

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

(By Video Conferencing)

Original Application No. 234/2020
(I.A. No. 53/2021)

Anuradha

Applicant

Versus

State of Uttar Pradesh

Respondent

Date of hearing: 15.03.2021

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

Respondent: Mr. Pradeep Misra and Mr. Daleep Dhyani, Advocates for UPPCB

ORDER

1. A report was sought from a joint Committee comprising CPCB, State PCB and District Magistrate, Rampur with reference to the allegation of violation of environmental norms by Triveni Sugar Mill in village Milk Narayanpur, Tehsil Tanda, District Rampur, U.P.

2. Accordingly, report of the joint Committee has been filed by the State PCB on 01.03.2021. The report states that the joint Committee interacted with the residents of the nearby villages and took the samples to check the water quality. The observations, conclusions and recommendations of the Committee are:-

“4. OBSERVATIONS:

- 1. The unit is engaged in production of sugar by Double Sulphitation process with consented capacity of 5000 TCD*

using sugarcane. At the time of inspection, unit was found operational.

2. The unit has 10 MW cogeneration power plant in which 6.5 MW is consumed in captive plant are surplus power 3.5 MW exported to UPPCL. The unit is having Boiler of capacity 90 TPH having 45 kg/cm² pressure.
3. The unit has started its crushing season 2020-21 on 01st November, 2020.
4. As per Daily Manufacturing Reports (DMRs) provided by the unit it was observed that on the day of inspection the unit was crushing 5220 TCD of cane, which is more than the consented capacity. As per DMRs provided by the unit, average cane crushing for the month of December, 2020 is found to be 5091.5 TCD, which is more than consented capacity of 5000 TCD.
5. Unit is having valid Consent to Operate under Air (Prevention & Control of Pollution) Act, 1981 (as amended) and Water (Prevention & Control of Pollution) Act, 1974 (as amended), both valid upto 31/12/2021. The unit is also having valid Authorization under Hazardous Waste (MH & TBM) Rules, 2008 for storage and disposal of hazardous wastes valid upto 26/12/2022.
6. The unit is having ETP with treatment capacity of 840 KLD for treatment of effluent generated from various sections of sugar mill.
7. The ETP comprises of Oil skimmer & Bar screen → Equalization tank → pH correction tank (Lin dosing) → Primary Clarifier → Aeration tank-I → Aeration tank-II → Secondary Clarifier-I → Secondary Clarifier-II → Chlorine contact tank (NaOCl) → Multigrade Filter → Activated Carbon Filter → sludge sump and Centrifuge (Sludge Decanter).
8. The unit has not installed flow meter at main inlet channel of ETP, however it was observed that flow meter was installed at the feed to primary clarifier from equalization.
9. The unit has installed flow meter in the outlet channel carrying combined treated effluent from ETP & SRS to treated effluent storage lagoon.
10. The unit is having separate 600 KLD of Sulphate Recovery System (SRS) installed for treatment spray pond/cooling tower overflow. Flow meter is installed at inlet of SRS, however separate flow meter at outlet of SRS is not installed to estimate the treated effluent generation from SRS. The treated effluent from SRS outlet is combined with treated effluent from ETP and discharged into the lagoon. The OCEMS records the continuous combined flow of treated effluent from ETP and SRS.
11. The 600 KLD of SRS comprises of Bar Screen → Equalization tank → pH correction tank (Lin dosing) → Coagulation tank (Catalyst Dosing) → flocculation tank (Poly Aluminum Chloride Poly-dosing) → Primary Clarifier → Buffer tank → Aeration tank → Secondary Clarifier-Collection tank (Sodium Hypo-chloride dosing) → Multimedia Filter → Activated Carbon Filter → Treated Water Tank.

12. *The unit has not disclosed the catalyst name which is being used in coagulation tank in Sulphar Removal System as the chemical is supplied by the supplier with name CATALYST only.*
13. *The unit abstracts ground water from 02 bore-wells installed in the premises. Flow meters were found installed at both the bore-wells. As per logbook records average fresh water extraction/consumption from bore-wells is 288.64 KLD including average fresh water abstraction for domestic usage of 48.8 KLD.*
14. *Although 48.8 KLD fresh water is consumed for domestic purpose but no STP is installed in the unit for treatment of domestic effluent.*
15. *The unit has seepage proof lagoon having capacity of 2990 m³ to store treated effluent. The treated water is pumped for irrigation to nearby farmer's field as per the demand by attaching a flexible pipe. The pipeline network was observed around the boundary of unit. Some algal bloom was observed in the treated effluent storage lagoon at the time of visit.*
16. *As per the data for average effluent generation provided by the unit, effluent generation was found much less than the 15 days holding capacity of storage lagoon, which indicates overcapacity of the treated effluent storage lagoon.*
17. *The unit is complying w.r.t. final treated effluent discharge norms as the treated effluent generatic i.e. 126.55 liter per ton of cane crushed as against consented capacity of 5000 TCD. As flow meter was not installed at the outlet of lagoon, the treated effluent discharge for irrigation purpose could not be verified.*
18. *The flow at ETP outlet was observed higher as compared to the flow at ETP inlet as the treated effluent from 840 KLD ETP and 600 KLD SRS (Cooling tower overflow treatment system) was combine prior to reaching storage lagoon and flow meter was installed after the confluence.*
19. *As per the Irrigation Management Plan, Unit provided copy of 21 farmers applications having command area of 49.72 hectare including mill own land (29.49 hectare).*
20. *The joint team also observed 02 impermeable lagoons in the ETP area, one is adjacent to the treated effluent storage lagoon, which was reportedly filled with rain-water and second lagoon reported to be used for storage of waste water generated from backwash. The lagoon was found filled with black water & same was reported to be pumped back to ETP via flexible pipe. Temporary pump & flexible pipe was observed near the lagoon. The sample was not collected from these lagoons as in the lagoon adjacent to main treated effluent storage lagoon no coloured effluent was observed and little quantity of water at bottom was visible in one of the lagoon. Also, sample could not be collected from the lagoon separately filled with backwash water as the effluent was visible too oily and greasy.*
21. *The unit has setup environmental laboratory and sufficient chemicals were found available for analysis of daily*

- parameters, however as per ETP log book, it was observed that BOD analysis being performed only twice in a month.
22. The unit has installed separate energy meter for ETP and log book records for the same are being maintained.
 23. The unit is selling press mud (avg. 4.41% of cane crushed) to farmers/contractors. The logbook for the same is being maintained.
 24. Boiler ash was observed to be dumped in the low lying areas within the mill premises and ETP sludge is reported to be used as manure for horticulture within unit premises only.
 25. The unit has installed Online Continuous Effluent Monitoring System (OCEMS). OCEMS reading w.r.t. flow-31.47m³/hr, COD-144 mg/l, BOD-14mg/l and TSS-14mg/l were recorded during visit. The flow at outlet was 25 m³/hr as measured by V-notch installed at outlet channel.
 26. The unit has one piezometer well in the unit premises (latitude-29.030003, Longitude-78.99024 water level reading -9.95 m at 24.58°C).
 27. No sampling point for collecting of groundwater sample was found on both the bore-wells. The sample for groundwater was collected from tap used for drinking purpose by workers.
 28. No Objection Certificate for ground water abstraction has expired on 12/07/2019 having permissible to abstract 301 m³/day of groundwater from two borewells. The unit has applied for renewal of NÖC from CGWA on 27/11/2019. Document of "Site inspection for verification of compliance of conditions of NOC" is provided Annexure-IV.
 29. The unit has three DG sets of 500 KVA x 02 nos. & 180 KVA x 01 nos. with acoustic enclosure of proper stack height.
 30. During the inspection, the unit has boiler of 90 TPH having boiler unit pressure 45 KG/cm² and stake height of 60 m with wet scrubber was found installed on APCS. Stack monitoring (heing-60 meters was carried out by the Regional Laboratory, Moradabad, UPPCB at the time of inspection.

Table 3 Analysis result of stack emission for SPM

S.No.	Parameter	Unit	Result	Standards
1.	Suspended Particulate Matter (SPM)	mg/Nm ³	112.30	150.0

The analysis result of stack emission for SPM is complying against the prescribed emission standards as per Consent issued by UPPCB.

31. One polythene lined lagoon filled with dark colored water was observed behind molasses storage tanks in unit's premises. It was informed by unit representative that the lagoon was constructed as temporary provision for storage of molasses. Unit provided copy of letter dated 03/04/2018 issued by Excise Department, U.P. (Annexure- VII), wherein unit was granted permission for temporary storage of molasses with a condition to level/dismantle the lagoon after 90 days from date of issuance of the permission. Sample was collected from the

lagoon. It was also observed that the lagoon was filled with boiler ash. The analysis result of sample are placed in Table – 4.

32. The joint team observed ponding behind the temporary Sugar storage godowns within the unit's premises. Sample was collected from the ponding area. The analysis result is placed in Table – 4.

33. Analysis results of the temporary lagoon located behind molasses tank no.-02 and ponding (kutch pit) located behind temporary sugar storage godown are given below:

Table-4

Location of sample	Parameters, mg/l except pH and Color in Hazen							
	Color	pH	COD	BOD	TSS	TDS	SO ₄	Appearance
Lagoon located behind molasses tank no. - 02	137	7.7	388	115	292	1344	272	Black
Ponding (kutch pit) located behind temporary sugar storage Godown	40	6.5	129	59	19	192	43	-

4.1 Observation on above analysis results:

- The analysis result of sample collected from temporary lagoon located behind molasses tank no.-02 shows pH- 7.7, COD-388 mg/l, BOD-115 mg/l, TSS-292 mg/l and TDS-1344 mg/l which are on higher side and indicates effluent/ wastewater characteristics which may be due to dilution of leftover and passes with rain water/ surface runoff.
- The analysis result of sample collected from Ponding near Temporary Sugar Storage Area shows pH- 6.5, COD-129 mg/l, BOD-58 mg/l, TSS-19 mg/l and TDS-192 mg/l, which indicating surface runoff from premises.

34. Samples were collected from inlet & outlet of SRS. The analysis result is placed in Table-5

Table – 5

Sample location	Color (Hazen)	Effluent Flow rate (m ³ /hr)	Sulphur/ Sulphate (mg/L)	pH	COD (mg/L)	BOD (mg/L)	TSS (mg/L)	TDS (mg/L)	O&G	MLSS/MLVSS (mg/L)
Inlet of SRS	8	-	563	8.5	837	410	152	4372	-	-
Outlet of SRS before merging with ETP treated effluent	8	-	864	7.2	63	17	37	3408	-	-
Prescribed standards for irrigation [as per the Consent	-	-	-	5.5 to 8.5	250	100	100	2100	10	-

granted by UPPCB]										
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35. Samples were collected from inlet, outlet & various units of ETP and treated effluent storage lagoon. The analysis result is placed in Table-6

Table – 6

Sample location	Color (Hazen)	Effluent Flow rate (m ³ /hr)	Sulphur/ Sulphate (mg/L)	pH	COD (mg/L)	BOD (mg/L)	TSS (mg/L)	TDS (mg/L)	O&G	MLSS/MLVSS (mg/L)
ETP Inlet Channel	15	14.66	300	4.8	1569	770	230	1708	-	-
Outlet of Primary Clarifier	9	-	277	7.6	62	22	46	1392	-	-
Aeration tank - II	-	-	-	-	-	-	-	-	-	1581/1305
Outlet of Secondary Clarifier	20	-	114	5.6	1202	543	328	1140	-	-
Outlet of ETP after merging of SRS outlet stream	9	31.62	381	7.4	37	11	23	2048	BDL	-
Treated effluent storage lagoon	9	-	390	7.6	33	9.7	24	2280	-	-
OCEMS	-	31.43	-	-	144	14	14	-	-	-
Prescribed standards for Irrigation [as per the consent granted by UPPCB]	-	-	-	5.5 to 8.5	250	100	100	2100	10	-

- The analysis result indicates that the treated effluent from the ETP is complying w.r.t. norms as per the Consent granted by U.P. Pollution Control Board. However, the TDS in treated effluent storage lagoon was found 2280 mg/l against the prescribed norm of 2100 mg/l. The result shows reduction in 99% in BOD, 98% in COD & 90% in TSS.
- It is also visible from analysis results that the sulphate value at inlet of ETP (300 mg/l) and is higher than the outlet (381 mg/l). The value of Sulphate as per analysis result of samples collected from inlet of SRS is 563 mg/l whereas the value of Sulphate was 864 mg/l at outlet of SRS, which shows that the Sulphate is higher at outlet of SRS as compared to the inlet, which is defeating the purpose of Sulphur Recovery System and indicates that SRS is not functioning properly.
- Analysis results of Primary Clarifier showing reduction of ~97% in BOD, ~96% in COD & ~80% in TSS just after the treatment through Bar screen, Equalization tank, pH correction tank (Lime dosing), which seems unrealistic, hence possibility of dilution in Primary Clarifier on day of inspection can't be ruled out.
- The analysis of sample collected from aeration tank for MLSS/MLVSS were found (1581/1305), which is

at lower side as against desired level of 2000-2500 mg/l, which indicates the ETP was not properly stabilized.

- The effluent characteristics in secondary clarifier shows high values of BOD (543 mg/l), COD (1202 mg/l) & TSS (328 mg/l) as compared to values at outlet of primary clarifier which is unrealistic.
- The analysis result of sample collected from final treated effluent storage lagoon shows pH- 7.6 (norms: 5.5 to 8.5), COD-33 mg/l (against 250 mg/l), BOD-9.7 mg/l (against 100mg/l), TSS-24 mg/l (against 100mg/l), TDS-2280 mg/l (against 2100mg/l) which indicates that the unit is non-complying with stipulated discharge norms w.r.t. TDS.
- Outlet of secondary clarifier of ETP shows value of BOD as 543 mg/l and COD as 1202 mg/l reflecting reduction of only 29% in BOD and 23.4% in COD, which indicates that ETP is not being operated properly.
- Outlet of ETP after merging effluent of SRS outlet stream shows BOD as 11 mg/l and COD as 37 mg/l with reduction of 98% in BOD and 97% in COD, indicating that the unit complies with norms by dilution of ETP outlet with SRS outlet stream.

4.2 Observation w.r.t. proposed Distillery:

1. M/s Triveni Engineering & Industries Ltd., Milak Narayanpur Tehsil. -Swaar, Distt- Rampur (U.P.) has applied for Environmental Clearance for establishment of 160 KLD (molasses based) distillery unit/ 120 KLPD (molasses based) and 40 KLPD unit (Grain based) distillery and 70 MW co-gen power plant. In this regard a public hearing was held on 14/10/2020 in the premises of M/s Triveni Engineering & Industries Ltd., Milak Narayanpur at the proposed site. Minutes of public hearing are annexed as Annexure-VIII. As per the unit the following are proposed for prevention & control of Water and Air pollution for the proposed distillery unit:

- **Water Pollution: The Spent wash shall be processed through Multi Effect Evaporator and shall be incinerated in incineration boiler having capacity of 60 TPH (Slope boiler Bagasse).**
- **Air Pollution: For Air pollution control, the unit shall install 60 TPH slope fired boiler. Slope fired boiler followed by bag filter with 72-meter stack which shall comply w.r.t. emission norms. The unit shall install OCEMS.**

5.0 CONCLUSION:

1. *The unit operational capacity was found more than consented capacity.*
2. *No separate flowmeter was installed at ETP outlet as well SRS outlet.*
3. *The treated effluent storage lagoon was found of overcapacity.*
4. *Two impermeable lagoons in the ETP area were observed, one is adjacent to the main treated effluent storage lagoon, which was reportedly filled with rain water and second lagoon is reported to be used for storage of waste water generated from backwash which was filled with black & greasy wastewater.*
5. *ETP operation and maintenance need to be improved. Analysis of sample collected from aeration tanks indicates that the ETP was not properly stabilized.*
6. *Sulphate Removal System (SRS), which is installed to treat sulphur containing effluent is not operated properly as sulphur content in effluent increases from 563 mg/l at inlet to 864 mg/l at outlet of SRS. The unit has not disclosed the name of all chemicals used in SRS to treat Sulphur containing effluent, hence presence of sulphur may be due to addition of a chemical coagulants in large quantity such as aluminum sulphate (alum) or ferric sulphate, which help to form larger clumps, making it easier to settle down to the bottom.*
7. *The treated effluent from SRS being discharged through common channel in 12990 m³ treated effluent storage lagoon after mixing with ETP outlet wherein it become diluted with ETP treated effluent which is reflected in the analysis results. The values of sulphate in effluent from Outlet of Secondary Clarifier (114 mg/l) and Outlet of SRS (864 mg/l), which were stored in common lagoon (390 mg/l) clearly indicates the dilution of sulphate content from SRS with ETP treated water.*
8. *Similarly, the performance analysis of ETP system shows that effluent quality at outlet of secondary clarifier is poor than outlet of primary clarifier. However, Sulphur removal efficiency is observed in biological treatment system than the SRS, indicates that possibility of dilution of ETP units especially in primary clarifier could not be ruled out.*
9. ***Analysis results of groundwater (shallow depth) shows high Colour, Conductivity, COD, Total hardness and Sulphate concentration. The ground water contamination found may be due to the infiltration/ seepages of sulphate containing treated effluent discharged for irrigation to nearby villages which reaches up to shallow depth leading to high concentration of sulphate, colour, conductivity, COD, Total hardness and low pH value in groundwater, which can be further ascertained by study of ground water of nearby areas by Competent Department. Deep borewells are complying w.r.t. BIS drinking water standards 10500: 2012.***

6.0 RECOMMENDATIONS OF THE COMMITTEE:

1. *The unit shall ensure to operate the mill at consented capacity of 5000 TCD as granted by UPPCB under Water (Prevention & Control of Pollution) Act, 1974 (as amended).*
2. *The unit shall obtain the valid NOC from Central Ground Water Authority (CGWA)/Uttar Pradesh Ground Water Department (UPGWD) to abstract ground water (Annexure-IV).*
3. *The unit shall ensure proper operation & maintenance of ETP and also ensure proper stabilization of ETP.*
4. *The unit shall maintain adequate MLSS/MLVSS ratio in aeration tank while operating the ETP and ensure proper stabilization of ETP.*
5. *The unit shall install flow meter to measure separate flow at ETP outlet.*
6. *The unit shall relocate the inlet flow meter from feed to primary clarifier to main inlet channel of ETP to avoid any possibility of effluent bypass before ETP.*
7. *The unit shall install a separate flow meter at outlet of SRS to estimate the separate effluent generation after treatment from SRS.*
8. *The unit shall install a flow meter at the pumping point of treated effluent from storage lagoon for keeping the record of treated effluent quantity being pumped to farmers for irrigation purpose.*
9. *The unit shall restrict the capacity of treated effluent storage lagoon to 15 days holding capacity.*
10. *Large volume of back-wash water stored in a separate lagoon/storage shall immediately be treated in ETP and the unit shall dismantle/level the lagoon. Also, the unit shall discontinue the practice of storing backwash effluent in lagoon.*
11. *The unit shall dismantle/level the extra lagoon observed adjacent to treated effluent storage lagoon.*
12. *Since the Temporary Pond behind molasses tank no.-02 was being used as molasses storage earlier, hence the unit shall submit a time bound action plan for dismantling/levelling the pond in a scientific manner.*
13. *The unit shall ensure levelling of low lying area where ponding was observed after treating the filled water for ETP.*
14. *The unit shall ensure the proper treatment/operation of its SRS system.*
15. *The unit shall maintain volume-wise records for the press mud and boiler ash generation & disposal.*
16. *The contamination in Ground Water has been observed, hence it is recommended that Uttar Pradesh Ground Water Department may be asked to look into the matter, and arrangement for deep borewell for drinking water should be made.”*

3. From the above, it is seen that unit is operating beyond the consented capacity; without separate flow meter; storage lagoon is of over capacity; there are two impermissible lagoons in the ETP area; ETP operation is not satisfactory; Sulphate Removal System (SRS) is not proper; treated effluent is being discharged through common channel after mixing with ETP outlet and the Ground water shows high colour, conductivity, COD, Total hardness and Sulphate concentration. The ground water contamination found may be due to infiltration, seepage of sulphate containing treated effluent discharged for irrigation to nearby villages which reaches upto shallow depth leading to high concentration of Sulphate, colour, conductivity, COD, total hardness and low pH value in ground water, which can be further ascertained by study of ground water of nearby areas by Competent Department. Deep borewells are complying w.r.t. BIS drinking water standards 10500:2012. The Committee has accordingly made recommendations for remedial action as mentioned above.

4. We find that though there are serious violation of environmental norms and statutory mandate of the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986, the State Authority has failed to perform its responsibility of assessing and recovering compensation on 'Polluter Pays' principle and taking other remedial measures to ensure compliance.

5. Accordingly, we direct joint Committee to forthwith assess compensation following due process of law. The State PCB may ensure recovery of compensation taking coercive measures in case failure to comply continues, including closure and initiation of prosecution. The

State PCB may also ensure that the unit remedies the contamination of ground water and soil.

6. We have not issued notice to the unit as the PCB, as statutory regulator, can grant due opportunity to the unit as per law.

The application is disposed of.

A copy of this order be forwarded to the CPCB, State PCB and District Magistrate Rampur by e-mail for compliance.

In view of the above order, all pending I.A.s will stand disposed of.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

March 15, 2021
Original Application No. 234/2020
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