JOINT INSPECTION REPORT

O.A. No. 583 of 2019
In
The matter
Of

Ameechand & Anr. **Applicant**

VERSES

The Kisan Sahakari Sugar Mills Ltd and Ors. **Respondent(s)**

Date of Inspection: **16.09.2019**

BACKGROUND:

The Hon'ble NGT (PB) vide its order dated 01.08.2019 mentioned "Grievance in this application is that pollution is being caused by respondent no. 1, Kisan Sehkari Sugar Mill Ltd., in the course of running of sugar mill. No anti-pollution device has been installed to mitigate the pollution. It is also alleged that fly ash is being disposed of into the fields, thereby contaminating the air quality and the ground water.

Before proceeding further, we consider it necessary to require a factual and action taken report in the matter from U.P. State Pollution Control Board and jurisdictional SDM. The State PCB will be nodal agency for compliance and coordination. The report be furnished to this Tribunal within one month by e-mail at judicialngt@gov.in.

In compliance of above order dated 01.08.2019 alleged industry was inspected by SDM Hasanpur, District-Amroha and UPPCB Bijnor jointly on dated 16.09.2019.

The industry is engaged in the production of Sugar by using Sugar Cane, Sulphur and Lime as raw materials. During inspection the industry was found closed due to off season. The detail inspection report of the industry is as below-

PERFORMA FOR INSPECTION							
General Information Production Details							
1.	Name and address of the industry Coordinates (Latitude & Longitude)	M/s The kisan Sahkari Chini Mills Ltd, Hasanpur, District-Amroha. 28°42'31.90"N, 78°18'44.55"E					
2.	Name of the occupier/contact person with Telephone Fax e-mail	Shri S.K. Saraf G.M 9927000781 - Sugarfed244241@yahoo.co.in					
3.	Name of the officials inspected	Udbhav Tripathi, SDM, Hasanpur, Amroha J.P.Maurya. R.O. UPPCB, Bijnor. A.K.Sharma. A.E.E. UPPCB, Bijnor.					
4.	Date of inspection and monitoring	16.09.2019					
5.	Date/Year of commissioning	1983					
6.	Installed production capacity (TPD) for each product	Sugar-250MT/Day Cane Crushing Capacity-2500 MT/Day					
7	Manufacturing process details & flow diagram for each product	Double Sulphitation Process					
8	Raw material consumed	Sugar Cane- Approx. 2500 MT/Day					
9	Sources of water	Bore well-02 no. 45 H.P., 25 H.P.					
10	Total water requirement (M3/day)	Industrial	500 KLD				
		Cooling	1865 KLD				
		Domestic	250 KLD				
		Total	2615 KLD				
11	Waste Water – Generation (M3/day)	Industrial Cooling Process Over Flow	250 KLD 250 KLD)				
		Domestic	198 KLD sewage treated through septic tank/Soak Pit				
12	Description of effluent treatment facilities with design details	ETP Installed Capacity-500 KLD (Units of ETP is Bar Screen, Oil & Grease Trap, Equalization, Tank, Primary Clarifier, Anaerobic Lagoon, Activated Sludge Process, Secondary Clarifier, Chlorination Tank, Multi-Grade Filter, Activated Carbon Filter Sludge Dewatering System)					
13	Quality of discharged effluent (for all parameters as notified under Environment (Protection) Rules, 1986	No Discharge Due to Off Season					
Air Pollution – Emission Sources & Control							
15	Sources of air pollution	Chimney Details	APC Equipment		Emission Quality as per report attached		
			Stipulated	Provided			
	Boiler-30TPH, 20TPH, 20 TPH	30 m Common Chimney -30 M		Wet Scrubber on Each Boiler.	Not monitored due to off season.		
	DG sets						
	Details of D.G Set		Capacity		Exhaust pipe-	Emission Std.	
			350 KVA		3.5 MTR		

16	Fuel Consumption	Type of fuel	Consumption	Used in
		Bagasse-	700Ton/Day	Boilers
		Diesel	As per requirement	D G Set
17	Details on hazardous wastes and other solid waste generation			
	Type of Wastes	Quantity generated	Storage & Disposal	
	Used Lubricant Oil & Grease-	2500 kg /Annum	Stored in PVC Drums& Disposed through: TSDF Bharat oil and waste management Gaziabad	
18	OCEMS status	NA		

Status of validity & compliance of consents and authorization

	Consent/Authorization	Validity	Compliance of conditions
I	Under Water Act (copy to be enclosed)	31/12/2019	Partially Complied (Notice send)
II	Under Air Act (copy to be enclosed)	31/12/2019	Partially Complied (Notice send)
III	Hazardous Waste authorization	Applied	
IV	CGWA	26.04.2020	

Other Observations:

1. The unit M/s The kisan Sahkari Chini Mills Ltd, Hasanpur, District-Amroha was jointly inspected in the presence of Sri Jag Pal Singh Chief Engineer (incharge) representative of the industry and resident of village-Kalakheda, Hasanpur, Distt-Amroha.
2. The industry is engaged in the production of Sugar by using Sugar Cane, Sulphur and Lime as raw materials. During inspection the industry was found closed due to off season.
3. The Unit have three numbers boiler having capacity 30 TPH, 20 TPH and 20 TPH. 30 TPH capacity boiler is attach with APCS wet scrubber along with 30-meter height of stack and 20TPH, 20 TPH both boilers are also connected with separate wet scrubber and a common 30-meter height of stack. Due to off season stack monitoring could not be conducted.
4. Shri furkan Son of Shri Mod Islam, Shri Talib Son of Shri Umar, Shri Prakash Son of Shri Jaithuwa, Shri Ashlam Son of Shri Rehaman, Shri Name Pal Singh Son of Ameechand (Complainant), Moulana Haneef Son of Shri Wajir, Shri Sukhram Son of Shri Ram Dyal, Shri Istiyak Son of Shri Alladeen, Shri Javed Son of Shri Ahmad, Shri lala Son of Shri Thekrey Singh, Shri Nand Ram Son of Puran Singh, Jane Alam Son of Shri Haneef, Shri Nawab Ali Son Shri Mod. Haneef, Shri Jainuddin Son of Shri Abdul Haneef and others villagers were present at the time of inspection in village kala kheda adjacent to alleged sugar industry. Complainant Shri Ameechand was not present there at the time of inspection. The Villagers were stated that sometime in the night APCS of the boilers were not operated hence fly ash comes in the village/homes. A common statement regarding their problem given by the villagers to the joint team is here by enclosed **(As annexure-1).**

5. A letter has been issued to alleged industry by SDM, Hasanpur on dated 04.09.2019 regarding the air pollution. In compliance of the above letter. A reply letter with APCS details has been sent by alleged industry to SDM, Hasanpur, District-Amroha on dated 10/11.09.2019. Copy enclosed **(As annexure-2).**
6. A closure direction against the alleged industry has been issued by CPCB under section-5 of Environment Protection Act-1986 vide letter no B-190198/WQM-II(RG)/CPCB/Sugar/37/2016-17-2029 dated 28-05-2019. Copy enclosed **(As annexure-3).** In compliance of the above order issued by CPCB, Industry is closed till further order.

The above report is hereby submitted for your kind perusal and necessary action please.

Name & Designation of officials inspected	Signature
Udbhav Tripathi, SDM, Hasanpur, Amroha	
J.P.Maurya. R.O. UPPCB,Bijnor	
A.K.Sharma. A.E.E. UPPCB,Bijnor.	

ज्ञापन / बयान

(Annexure-1)

अमीचन्द पुत्र श्री मोहर सिंह, निवासी ग्राम- काला खेड़ा, हसनपुर, जनपद अमरोहा हम किसान सहकारी चीनी मिल, हसनपुर की मा० NGT ने वायु प्रदूषण की /राख गिरने की शिकायत की गयी है के सम्बन्ध में हम सभी ग्रामवासियों काला खेड़ा, हसनपुर का बयान यह है कि चीनी मिल के वायलरों से कभी-2 वायु प्रदूषण नियन्त्रण संयन्त्र को सही से संचालित नहीं किया जाता है जिससे हम लोगों के मकानों आदि पर छाई (राख) गिरती है जिससे छत आदि काले पड़ जाते है तथा वायु प्रदूषण से हम लोगो को परेशानी भी होती है। चीनी मिल से गांव वासियो को रोजगार भी मिलता है तथा हमारी गन्ने की फसल भी मिल द्वारा खरीदी जाती है जिससे हमारी मुख्य आय की प्राप्ती होती है। अतः चीनी मिल को बन्द कराए जाने के बजाय इसके सम्बन्धित अधिकारियों को निर्देश / आदेश जारी किया जाए कि वायलर पर वायु प्रदूषण रोकने के लिए लगाए गए उपकरणों को सही ढंग से चलाया जाए जिससे हम ग्राम वासियो को कोई परेशानी न होने पाए।

1- श्री फुरकान पुत्र श्री मौ० इसलाम, ग्राम कालाखेड़ा. Furkan
2- श्री तालिब पुत्र श्री- उमर - तदैव -
3- श्री प्रकाश पुत्र श्री जैपुवा - do - . [illegible]
4- श्री असलम पुत्र श्री- रहमान - do - असलम
5- श्री नेमपालसिंह पुत्र श्री अमीचन्द - do - [illegible] singh
6- मौलाना हनीफ पुत्र श्री वली - do [illegible]
7- श्री सुखराम s/o श्री रामदयाल - do -
8- श्री इस्तीयाक s/o श्री कल्लादीन - do - सुखराम
9- श्री जावेद s/o श्री अहमद - do - इश्तियाक
10 श्री लाला s/o श्री उमरे सिंह - do -
11- श्री नन्दराम s/o श्री पूरन सिंह
12- श्री जान आलम s/o श्री हनीफ
13- श्री नवाव अली s/o श्री मो० हनीफ -
14- श्री जैनुद्दीन s/o श्री अब्दुल हनीफ - जैनुद्दीन

U.P.S.T.No.:HS0006861 Dated 06.12.1980
C.S.T.No. HS 5002566 Dated 17.10.1980
GSTIN:09AAAAT3649K1Z3

Ph:HASANPUR(05924)Resi:264167
FAX:264174

Annexure-2

दि किसान सहकारी चीनी मिल्स लि0,

गजरौला–हसनपुर पो0–हसनपुर–244241
जनपद–अमरोहा (उ0प्र0)
E-mail:sugarfed244241@yahoo.co.in

पत्र संख्या 1277 /मु0अ0/प्रदूषण/2019–20 दिनांक 10 सितम्बर 2019
11

उप जिलाधिकारी,
हसनपुर
महोदय,

कृपया अपने कार्यालय के पत्र संख्या 307/एसटी/2019 दिनांक 04.09.2019 का सन्दर्भ ग्रहण करनें की कृपा करें, जिसके माध्यम से प्रिंसिपल बैंच, नेशनल ग्रीन ट्रिब्युनल, नई दिल्ली के मूल वाद संख्या 583/2019 अमीचन्द व अन्य बनाम दि किसान सहकारी चीनी मिल व अन्य में पारित आदेश दिनांक 01.08.2019 के अर्न्तगत् वायु प्रदूषण एवं जल प्रदूषण के सम्बन्ध में राज्य प्रदूषण नियंत्रण बोर्ड द्वारा एक सप्ताह के अन्दर शपथ पत्र/आख्या चाही गई है, जिसके क्रम में गहोदय द्वारा चीनी मिल से इस सम्बन्ध में आख्या चाही गई है।

इस सम्बन्ध में सादर अवगत कराना है, कि इस चीनी मिल में 20 टन क्षमता के 02 ब्वायलर स्थापित हैं, जिनकी एक कॉमन चिमनी है जिसकी ऊँचाई जमीनी सतह से 30 मीटर है इन ब्वायलरों पर वायु प्रदूषण की रोकथाम के लिए सत्र 2009–10 में मैसर्स ग्रीन फोर्स इंजीनियर्स, चण्डीगढ़ द्वारा वैट स्कबर की स्थापना की गई है।

30 टन क्षमता के ब्वायलर पर पृथक से चिमनी है, जिसकी ऊँचाई जमीनी सतह से 30 गीटर है इस ब्वायलरों पर वायु प्रदूषण की रोकथाम के लिए सत्र 2017–18 में मैसर्स एनवायरोपोल प्रा0लि0, नोएडा द्वारा वैट स्कबर की स्थापना की गई है।

महोदय के संज्ञान में लाना है, कि इन ब्वायलरों पर लगाये गये प्रदूषण नियंत्रण उपकरणों से निकलने वाली राख, वैट स्कबर के माध्यम से पानी के साथ मिल कर नीचे पिटों में जमा हो जाती है, जिसे ठेकेदार की लेबर से लगातार उठवाया जाता है। प्रदूषण नियंत्रण उपकरणों से चिमनी में राख के पानी के साथ मिलकर निकल जाने से राख चिमनी से बाहर वायुमंडल में नहीं जाती है, जिस कारण वायु मण्डल में वायु प्रदूषण नही होता है। वैट स्कबर तथा चिमनियों की फोटो महोदय के अवलोकनार्थ संलग्न कर सादर प्रेषित हैं।

इस मिल समिति में स्थापित ई0टी0पी0 में जल प्रदूषण की रोकथाम के लिए वसन्तदादा शुगर इन्स्टीट्यूट पुणे द्वारा बनाई गई एडेक्वेसी रिपोर्ट के अनुसार सभी संयंत्र स्थापित कर दिये गये हैं, जो सुचारू रूप से कार्य कर रहे हैं। मैसर्स वसन्तदादा शुगर इन्स्टीट्यूट पुणे द्वारा माह जुलाई 2019 में निरीक्षण के उपरान्त बनाई गई **"एडेक्वेसी असेसमेन्ट आफ ई0टी0पी0 फैसेलिटी इन्क्लूडिंग वर्क कम्पलीशन रिपोर्ट रेगार्डिंग इम्पलीमेन्टेशन आफ द रेकमन्डेशन आफ द डेक्वेसी रिपोर्ट"** की छाया प्रति महोदय के अवलोकनार्थ साथ में संलग्न कर प्रेषित की जा रही है।

आख्या सादर सूचनार्थ प्रेषित।

सादर

भवदीय

संलग्नः उपरोक्तानुसार

(एस0के0सराफ)
प्रधान प्रबन्धक

ADEQUACY ASSESSMENT OF ETP FACILITY INCLUDING WORK COMPLETION REPORT REGARDING IMPLEMENTATION OF THE RECOMMENDATIONS OF THE ADEQUACY REPORT

FOR

KISAN SAHKARI CHINI MILLS LTD. GAJARAULA-HASANPUR, DIST.: AMROHA (UP)

Prepared by

SUGAR TECHNOLOGY DEPARTMENT

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July,2019

ADEQUACY ASSESSMENT OF ETP FACILITY INCLUDING WORK COMPLETION REPORT REGARDING IMPLEMENTATION OF THE RECOMMENDATIONS OF THE ADEQUACY REPORT

As per the letter No. B-190198/WQM-II(RG)/CPCB/Sugar/37/2016-17/2029, dt. May. 28th , 2019, CPCB has given direction under section 5 of the Environment (Protection) Act., 1986 closure notice to the M/s Kisan Sahkari Chini Mills Ltd., Gajraula-Hasanpur, Dist.: Amroha. As per the direction, the unit shall submit adequacy assessment of treatment facilty by the reputed govt. institute; including work completion report regarding implementation of the recommendations of the adequacy report. As per the request email letter No. 4091/CC/ETP/2019-20, dated 03.6.2019 from the sugar mill to Vasantdada Sugar Institute, Pune to prepare the report. Accordingly, Mr. D.B. Sapkal, Sr. Sugar Technlogist has visited the said sugar mill from 5.7.2019 to 6.7.2019. The report has been prepared on basis of previous adequacy report, verification-I, Verification-II and observations during the visit.

The detailed report is as below:

1. **Crushing Rate:**

Cane Crushing rate of the factory was whitin the consent condition of UP PCB Consent condition.(SPCB-Consent copy-Annexure-I) As per the consent condition, approved cane crushing rate was 2500 TCD and during the year 2018-19, it was 2254.60 TCD. (RT-8C Report- Annexure-II)

Sapkal 8/7/2019

2. **Nearest River:**

No any nala or river nearby to the sugar mill. Ganga River is 12 km away from the sugar mill. Therefore, there is no any effluent stream flow from the sugar mill in the nala or river. Treated effluent disposal is only in the own farm.

3. **Source water, NOC for Ground Water Withdrawal from CGWA and actual water consumption:**

Source of water is tubewell. As per the reference File No: 21-4/3393/UP/IND/2017/959, NOC No. CGWA/NOC/IND/ORIG/2018/3508 dated 16.5.2018, factory has received NOC from CGWA for extraction of ground water quntitity 576 m^3/day (not exceeding 95,090 m^3/year) through one existing tubewells. The NOC is valid from 27.4.2018 to 26.4.2020. (CGWA-NOC-Annexure-III) As per per logbook, water abstracted during the year 2018-19 is 174.76 m^3/day, which is within the limit of NOC from CGWA. Actual quantity of water abstracted from ground water is given as below:

Sr. No.	Particulars	Season 2016-17	Season 2017-18	Season 2018-19
1.	Industrial			
	Average, m^3/day	224.64	67.65	101.73
	L/ t of cane	89.85	29.25	45.00
2.	Domestic , in colony, m^3/day	80.00	75.00	73.03
	L/ t of cane	32.00	32.63	32.39
	Total, m^3/day	304.64	142.65	174.76
	L/ t of cane	121.85	61.88	77.39

8/7/2019

As per CGWA, condition, tubewell is fitted with Digital water meter and ground water abstraction data of the well is recorded in a logbook. During last three years, raw water consumption is reduced from 224.64 m^3/day to 101.73 m^3/day.

4. **Excess condensate recovery**:

Excess condensate is taken from overhead tank on cooling tower and after cooling, it is as raw water through UGR. For measurement of excess condensate generation flow meter was installed and logbook was maintained. As per the flow meter reading excess condensate generation during crushing season 2018-19, was 175 m^3/day (77.81 L/t of cane).

5. **Spray pond overflow:**

Separate chemical treatment system is installed for sulphate removal. Water from spray pond is taken in reaction tank, pH of water is increased in the range of 9.5 to 10 by addition of lime and added polyelectrolyte & coagulant. Then it is clarified in the tube settler. Clear water is taken for further treatment in qualisation tank of texisting ETP. For measurement of overflow generated, flow-meter was installed and logbook is maintained. As spray pond level was kept low at the time of starting of crushing season, no overflow during first 15 days. As per the flow-meter reading, during year 2018-19, average overflow to ETP was 93.82 m^3/day i.e. 41.61 L/t of cane as against CPCB disposal norms 100 L/t of cane. To maintain the quality of spray pond, analysis is carried out for parameters, pH, and temperature.

8/7/2019

Total overflow from spray pond was sent to ETP and no by-pass before treatment.

6. Total effluent generation:

As per the flow meter reading, during crushing season 2018-19, total effluent generation was 255.18 m^3/day i.e. 113.00 L/t of cane as against 200 L/t of cane. Effluent quantity is reduced by good house keeping, reuse of ccoling water, use of excess condensate as raw water and use of spray pond overflow for wet scrubber. Total effluent generated was treated though ETP and used for irrigation in own land. Treated effluent analysis reports – Annexure-IV

8/7/2019

7.0 ADEQUACY ASSESSMENT OF EFFLUENT TREATMENT PLANT FACILITY

The adequacy report of ETP consider various aspects covering the basis of design, scheme and process of treatment, process units involved in the treatment stage wise BOD reduction and design details.

7.1 Basis of design:

a. Design flow rate- 500 m^3/day, consedered for design.

Actual flow rate-200 to 400 m^3/day.

Raw effluent and treated effluent characteristics:

Sr. No.	Parameter	Unit	Raw Effluent consedered for design	Actual Raw effluent	Treated effluent CPCB Standard,
1.	pH	-	5-8	5.50	6.5 to 8.5
2.	BOD	mg/l	1000	500	< 30
3.	COD	mg/l	2000	1200	< 250
4.	TSS	mg/l	300	270	< 30
5	Oil & Grease	mg/l	10-50	6.20	< 10

8/7/2019

7.2 Scheme and process of treatment:

Brief Treatment Scheme:

A Preliminary Treatment

- Screening
- Oil & Grease Trap

B. Primary Treatment:

- Equalization Tank
- Primary Clarifier(Tube Settler)

C. Secondary Treatment

- Anaerobic Lagoon
- Activated sludge process
- Secondary Clarifier

A. Tertiary treatment

- Chlorination tank
- Multi-Grade Filter
- Activated Carbon Filter

B. Sludge Treatment:

- Sludge dewatering system

8/7/2019

7.3 Process units involved in the treatment:

A :Preliminary Treatment

- **Screening:**

Coarse screen or rack is used for removal of large pieces of gunny bags, plastics, branches, rubbers, packing materials, gaskets, cotton waste and other floatable. It is used as protecting devices so that large suspended solids and floating material do not damage pumps, agitators, mixers and aerators. Coarse screens have openings ranging from 75mm to 150 mm and racks are set at an angle of 90^0. Bar screen was installed on gutter.

- **Oil & Grease Skimmer:**

Oil being is lighter than water, floats. This property is used to separate it out. However, if there is more turbulence or if the travel distance is high, gradient slop is more, or if boiler blow down, excess condensate, stream trap, cooling purging co-enters, the oil gets emulsified and then does not float out easily. It has to avoid such situations to the maximum extent possible by either providing the traps very near to the source, or by segregating the sub-streams. If the oil does not float and a thick film does not develop, the physical removal by big spoon becomes difficult. In such case, the oil & grease escapes out to further downstream units of the ETP to spoil the situation. In aeration tank the contents are further churned and the oil may cover the bacterial cell wall, stopping their work of adsorbing and absorbing

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the food (BOD) and utilizing the same in turn for their life and growth cycle. The BOD will not get utilized for removal, and the shining oil will escape out from the secondary clarifier to the disposal site.

Removal of oil and grease is necessary to increase treat ability. Various patterns are available for oil and grease trap. The most common is the one in which inlet is below the surface and outlet is at the bottom with sufficient retention period (30-60min). The floating material rises and remains on the surface of the wastewater.

B: Primary Treatment

- **Equalization Tank:**

Equalization is often used for smoothening out individual wastewater stream flow variations so that a composite stream of relatively constant flow rate is fed to the treatment plant and, also to even out variations in effluent feed BOD to the treatment facility. This will avoid shock loading and process upsets of the treatment plant. Effluent after passing though the oil and grease tank is entering equalization tank. Clear effluent from sulphate removal system was also added in equalization tank.

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- **Primary Clarifier (Tube Settler):**

Purpose of this process is to reduce settlable suspended solids content of the wastewaters. When a liquid containing such solids is detained without disturbances for a time, particles of higher specific gravity will settle and those with lower specific gravity will float. About 50-65 % removal of suspended solids and 20-40 % of the BOD removal can be achieved in a properly designed and operated primary clarifier. Sugar factory effluent contains bagacillo particles as a suspended particle. These should to be separated out before the biological treatment.

Primary sludge generated during neutralization process gets settled in primary clarifier. In this clarifier flocks get mattered and down leaving clear supernatant to overflow from weir of the clarifier into anaerobic lagoon. The settled sludge is send to the sludge drying beds.

C **:Secondary Treatment:**

- **Anaerobic Lagoon:**

The supernatant from primary clarifier is further subjected to anaerobic lagoon. It is to be constructed in existing aeration tank by constructing partition wall. Anaerobic lagoons are designed with a with a retention time of 5 - 7 days. The liquid depth may be 3.0-4.0 meter and a free board of 1.0 meter can be used. The lagoon performance can be further improved by providing recalculation arrangement.

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All anaerobic bio-degradation is taking place in the tank. Cow dung is to be added twice in a month to accelerate the degradation. The fermentation is visible from the evaluation of gas at the surface of the stagnant water. The ratio of BOD:N:P is 100:2.5:0.50 will be maintained. It is assumed that anaerobic lagoon shall have an efficiency of 60%.

- **Aeration tank:**

The effluent from anaerobic lagoon is further subjected to aeration tank. The biological treatment of effluent by aeration process with sludge culture is very sensitive. The efficiency depends on pH, temperature, air contact, suspended solids, culture growth, concentration of floc, that is optimum mixed liquor suspended solids concentration (MLSS). The microbial culture concentration is to be maintained in the range of 1500 to 4000 mg/l. Hence initial culture development and maintaining of activated sludge rate by re-circulation of sludge and addition of cow dung, urea, DAP and their mixing are essential. The nutrients are to be in liquid form. The ratio of BOD: N: P is 100:5:1 will be maintained. Care is to be taken not to destabilize the microbial culture.

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- **Secondary Clarifier:**

The effluent from aeration tank is sent to secondary clarifier. Sludge is collected at the bottom from where it re-circulated to aeration tank and excess sludge was taken on sludge drying beds by pumping.

D. :Tertiary treatment:

- **Chlorine Contact Tank:**

The treated water is further subjected to chlorination. Chlorine solution is added to the treated Water. A baffled wall channel constructed in RCC M-20 is provided. Chlorine dose was adjusted to maintain the residual chlorine concentration of 0.5-1.0 ppm.

- **Multi- Grade Filter**

The chlorinated water is then be pumped to Multi Grade filter for removal of suspended solids. Multi Grade filter consist of a cylindrical mild steel vessel with dished ends. Filter media in the form of sand and gravel is provided.

- **Activated Carbon Filter (ACF):**

Activated Carbon Filter shall be used for De-chlorination of filtered water, where the excess chlorine will be removed along with undesired color & odor.

Treated water is taken into treated water tank and sent to 15 days storage tank. From 15 days storage tank treated water is used for irrigation purpose.

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E. : Sludge Treatment

- **Sludge dewatering system-**

The sludge from primary and secondary clarifier is sent to sludge drying beds. Sludge is dried in natural heat of sunlight. The dried cakes are scrapped off periodically and utilized as manure.

7.4 STAGE WISE B.O.D. REDUCTION

I. Initial B.O.D. : 1000 mg/L

II. Primary Clarifier outlet BOD: 800 mg/lit

III. Outlet BOD of Anaerobic Lagoon: 320 mg/lit

IV. B.O.D. reduction in Activated sludge process : 95%

Outlet BOD of Activated sludge process: 16 mg/L

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Sr. No.	Unit Process	Required Basis of design	Required Capacity/ Size (LxWxH m)	Existing Capacity/Size(m)	Adequacy	Status of work
1.	Bar Screen chamber	Retention Time: 3 - 5 min	1.0 to 1.70 m3 1.2x1.20x 1.00 + 0.30 fb	-	Adequate	*Constructed and in operation.*
2.	Oil & Grease Trap	Retention Time: 30 min to 1 Hr	10 to 21 m^3 4.00x2.00x1.50 + 0.30 fb	-	Adequate	Constructed trap and installed vertical type oil skimmer. Working was satisfactorily.
3.	Equalisation Tank	Retention Time: 6 to 8 Hrs	125 to 166 m^3 10.00x5.00x2.5 + 0.3 fb	93.66 m3 14.20 x 4.70 x 1.40 + 0.4 FB	adequate	New tank of capacity 125 m^3 was constructed and air grid was installed for mixing
4.	Surge Tank	-		93.66 m3 14.20 x 4.70 x 1.40 + 0.4 FB	Adequate	Tank is available near to UGR and used for storage of soda boiling water during the evaporator cleaning.
5.	Primary Clarifier	Surface Loading	18 -52 m^3 3.50x3.50x3.50	3.50x3.50x3.50 + 0.30 fb	Adequate	Installed and working efficiently.

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	[illegible]	[illegible]	[illegible]			
6.	Anaerobic Lagoon	Retention Time: 5-7 days	2500 m^3	Existing aeration tank 2704 m^3 26.00x26.00x4.00+ 0.30 fb	Adequate	Converted existing part of aeration into lagoon and working satisfactorily.
7.	Aeration Tank	Conventional ASP: F/M ratio: 0.15 - 0.2 MLSS : 3000 mg/lit	266-350 m3 10.00 x 10.00x 3.50 + 0.50 fb	10.00 x 10.00x 3.50 + 0.50 fb	Adequate	Constructed in existing aeration tank MLSS was 2400 mg/lit.
8.	Aerators	Diffused aeration: Air: 50 -60 m^3/kg BOD	- Air blower capacity : 400 m^3/hr	Air blower capacity : 400 m^3/hr	Adequate	Implemented and working properly.
9.	Secondary Clarifier	For ASP: Surface Loading Rate: 16-28 m^3/m^2/day	44-78 m3	126 m^3 8.20dia. x 2.40 ht + 0.3 fb	Adequate	Working satisfactorily
10.	Chlorination	Retention Time 15-20 Minutes	5.20 – 7.00 m^3	New constructed	Adequate	Costruced.
11.	Multi Grade Filter	Filter rate=160	1.70 dia x2.00ht	1.70 dia x2.00ht	Adequate	Installed and in

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12.	Activated Carbon Filter	Filter rate= 160 L/m^2/min	1.70dia x 2.00ht	1.70dia x 2.00ht	Adequate	
13.	Sludge Drying Beds	10 days drying	Area - 125 m^2	229.50 m^2 8.50x4.50x1.5 + 0.30fb – 6 Nos.	Adequate	Slude was observed on beds
14	Fifteen days storage tank	15 days storage capacity	7500 m^3	7500 m^3 60x50x2.50	Adequate	Treated water was stored.
15.	Disposal	Soil texture: Sandy loam Loading rate: 170- 225 m^3/Ha/day	Area required: 5.50- 7.35 Acres	Require land is available with the sugar mill	Adequate	Disposed in own agriculture farm

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8. Status of Work of Recommedations in the adequacy report:

I. Measurement and maintenance of log book :

Sr. No.	Location of water meter	Status of work
a	Fresh water abstracted from tubewell	Installed separate flow meters to fresh water used in industry and colony. Log book was maintained.
b	Wet scrubber	Flow meter was installed
c	Condensate used for – Imbibition Boiler make-up Vacuum filter Lime preparation Movement water at pans Super heater at batch type centrifugals and Continuous machines	Flow meters were installed and maintained logbook.
d	Excess condensate	Flow meter was installed and maintained logbook.
e	Wash our line of evaporators & pans Spray pond overflow, ETP inlet, Treated effluent	Installed flow meters and Maintained logbook.

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II. Water analysis to be carried out

Sr. No.	Particulars	Frequency of analysis	Parameters
a	Fresh water	Monthly	pH, TDS, Hardness, Alkalinity, COD
b	Machinery Cooling water	Weekly	pH, TDS, Hardness, Alkalinity, SS, COD, BOD
c	Excess condensate	Daily	pH, TDS, Hardness, Alkalinity, COD, BOD
d	Spray pond overflow	Daily	pH, TDS, Hardness, Alkalinity, Sulphates, COD, BOD
e	Evaporators cleaning water	During cleaning	pH, TDS, SS, COD, BOD
f	Inlet effluent to ETP	Daily	pH, TDS, SS, Oil & grease, COD, BOD
g	Treated effluent	Daily	pH, TDS, SS, Oil & grease, COD, BOD
h	Aeration tank	Daily	MLSS and SVI

During the visit it is verified that regular analysis of effluent water samples are carried out for pH, TSS and TDS.

III. Mills should be operated at optimum capacity and with minimum stoppages because raw water consumption per ton of cane crushed increases when crushing lower than the optimum capacity and when hot water production is suspended during halts in operations (cleaning and breakdowns).

- Mill was operated with the consent condition of UP Pollution Control Board.

IV. To maintain good sanitation conditions at mills, it is general practice to wash mills with hot condensate three times daily. Waste water generated from mills side is contaminated with bagasse, oil and juice. To reduce pollution load on ETP, sugar mill is follow dry cleaning of floor .and one time water washing in a day.

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- Implemented as per recommendation

V. All machinery cooling water was reused through UGR. During reusing of cooling water, temperature of water will be increased and required to add raw water. To reduce raw water addition, cooling tower for machinery cooling water should be installed.

- Not installed but no any problem during operation.

VI. Excess condensate generated was sent to outside. To reduce raw water consumption up to zero, two stage fan less cooling tower should be installed. After cooling use this water as raw water through UGR.

- Implemented as per recommendation.

VII. Use boiler blow down and spray pond overflow to wet scrubber to reduce effluent generation.

- Implemented.

VIII. Fresh water was used for juice heaters and evaporators cleaning. It can be replaced by spray pond water.

- Implemented.

IX. To collected and reprocess all leakages from centrifugal section by pump or steam ejector so as to reduce organic loading rate on ETP.

- Implemented.

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X. Effluent generated during this cleaning is highly alkaline or acidic in nature. There is always shock load on ETP during evaporator cleaning. To solve shock load problem of ETP, storage tank should be provided for reusing of soda boiling water and to dispose slowly in ETP.

- Implemented

XI. Additional oil and grease trap with oil skimmer is to be installed at mill side effluent before mixing with other section effluent to get better separation efficiency. Consider 15 mininutes retention time of total effluent generation for the capacity.

- Implemented.

XII. Appoint Environment Engineer /officer with required trained staff for proper operation and maintenance of ETP.

- ETP operation was on contract basis appointed operators and under supervision of Dy. Chief Chemist..

XIII. Establish well equipped laboratory for analysis of water and wastewater.

- Laboratory was established and facility with equipments except COD and BOD.

XIV. Fifteen days storage tank should be made leak-proof by HDPE and bricks lining to reduce ground water pollution.

- Implemented.

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9. ADDITIONAL RECOMMENDATIONS DURING FIRST VERIFICATION:

1. As per the 3rd CPCB expert committee meeting on February 26, 2018, it is mandatory to install separate treatment system for spray pond overflow. As your treatment system is anaerobic followed by aerobic system in which sulphate conentent will be reduced. Therefore, separate treatment is not required in your case.

   - Anaerobic Lagoon was in operation and also installed separate treatment system..

2. Rain water harvesting programme should be implemented to reduce fresh water abstraction from tubewell.

   - Not implemented

3. Flow meter should be installed for measurement of fresh water addition in spray pond make-up.

   - Installed and logbook was maintained. .

4. Install lime addition tank with stirrer at equalization tank.

   - Installed and was in operation.

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10. CONCLUSION:

- Cane Crushing rate of the sugar mill was within the consent condition given by UP Pollution Control Board.
- Factory has received NOC from CGWA for extraction of ground water quntitity 576 m^3/day (not exceeding 95,090 m^3/year) through 1 existing tubewell. As per per logbook, water abtracted during the year 2018-19 is 174.76 m^3/day, which is within the limit of NOC issued from CGWA.
- No river or nala nearby to the sugar mill. There is no any effluent stream flow from the sugar mill in the nala or river. Treated effluent is used in the own sugarcane farm.
- Two stage cooling tower is installed for cooling of excess condensate. Excess condensate is cooled through it and used as raw water through UGR.
- Total machinery cooling water was reused through UGR.
- Separate chemical system is installed for sulphate removal for spray pond overflow. Clear water is taken for further treatment in existing ETP through flow meter. As per the flow-meter reading, average overflow to ETP is 41.61 L/t of cane as against CPCB disposal norms 100 L/t of cane. Total effluent is sent to ETP and no by-pass before treatment.
- As per the flow meter reading, during crushing season 2018-19, total effluent generation was 255.18 m^3/day i.e. 113.00 L/t of cane as against 200 L/t of cane.

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Effluent quantity is reduced by good house keeping, reuse of ccoling water, use of excess condensate as raw water and use of spray pond overflow for wet scrubber

- As per the adequacy report, ETP was designed for the flow rate 500 m^3/day having BOD 1000 mg/lit. Now, as per the flow meter record, actual effluent generation varies from 200 to 400 m^3/day having BOD of 400 to 500 mg/lit. **Therefore ETP system is adequate.**
- Laboratory for water analysis was established. Experienced Environmental officer on contract was appointed with trained staff for ETP operation and maintenance.
- All recommendations given in the adequacy report have been implemented by the sugar mill.
- As per the online monitoring analysis and standard laboratory reports, treated water quality was within the disposal norms of CPCB. Total quantity of treated effluent was used in own sugarcane.

8/7/2019

(D.B.Sapkal)
Sr. Sugar Technologist

Annexure-3

Speed Post

B-190198/WQM-II(RG)/CPCB/Sugar/37/2016-17 2029 23.05.2019
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To,

Kisan Sahkari Chini Mill
Gajraula, Hasanpur, Amroha,
J.P. Nagar-244241, U.P.

DIRECTION UNDER SECTION 5 OF THE ENVIRONMENT (PROTECTION) ACT, 1986-CLOSURE THEREOF

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

WHEREAS, the Ministry of Environment & Forests, Govt. of India, vide notification S.O.157(E) of 27.02.1996 has delegated powers vested under Section 5 of the Environment (Protection) Act,1986 (29 of 1986) to the Chairman, Central Pollution Control Board (CPCB), to issue direction to any industry, Municipal Corporation, Municipal Council, Cantonment Board to any local or other Authority for the violation of emission and effluent standards notified under the Environment (Protection) Rules,1986; and

WHEREAS, it is obligatory on the part of industries to install effluent treatment plants (ETPs) to comply with the effluent discharge standards as notified under the Environment (Protection) Act, 1986 and the Rules framed thereunder and also to meet the consent conditions granted by State Pollution Control Board (SPCBs) / Pollution Control Committees (PCCs); and

WHEREAS, Kisan Sahkari Chini Mill, Gajraula, Hasanpur, Amroha, J.P. Nagar, U.P. (hereinafter referred as 'the Unit') is involved in the process of sugar manufacturing from crushing of cane; and

AND WHEREAS, the Unit was inspected on 17.01.2018 by officials from CPCB, Delhi and following observations were made;

1. The Unit was found operational at the time of inspection and ETP was functional.
2. The Unit has installed the two bore well as the fresh water consumption is 2064 KLD in which maximum water consumption i.e. is 1857.6 KLD in the residential colony.
3. The Unit has installed the flow meter at the inlet as well as at outlet of ETP.
4. The analysis report showed pH-4.56, against 5.5-9.0, **BOD-1184 mg/l** against 30 mg/l, **COD- 1937 mg/l** against 250 mg/l and **TSS-162 mg/l,** against 30 mg/l at the outlet of ETP which indicated non-compliance with the prescribed effluent discharge norms under Environment (Protection) Act,1986.
5. Operation and maintenance of aeration tank of ETP system was poor as the MLSS of the aeration tank was 334 mg/l.
6. The Unit was found to be bypassing the tertiary treatment system and discharging the effluent from secondary clarifier.

AND WHEREAS, CPCB issued direction dated 28.02.2018 under section 5 of the Environment (Protection) Act, 1986, to the unit; and

WHEREAS, the Unit submitted the revalidated adequacy assessment reports and irrigation management plan prepared by VSI, Pune vide letter dt. 17.03.2018; and

WHEREAS, CPCB through an Expert Committee comprising of experts from National Sugar Institute (NSI), Kanpur, Vasantdada Sugar Institute (VSI), IITs and representatives from sugar mills prepared a Charter for Water Recycling and Pollution Prevention (thereafter referred to as the Charter; and

WHEREAS, a meeting of sugar mills operating in Uttar Pradesh, representatives of UPPCB and CPCB was held on 06.07.2018 under Chairmanship of Principal Secretary, Sugar Industries and Sugarcane Development, Government of Uttar Pradesh and the following decisions were made;

1. Sugar Mills shall submit an action plan to CPCB by 20.07.2018 regarding the steps taken by them pertaining to the notices issued to them. Also they shall submit action plan to implement recommendations of their adequacy assessment report.
2. All sugar mills shall ensure implementation of Charter and shall submit action plan to CPCB by 20.08.2018.
3. All sugar mills shall ensure the upgradation of their ETP within August, 2018 so as to ensure no interruption in functioning of the ETP in the following seasons.
4. All sugar mills shall maintain a logbook on ETP operations on a daily basis.
5. ETP shall be operational at all times and all bypass arrangements should be dismantled with immediate effect.
6. MLSS in aeration tanks should be maintained at 2000-2500 mg/l.
7. All sugar units shall set up environmental laboratories for regular analysis of raw and treated effluent thereby ensuring proper functioning of the ETP.
8. All sugar mills shall employ dedicated technicians for operating and regular maintenance of ETP and shall also ensure that the technicians are given proper training on ETP maintenance and lab analysis on regular basis.
9. To ensure proper training of the environmental technicians all sugar mills shall facilitate training of 5 employees.
10. All sugar mills may establish an Environment Management Cell at their level consisting of concerned officials in order to ensure compliance with environmental standards at industry level itself.

WHEREAS, the unit vide letter dated 31.07.2018 submitted their compliance status of the Charter; and

WHEREAS, CPCB issued direction dated 26.10.2018 under section 5 of the Environment (Protection) Act, 1986, to the unit to comply with the following directions before commencement of crushing season 2018-2019;

1. The unit shall start its operation only after obtaining the valid consent from the Uttar Pradesh Pollution Control Board.

2. The unit shall implement the observation & recommendation of the revalidated adequacy assessment of ETP.
3. The unit shall install sealed flow meter along with running hours meter on bore wells so as to ascertain usage of fresh water for various uses.
4. The unit shall install flow meters at major areas of cold and hot water consumption.
5. The unit shall install flow meters for measuring generation of effluent from various prominent areas.
6. The unit shall maintain logbook for individual process unit for recording daily water consumption and effluent generation also.
7. The unit shall carry out colour coding of pipelines carrying recycled process water and fresh process water.
8. The Unit shall commission mechanical sludge handling system of adequate capacity
9. The unit shall carry out analysis of effluent discharge parameters notified under Environment (Protection) Rules, 1986 and logbook shall be maintained on daily basis.
10. The unit shall submit the implementation status of the Charter in the form of Affidavit and the documentary proof of the completion of the work as committed in the action plan.
11. The unit shall submit implementation status of the Charter and performance adequacy audit of ETP including actual assessment of water consumption and effluent generation duly validated by reputed govt. expert institute namely NSI Kanpur, VSI Pune, IITs during crushing season & submit the report to CPCB within 60 days of resumption of operation.

AND WHEREAS, the unit vide letter dated 04.02.2019 submitted their compliance report including actual assessment of water consumption and effluent generation of season 2018-19 validated by VSI, Pune and following observations were made:

1. Fresh water consumption for industrial usage was observed to be 25.12 l/t of cane.
2. Total waste water generation was observed to be 132 l/t of cane with average crush rate 2298.35 TCD.

AND WHEREAS, the unit was inspected on 26.03.2019 by team of CPCB officials and following observations are made;

1. The unit was operational at the time of inspection.
2. The unit has valid consents to operate under Water Act, 1974 and Air Act, 1981 upto 31.12.2019 for cane crushing capacity of 2500 TCD.
3. Analysis of treated effluent sample shows pH-7.6 as against norms of 5.5-9.0, **BOD-129 mg/l** against norms of 100 mg/l, **COD- 496 mg/l** against norms of 250 mg/l, **TSS-327 mg/l** against norms of 100 mg/l and TDS- 1064 mg/l against norms of 2100 mg/l which indicates non-compliance w.r.t. BOD, COD & TSS against effluent discharge norms on land prescribed under Environment (Protection) Rules,1986.
4. Ponding of wastewater was observed within industry premises and analysis results of sample show **BOD- 805 mg/l, COD-1589 mg/l** and **TSS- 151 mg/l** indicating discharge of untreated effluent.

5. Analysis of treated effluent sample from storage lagoon shows pH-8.03 against norms of 5.5-9.0, BOD- 62mg/l against norms of 100 mg/l, **COD-263 mg/l** against norms of 250 mg/l, **TSS- 162 mg/l** against norms of 100 mg/l and TDS- 524 mg/l against norms of 2100 mg/l which indicates non-compliance w.r.t COD & TSS against effluent discharge norms on land prescribed under Environment (Protection) Rules,1986.
6. Oil skimmer was found non-operational during the visit.
7. Backwash from ACF & MGF was found directly discharging on land.
8. The unit has not maintained the log book of the hot and cold water consumption.
9. The unit has not installed the flow meter at the overflow of the spray pond.
10. The unit has not complied with the direction dated 26.10.2018.

It is evident that untreated/partially treated effluent is being discharged by the unit causing grave injury to the environment.

WHEREAS, The Hon'ble National Green Tribunal (NGT), Principal Bench in the matter of OA No. 593/2017 (WP (CIVIL) No. 375/2012), Paryavaran Suraksha Samiti & Anr. Vs. Union of India & Ors. directed Central Pollution Control Board (CPCB) that "*The CPCB may take penal action for failure, if any, against those accountable for setting up and maintaining STPs, CETPs and ETPs. CPCB may also assess and recover compensation for damage to the environment and said fund may be kept in a separate account and utilized in terms of an action plan for protection of the environment*"; and

WHEREAS, in compliance of above quoted Hon'ble NGT order, cases to be considered for levying penalty are discharges in violation of consent conditions/ non- compliance with the directions, such as direction for closure due to non-installation of OCEMS/ non-adherence to the action plans submitted/ intentional avoidance of data submission or data manipulation by tampering OCEMS; and

WHEREAS, as per the methodology for assessing penalty and environmental compensation, the environmental compensation to be levied to the unit is calculated as **Rs.** 38,40,[illegible]0/- (Rupees Thirty-eight lakhs forty thousand only) for the non-compliance period (17.01.2[illegible] to 24.05.2018), for the crushing season 2017- 18; and **Rs. 1,12,80,000/-** (Rupees one cro[illegible]ve lakhs eighty thousand only) for the non-compliance period (06.11.2018 to 12.05.2019), for the crushing season 2018- 19; and

NOW, THEREFORE, in exercise of powers delegated to Chairman CPCB under Section 5 of the Environment (Protection) Act, 1986, the Unit (M/s Kisan Sahkari Chini Mill, Gajraula, Hasanpur, Amroha, J.P. Nagar, U.P.) is directed **to remain close and deposit Rs.1,5[illegible]0/-** in CPCB A/c No. 532702050000164 (Bank name: Union Bank Of India, IP Extension Branch, Vikas Marg Extn., Delhi; IFSC: UBIN0553271) towards environmental compensation **within 15 days** from the date of receipt of direction and shall comply with the following directions;

1. The unit shall remain closed and not operate without seeking permission from CPCB.
2. The unit shall comply with the direction dated 26.10.2018.
3. The unit shall submit adequacy assessment of treatment facility by rep[illegible]vt. institute; including work completion report regarding implementati[illegible]he recommendations of the adequacy report within 45 days.

4. The unit shall seek permission from CPCB, after compliance of the above directions, before resumption of operation.

In case of default in compliance with the above directions, CPCB will be constrained to initiate action against the Unit (Kisan Sahkari Chini Mill, Gajraula, Hasanpur, Amroha, J.P. Nagar, U.P.) without giving any further notice in accordance with the provisions of the Environment (Protection) Act,1986.

27/05/14

(S.P. SINGH PARIHAR)
CHAIRMAN

Copy to:

1. **Principal Secretary** Sugar Industry and Cane Development Department,"G" Block, 2/3, Mantri Wing, 4th Floor, Bapu Bhawan,Vidhan Sabha Marg Lucknow - 226 001	With request to ensure compliance of the directions
2. **Member Secretary** Uttar Pradesh Pollution Control Board, Building No. TC-12V,Vibhuthi Khand, Gomti Nagar, Lucknow – 226 010	:With request to ensure compliance of the directions.
3. **Joint Secretary (CP Division)** Ministry of Environment, Forest & Climate Change Prithvi Block, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi – 110 003	: For kind information, please
4. **District Magistrate** J.P. Nagar-244241 Uttar Pradesh	: With request to ensure closure of the unit in compliance of the directions
5. **Superintending Engineer** Paschimanchal Vidyut Vitran Nigam Ltd. J.P. Nagar-244241, U.P.	: With a direction to disconnect power supply
6. **Regional Director** Regional Directorate Central Pollution Control Board, PICUP Bhawan, Ground Floor, Vibhuti Khand, Gomti Nagar, Lucknow – 226 010	:For follow up and ensuring compliance
7. In-charge, IT Division, CPCB	:with request to upload on CPCB server.
8. Master file/Guard file WQM II, CPCB Delhi	

(PRASHANT GARGAVA)
MEMBER SECRETARY