Uttarakhand Pollution Control Board, Regional Office, Roorkee (Haridwar) for information and compliance.

Member Secretary

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	M/s Rai Bahadur Narain Singh Sugar Mills Ltd. (distillery Division)		
Project Address:	Laksar		
Town:	Laksar (np)	Block:	Laksar
District:	Haridwar	State:	Uttarakhand
Pin Code:			
Communication Address:	M/s Rai Bahadur Narain Singh Sugar Mills Ltd. Distillery Division, Laksar, Laksar, Haridwar, Uttarakhand - 247663		
Address of CGWB Regional Office :	Central Ground Water Board Uttarakhand Region, 419-a, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Dehradun, Uttarakhand - 248001		

1.	**NOC No.:**	CGWA/NOC/IND/ORIG/2021/13985			
2.	Application No.:	21-4/1506/UT/IND/2021	3.	Category: (GWRE 2020)	Safe
4.	Project Status:	Existing Project	5.	NOC Type:	New
6.	**Valid from:**	26/11/2021	7.	**Valid up to:**	25/11/2024

8. Ground Water Abstraction Permitted:

Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
500.00	182500.00						

9. Details of ground water abstraction /Dewatering structures

	Total Existing No.:0						Total Proposed No.:1					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	0	0	0	0	0	0	1	0	0	0

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 365000.00

11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.

No. of Piezometers	Monitoring Mechanism		
	Manual	DWLR**	DWLR With Telemetry
1	0	1	0

**DWLR - Digital Water Level Recorder

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.

2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.

3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.

4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.

5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.

6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.

7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.

8) Industries abstracting ground water in excess of 100 m 3 /d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.

9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.

10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).

12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).

13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.

14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.

15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.

16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.

17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.

18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.

19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.

20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.

21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.

22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.

25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.

26) In case of new infrastructure projects having ground water abstraction of more than 20 m3/day, the firm/entity shall ensure implementation of dual water supply system in the projects.

27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.

28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.

29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

मिल परिसर में पेडों (Plant / Tree) का विवरण

दिनांक: 29.12.2023

क्र.स.	पेड का नाम	संख्या
1	बरगद	26
2	जामुन	130
3	आम	42
4	यू–के–लिपटिस	584
5	अशोक	230
6	बोतल पाम	170
7	फोनिक्स पाम	215
8	चाईनापाम	260
9	खजूर	112
10	फिस पाम	80
11	बोतल ब्रुश	40
12	नीम	112
13	बांस	703
14	बेल	52
15	पीपल	418
16	गुल्लर	24
17	पिलखन	52
18	तुन	198
19	बकान	26
20	अमलत्रास	138
21	अमरुद	552
22	गुलमोहर	190
23	चीकू	4
24	नींबू	26
25	सिंभल	10
26	कदम	5
27	सागोन	7
28	अर्जुन	1
29	सामिया	5
30	जकरेडा	5
31	अकेशिया	5
32	रबर	9
33	अलसटोनिया	95
34	चम्पा	350
35	केला	140
	योग	5016

फूल व हैज़ वाले पौधे		
क्र.स.	पेड का नाम	संख्या
1	गुलाब	1296
2	कनेर	997
3	गुडहल	1090
4	करौंदा	980
5	डुरन्टा	1881
6	गेन्दा	997
7	गुलदाबदी	950
8	डहेलिया	600
9	पोपी	1378
10	नकटेशियम	800
11	केनाडूला	850
12	वरबेनिया	1050
13	सालबिया	950
14	सूरजमुखी	150
15	क्राउटन	500
16	फ्लोक्स	2200
17	सदाबहार	735
18	अपराजिता	178
19	केली	927
		18509

Grams : SUGAR LHAKSAR
Phones: 01332-254653
Fax: 01332-254655, 254460
E-mail:edprbns@yahoo.com
CIN:U74899DL1932PLC000298
TIN :05002166908

Rai Bahadur Narain Singh Sugar Mills Limited

(Distillery Division)

Laksar – 247663 (Distt. Haridwar) Uttarakhand

Ref. No.RBNS/CPCB/1016 Dated –29.12.2023

Central Pollution Control Board,
Parivesh Bhawan,
East Arjun Nagar Nagar,
Delhi

Subject:- Required Information

Respected Sir,

We are sending the following information regarding Land and Green Area with layout drawing as desired by you :-

Total Area	-	50 Hectare
Agriculture land Area	-	8 Hectare
Big Tree	-	5000 Nos. Approx.
Small Tree and Flowers	-	18000 Nos. Approx.
Covered Area and cane yard	-	27 Hectare

Thanking you,

Yours faithfully,

General manager

Enclosures :-

i.) Layout Drawing
ii.) List of Tree/Plant

Annexure-5

HEAD OFFICE
Uttarakhand Environment Protection and Pollution Control Board
"Gaura Devi Paryavaran Bhawan"
46B, IT Park, Sahastradhara Road, Dehra Dun (Uttarakhand)
Web : www.ueppcb.uk.gov.in. E-mail : uksukpcb@yahoo.com

UEPPCB/HO/Con-R-4/2019/ 477

Date: 24.07.2019

REGD. POST

To,

M/s R.B.N.S. Sugar Mills Ltd,
Laksar, Distt- Haridwar.

Consolidated Consent to Operate and Authorisation hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) under Section-25 of the "Water (Prevention & Control of Pollution) Act, 1974" and under Section-21 of the "Air (Prevention & Control of Pollution) Act, 1981" and Authorization under "Rule-6(2)" of the "Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" as applicable (to be referred hereinafter as Water Act, Air Act and HW Rules respectively).

PCB ID - 14850	Inward ID – 242839
CCA (Renewal)	
Consent No. 39507	Date :- 19.03.2019

CCA is hereby granted to M/s R.B.N.S. Sugar Mills Ltd located at Laksar, Distt- Haridwar subject to the provisions of the Water Act, Air Act and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the orders that may be made further and subject to following terms and conditions :-

1. This CCA is granted for a period upto 31.03.2024 and valid for manufacturing of following products with Capital Investment/Net Assets Values ₹ 99.95 Crs :-

S. No.	Last CTE or CCA		Present CCA (Renewal)	
	Product	Quantity (Per day)	Product	Quantity (Per day)
1	Electric Generation	30 MWH	Electric Generation	30 MWH
2	Sugar	30000 MT	Sugar	30000 MT

2. Specific Conditions under Water Act :-

(i) The daily quantity of effluent discharge (KLD) :-

	Last CTE or CCA	Present CCA (Renewal)
Trade Effluent	722	722
Sewage	30	30

(ii) Trade Effluent Treatment and Disposal :- The applicant shall operate Effluent Treatment Plant consisting of primary/secondary and tertiary treatment as is required with reference to influent quantity and quality.

In case of stoppage of functioning of ETP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

(iii) The treated effluent shall be recycled to the maximum extent. Quality of the treated effluent shall meet to the following general and specific standards as prescribed under Environment (Protection) Rules, 1986 and applicable to the unit from time-to-time :-

1	pH	Between	5.5 to 9.0
2	Suspended solids	Not to exceed	100mg/l
3	BOD (3 days 27^{0}C)	Not to exceed	30 mg/l

4	COD	Not to exceed	250 mg/l
5	Oil & Grease	Not to exceed	10 mg/l

(iv) **Sewage Treatment and Disposal** :- The applicant shall provide comprehensive STP as is required with reference to influent quantity and quality.

In case of stoppage of functioning of STP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

(v) The treated sewage shall be reuse in gardening and the same shall be maintained continuously so as to achieve the quality of the treated effluent to the following standards within five years from the date of notification dated 13.10.2017.

S.No.	Parameters	Standards
1	pH	6.5 to 9.0
2	BOD (mg/L)	Not more than 30
3	TSS (mg/L)	Not more than 100
4	Fecal Coliform (MPN/100ml)	Less than 1000

3. **Conditions under Air Act :-**

(i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as is required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards :-

S. No	Stack attached with	Stack height (Mt)	Type of Fuel	Fuel Quantity	Emission Control Equipment	Emission standards not to exceed
1	DG Set (625 KVA) x 1	4	Diesel	100 Ltr/Hr	Acoustic Enclosure	-
2	DGSet (1010KVA) x 1	6	Diesel	200 Ltr/Hr	Acoustic Enclosure	-
3	DG Set (320KVA) x 1	4	Diesel	75 Ltr/Hr	Acoustic Enclosure	-
4	Boiler (90 TPH) x 1	60	Agro Waste	45Ton/Hr	Wet Scrubber	-
5	Boiler (70TPH) x 1	60	Agro Waste	35Ton/Hr	Wet Scrubber	-

In case of stoppage of functioning of air pollution control equipment, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

(ii) Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

Standards for Noise level in db(A) Leq	Industrial Area		Commercial Area		Residential Area		Silence Zone	
	Day time	Night time	Day time	Night time	Day time	Night time	Day time	Night time
	75	70	65	55	55	45	50	40

Day time : from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m.

4. **Conditions under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 :-**

(i) Number of authorization and date of issue : ----------

(ii) The Factory Manager of M/s R.B.N.S. Sugar Mills Ltd., Haridwar is hereby granted an authorization to operate a facility for collection and storage of Hazardous wastes.

(iii) The authorization is granted to operate a facility for generation, collection and storage of hazardous wastes within factory premises for following category of wastes :-

S.No.	Category (Schedule-I & Schedule-II)	Quantity of Waste for which authorization is being issued (MTA)	Mode of Disposal
1	Schedule I – 5.1	0.400	Recyclable
2	Schedule I – 1.7	0.300	As per rules

(iv) The authorization shall be in force for a period upto 31.03.2024.

(v) The authorization is subject to the conditions stated below and such conditions as may be specified in the rules for the time being in force under Environment (Protection) Act, 1986.

Terms and conditions of authorization :-

(i) The authorization shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.

(ii) The authorization and its renewal shall be produced for inspection at the request of an officer authorized by the SPCB/PCC.

(iii) The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC.

(iv) Any unauthorized changes in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.

(v) It is the duty of the authorized person to take prior permission of the SPCB/PCC to close down the facility.

(vi) An application for the renewal of an authorization shall be made as laid down under these rules.

(vii) The unit shall comply with any other conditions specified in the guidelines issued by the MoEF or CPCB/SPCB from time to time.

5. This CCA is valid for production of Crushing, Milling, Juice Heating, Clarification, Evaporation, Sulphitation, Crystallization, Separation & Drying Processes only.

6. **Compulsory documents to be submitted by the Industry/Unit :-**

(i) Annual return in Form-4 and Waste Disposal Manifest in Form-10 under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and Third Party Audit Report.

(ii) Environment Statement in Form-V of Environment (Protection) Rules, 1986.

(iii) Quarterly compliance report of the CCA, photograph of ETP/APCs/Waste Storage Area.

7. Unit has to apply for renewal of CCA well in advance of 60 days of expiry of this CCA.

8. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.

9. Unit has to comply with the other general conditions as annexed herewith. Non compliance of any provision of this CCA and provisions of the Water Act, Air Act and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 will results in legal action under the aforesaid Acts and Rules.

Member Secretary

Copy to: Regional Officer, Uttarakhand Environment Protection and Pollution Control Board, Roorkee, Distt- Haridwar for information and compliance of the same.

Chief Environment Officer

Specific Conditions:

1. The applicant shall provide ISI mark water meter to each water supply source and shall regularly submit returns of water consumption in the prescribed form and pay the cess as specified under **Section-3 of Cess Act.**
2. The applicant shall submit audited balance sheet of the unit at the end of each financial year so that fee submitted by the applicant could be assessed.
3. The applicant shall provide ports in the chimney/stack and facilities such as ladder, platform etc. as per requirement for monitoring the air emissions and the same shall be open for inspection and use at all times by the Board's staff. The chimney/stack attached to various sources of emission shall be designated by numbers such as S-1, S-2 etc. and these shall be painted/ displayed to facilitate identification.
4. The industry shall ensure interlocking of air pollution control devices and production processes.
5. Solid wastes generated from the industry have to be disposed in manner so that contamination of surface water bodies/ground water/soil etc. does not take place.
6. The industry shall take adequate measures to control of noise from its own source so as to comply with the standards as may be applicable.
7. The applicant shall develop three rows of green belt on the premises with plant species as suggested by the **Central Pollution Control Board.**
8. The industry shall strictly adhere with the specific and general conditions issued with CCA order. Any violation of stipulated conditions may attract legal action under the provisions of **Water Act, Air Act** and **Environment (Protection) Act** and **Rules** made there under.
9. The industry shall ensure **all safety measures** and shall undertake **periodical assessment** by the competent authority.
10. Unit shall ensure manifest system in **Form-10 of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** while disposing hazardous waste.
11. Hazardous waste should not be stored beyond a period of 90 days.
12. The industry situated nearby the River Ganga and its tributaries shall ensure the treatment facilities and disposal arrangement in such a way so that no waste water is discharged in water stream or water bodies.
13. The unit shall comply all the conditions mentioned in Environment Clearance No. F.No. J-110011/626/2008-IA II (I) dated 13.04.2009 recommended by Ministry of Environment & Forests, Government of India.
14. The unit shall strictly comply with the provisions of Water, Air & E (P) Acts and Rules/Notifications made thereunder.

General Conditions:

1. The applicant shall get analyse the samples of effluent/emission/hazardous wastes at least once in a three month from the laboratory recognized by the MoEF and shall report to the UEPPCB.
2. The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gases emission or sewage waste from the unit.
3. Treated waste water and domestic waste water shall be disposed jointly at one disposal point. The applicant shall provide discharge measurement equipment at final disposal point.
4. The applicant shall strictly comply with conditions of this CCA and submit compliance report of stipulated conditions within 30 days of receipt of this CCA. If, at any point of time, it is found that the industry is not complying with stipulated conditions or any further direction/instruction issued by the Board, legal action shall be initiated against the applicant.
5. The applicant shall maintain good house keeping. All valves/pipes/sewer/drains etc. must be leak-proof.
6. The industry shall provide uninterrupted entry to the STP's/ETP's inlet and outlet points, Air Pollution Control equipment and stack for smooth sampling/monitoring of efficiency of pollution control measures.
7. The industry shall provide "Inspection Book" at the time of inspection to the Board's officials.
8. Whenever due to any accident or other unforeseen act or event, such emission occurs or is apprehended to occur in excess of standards laid down, such information shall be reported to the Board's offices and all other concerned offices. In case of failure of pollution control equipment, the production process connected to it shall be stopped with immediate effect.
9. The industry shall operate in a manner so that all emissions be emitted through designated chimney/stack only.

10. In case of any damage to the agriculture productivity, human habitation etc. by the operation of industry, it shall be imperative to stop production in the industry with immediate effect and such information shall be reported to Board's offices. The industry shall be liable to pay compensation also in such cases as decided by the Competent Authority.
11. The applicant shall apply before the 60 days of expiry of CCA or any change in production types/ production capacity/manufacturing process/capacity enhancement etc. or any change in effluent discharge point or emission point.
12. The Board reserves the right to revoke/add/modify any stipulated condition issued along with CCA, as may be necessary.
13. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the **Board.**
14. Any unauthorized change in personnel, equipment as working condition as mentioned in the application by the person authorized shall constitute a breach of his authorization.
15. It is the duty of the authorized person to take prior permission of the **Board** to close down the facility.
16. The authorization is valid for temporary storage of Hazardous Waste within premises only.
17. The authorized agency shall ensure that on-line data with regard to quantity and nature of hazardous chemicals being used in the plant as well as air emission and waste generated within premises is displayed on **Display Board of size 6x4 feet** out side the main factory gate within premises.
18. It is duty of the authorized person to take prior permission of this Board to close and cleanup the facility for treatment, storage and disposal of hazardous waste.
19. The applicant shall maintain record of hazardous waste in **Form-3** and shall submit annual return in **Form-4** on or before the 30th day of June following to the financial year to which that return relates.
20. In no case any hazardous waste shall be disposed off on land, in any drain, or into any water stream. All spillage must also be safely collected and stored.
21. Before the hazardous waste is stored or dumped in the facility, applicant must conduct a detailed **physical and chemical analysis of hazardous waste sample** and report to the Board.
22. Dried hazardous sludge from the process in the plant shall be **stored in double lined HDPE pit constructed with R.C.C. or such material which does not react with the waste contained in it.**
23. The storage area should be fenced properly and Sign/Notice Board indicating 'Danger' and **'Hazardous'** shall be displayed at appropriate position both in Hindi and English.
24. The industry shall store non-ferrous metal waste, used oil/spent oil waste in sealed drums placed on impervious floor under covered shed. Hazardous waste if required shall be **sold only to Registered Recyclers/Re-processors.**
25. In case of any transportation of hazardous waste, the details in **Form-10** of the **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016** shall be submitted to the Board.

Chief Environment Officer

सत्यमेव जयते

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Rai Bahadur Narain Singh Sugar Mill Ltd. Laksar		
Project Address:	Laksar		
Town:	Laksar (np)	Block:	Laksar
District:	Haridwar	State:	Uttarakhand
Pin Code:			
Communication Address:	Rai Bahadur Narain Singh Sugar Mill Ltd, Laksar, Laksar, Haridwar, Uttarakhand - 247663		
Address of CGWB Regional Office :	Central Ground Water Board Uttarakhand Region, 419-a, Kanwali Road, Baluwala , Near Urja Bhawan, Dehradun, Dehradun, Uttarakhand - 248001		

1. **NOC No.:** CGWA/NOC/IND/ORIG/2021/10108
2. Application No.: 21-4/733/UT/IND/2017
3. Category: (GWRE 2017) Safe
4. Project Status: Existing Project
5. NOC Type: New
6. **Valid from:** 29/12/2020
7. **Valid up to:** 28/12/2023
8. Ground Water Abstraction Permitted:

Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
594.00	77220.00						

9. Details of ground water abstraction /Dewatering structures

	Total Existing No.:1						Total Proposed No.:0					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	0	1	0	0	0	0	0	0	0	0

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 463320.00
11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.

No. of Piezometers	Monitoring Mechanism		
	Manual	DWLR**	DWLR With Telemetry
2	0	1	1

**DWLR - Digital Water Level Recorder

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

1) Installation of digital water flow meter (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate through the web-portal.

2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.

3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines . Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II.

4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.

5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.

6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.

7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.

8) The firm shall submit the water audit report in case of water requirement is in excess of 100 m3/day through certified auditors within three months of completion of the same to CGWA.

9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.

10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).

12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).

13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.

14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises, failing which the firm shall be responsible for any consequences arising thereupon.

15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.

16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.

17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.

18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.

19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.

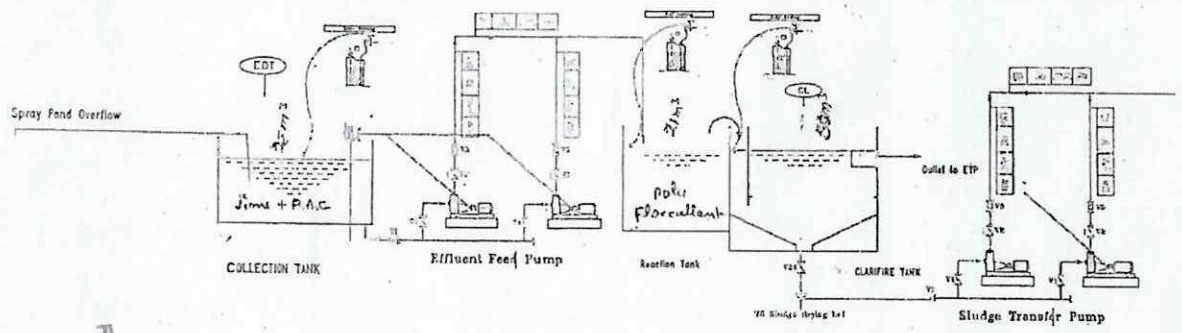
20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.

21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.

22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



Spray Pond ETP SYSTEM

Drawing Submitted to Laksar Sugar

RBNS SUGAR MILLS LTD. LAKSAR

For R. B. N. S. Sugar Mills...

Auth. Signatory

Annexure- VII

SUGAR MANUFACTURING FLOW CHART