BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

I.A. No. 351 of 2024

IN

ORIGINAL APPLICATION NO. 234 OF 2020

IN THE MATTER OF:

ANURADHA …APPLICANT

VERSUS

STATE OF UTTAR PRADESH & ORS. …RESPONDENTS

INDEX

	CPCB showing utilization of the EC amount alongwith proofs.	
5.	**Annexure R-4:** A copy of the letter 09.07.2018 issued by the UPSMA to inter alia the answering Respondent enclosing a copy of the Charter for Sugar Industries issued by CPCB.	17 - 30
6.	**Annexure R-5:** A copy of the purchase order dated 12.09.2018 placed by the answering Respondent upon M/s Membrane India for installation of a treatment plant for colling tower water.	31 - 35
7.	**Annexure R-6:** A copy of the letter dated 17.12.2019 sent by answering Respondent to NSI, Kanpur for ETP validation	36
8.	**Annexure R-7:** A copy of the letter dated 14.02.2020 sent by the answering Respondent to the CPCB	37 - 39

ANUNAYA MEHTA
ADVOCATE FOR THE RESPONDENT
CHAMBER NO. 388, BLOCK – 2
DELHI HIGH COURT
NEW DELHI
9899834055 || anunaya.mehta@gmail.com

NEW DELHI
DATED: 12.11.2024

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI

I.A. No. 351 of 2024

IN

ORIGINAL APPLICATION NO. 234 OF 2020

IN THE MATTER OF:

ANURADHA …APPLICANT

VERSUS

STATE OF UTTAR PRADESH & ORS. …RESPONDENTS

REPLY ON BEHALF OF M/S. TRIVENI ENGINEERING & INDUSTRIES LTD. TO THE APPLICATION DATED 02.08.2024 FOR PLACING ON RECORD ADDITIONAL DOCUMENTS

MOST RESPECTFULLY SHOWETH:

1. Contents of Para 1 of the application are wrong and denied. It is vehemently denied that the Applicant has approached the Hon'ble Tribunal with a genuine and valid grievance. On the contrary, it is the submission of the answering Respondent that the Original Application is motivated and filed at the instance of persons having vested interests against the answering Respondent. The answering Respondent has not violated environmental norms and no polluted water / effluent is being discharged by the unit onto lands, as alleged by the Applicant. The answering Respondent is not responsible for polluted drinking water in the area *at all*. In fact, the unit has always complied with discharge norms. In fact, the unit has installed the Online Continuous Effluent

Monitoring System **("OCEMS")** and OCEMS data, is monitored 24x7 by both UPPCB and CPCB continuously. The unit has not been intimated of any default by either of the said agencies, which shows that the subject Sugar Unit is fully compliant and the parameters level in the effluent discharge were within the prescribed limit. This would be possible only when the ETP set-up was working properly. In this background, the answering Respondent categorically denies all allegations of causing pollution, as levelled by the Applicant.

2. Contents of para 2 of the application as far as they relate to constitution of a committee is a matter of record. However, as far as contents of the inspection reports are concerned, suffice it is to state that the answering Respondent has filed its detailed response / objections to the said reports.

3. Contents of para 3 of the application are completely wrong and denied. It is vehemently denied that by way of the application in question, the Applicant is seeking to bring on record any material facts which are relevant for adjudication of the Original Application. On the contrary, it is submitted that the submissions made in the application are completely misleading and misguiding. The Applicant has attempt to present half-facts and has twisted facts so as to create prejudice against the answering Respondent and present a false narrative before this Hon'ble Tribunal. The filing of the present application is completely *mala fide* and is an abuse of the process of law.

4-5. Contents of para 4 and 5 of the application are completely wrong and denied. Contrary to the submission of the Applicant, it is the submission

of the answering Respondent that the Applicant has distorted facts and has extracted incomplete sentences from previous inspection reports to mislead the Hon'ble Tribunal and present a false narrative before this Hon'ble Tribunal, whereas, the fact of the matter is that previous inspection report relied upon by the Applicant does not support his case *at all*. In relation to the observation regarding the installation of separate flowmeters at the outlet for the ETP and SRS at the Respondent's unit, the Applicant has claimed that earlier inspections had indeed directed the answering Respondent to install separate flow meters at the outlet of SRS and ETP. The Applicant has referred to earlier inspections dated 06.03.2018 and 02.04.2019 wherein it was found "… *that there was no provision of treatment of the spray pond overflow And further found that flow meters were not installed at power turbine cooling, boiler, wet scrubber, cooling tower of cogeneration, final molasses cooling point etc*."

In the submission of the answering Respondent, reliance by the Applicant on the observations in the earlier inspections dated 06.03.2018 and 02.04.2019 is patently incorrect. The observations referred to, do not relate to a separate flowmeter being installed at the ETP and SRS outlet. Nowhere do these aforementioned reports mention anything about installation of separate flowmeters at the ETP and SRS outlet. The flowmeters referred in the inspection reports relate to other flow meters, and not the requirement of a separate flow meter at the outlet of the ETP and the SRS systems, as alleged. Further, as far as flowmeters noted in those inspection reports are concerned, Page 10 of the joint inspection report filed pursuant to directions of this Hon'ble

Tribunal makes it clear that all the flowmeters noted in the earlier inspections dated 06.03.2018 and 02.04.2019 were found installed at site.

The answering Respondent reiterates that the subject Sugar Manufacturing Unit had been inspected by UPPCB, CPCB and IIT Roorkee (as directed by CPCB) on multiple occasions and in these inspections, no objection was raised with the placement / location of the flow-meters at the unit at the ETP and SRS outlet. Be that as it may, after taking into account the observations of the Joint Committee, the answering Respondent has now installed the flowmeters, both at the inlet of the ETP and well as SRS outlet separately. In this regard, even the reply filed by UPPCB acknowledges that upon recommendation of the Joint Committee, the requite flowmeters are now in place. Relevantly, the absence of flowmeter at the outlet of ETP has not caused any environmental pollution or obstructed the process of monitoring in any manner whatsoever. Be that as it may, since it is now a matter of record that all requisite flow-meters have been installed at the unit, in the submission of the answering Respondent, the said issue deserves to be closed.

6. In para 6 of the Application, the Applicant has relied upon certain findings from the CPCB Directions dated 04.11.2019 wherein certain defaults were pointed out in relation to the unit – one with regard to the logged water in the unit; and another with regard to the groundwater sample collected from the within the unit.

6.1 In this regard, it may be noted that in view of the defaults which were noted, Environmental Compensation was levied upon the unit. Initially,

an amount of Rs. 12,90,000/- was levied upon the unit and subsequently, in view of the representation made by the unit and the explanation furnished during the personal hearing conducted by CPCB, the compensation amount was reduced to Rs. 7,50,000/-. The CPCB directed the unit to deposit the amount of EC into an escrow account to be used as per an approved action plan in accordance with the EC utilization policy. This is clear on a reading of the directions dated 04/07.11.2019 which has been filed issued by the CPCB and annexed with the application as Annexure A/1.

6.2 The said direction was duly complied with and an action plan was submitted under the letter dated 29.11.2019 and escrow account was opened on 05.12.2019. The amount of Rs. 7,50,000/- deposited by the unit was duly utilized *inter alia* for construction of a 300 m^2 hazardous tank to collect wash water and for covering drains to minimize addition of foreign matter into effluent. The said actions on part of the unit were accepted and the issue was closed.

A copy of the letter dated 05.12.2019 sent by the answering Respondent to the CPCB informing them of compliance of the directions issued by CPC in relation to opening an escrow account of Rs. 7,50,000/- and letter dated *nil* informing CPCB of a time-bound action plan are annexed herewith and marked **Annexure R-1 and R-2** respectively. A copy of the letter dated 23.05.2022 sent by the answering Respondent to CPCB showing utilization of the EC amount alongwith proofs is annexed herewith as **Annexure R-3**.

6.3 In the submission of the answering Respondent, once an earlier issue has been closed after due compliance by the unit, the same cannot be

used in perpetuity by the Applicant to show default by the unit or to seek action against the unit once again. Such an attempt would be improper and in violation of principles akin to *res judicata*.

6.4 Further, as far as the issue of groundwater sample collected from within the unit premises is concerned, reference may be had to Point 19 at Page 13 of the inspection report presented before this Hon'ble Tribunal, pursuant to inspection dated 23.12.2020. The said reports records that groundwater confirmed to norms laid down in this regard. This in fact implies and improvement of the position vis-à-vis earlier reports and supports the case of the answering Respondent rather than the Applicant.

7. Contents of para 7 of the application are completely wrong and denied. The allegation made in the corresponding para is completely incorrect. In fact, the very basis and foundation of the Applicant's allegation is incorrect. The requirement for installation of a separate treatment mechanism for spray pond overflow through a Sulphur Recovery system was introduced only by the Charter for Sugar Industries published by the CPCB which was circulated to all Sugar units by the Uttar Pradesh Sugar Mills Association under its letter dated 09.07.2018. Therefore, the allegation of the Applicant that the unit has been causing pollution since 2007 (since its establishment) since it has operating without provision for spray pond overflow is completely without substance.

A copy of the letter 09.07.2018 issued by the UPSMA to *inter alia* the answering Respondent enclosing a copy of the Charter for Sugar Industries issued by CPCB is annexed herewith as **Annexure R-4**.

7.1 Prior thereto, there was no requirement for installation of a separate SRS system to deal with spray pond overflow. The overflow from the spray pond was also being treated through the regular ETP itself. The removal of sulphates was being done with chemical precipitation by adding unslaked water lime in the form of calcium hydroxide, which was removed from the bottom of the primary clarifier after flocs settled. Further the combined effluent was sent to the aeration tank (activated sludge process) conventional treatment system. The prescribed norms for effluent discharge were being fulfilled through treatment of effluent by the ETP.

7.2 Be that as it may, upon being notified under letter dated 09.07.2018 regarding the charter for sugar industries, and in immediate compliance of the said recommendations, a purchase order dated 12.09.2018 was placed by the answering Respondent upon M/s Membrane India for installation of a comprehensive system to treat the cooling tower overflow with a sulphur recovery system. The Unit installed & commissioned the SRS plant in July 2019 and requested the National sugar institute Kanpur through its letter for SRS system validation on 17.12.019. The National sugar institute Kanpur officials visited the unit on 8-9th January 2020 and released the validation report on 05.02.2020. This validation report was submitted to CPCB on 14.02.2020. This system has been active since its installation and has been used continuously. A copy of the purchase order dated 12.09.2018 placed by the answering Respondent upon M/s Membrane India for installation of a treatment plant for colling tower water is annexed herewith as **Annexure R-5**. A copy of the letter dated 17.12.2019 sent by answering Respondent to NSI, Kanpur for ETP validation is annexed herewith as

Annexure R-6. A copy of the letter dated 14.02.2020 sent by the answering Respondent to the CPCB is annexed as **Annexure R-7**.

8. The answering Respondent wishes to reiterate that the allegations being made by the Applicant in the present Application are completely unfounded and baseless. The answering Respondent is the target of superfluous allegations by the Applicant for extraneous reasons. Pertinently, persons living in the villages located in the vicinity of the unit, other than persons such as the Applicant who have vested interests, have not otherwise expressed any issues or difficulties with operation of the unit in question.

9. As such, in the submission of the answering Respondent, there is no merit in the allegations made by the Applicant by way of the application under consideration. The same deserves to be dismissed outright.

RESPONDENT

THROUGH

ANUNAYA MEHTA
ADVOCATE FOR THE RESPONDENT
CHAMBER NO. 388, BLOCK – 2
DELHI HIGH COURT
NEW DELHI
9899834055 || anunaya.mehta@gmail.com

NEW DELHI
DATED: 12.11.2024

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION NO. 234 OF 2020

IN THE MATTER OF:
ANURADHA ...APPLICANT

VERSUS

STATE OF UTTAR PRADESH & ORS. ...RESPONDENTS

AFFIDAVIT

I, Bhoopender Singh, aged about 57 years, s/o Shri Amar Singh, R/o House No. I-4, Prakash City, Kashipur, District Udham Singh Nagar Uttarakhand, presently in Noida do hereby solemnly affirm and declare as under:

1. That I am working as General Manager of of M/s Triveni Engineering and Industries Ltd. in the above-mentioned matter and am well conversant with the facts and circumstances of the case and as such I am competent to swear this affidavit.
2. That I state that I have read and understood the contents of the accompanying response. The same has been drafted by counsel under my instructions. I state that the contents are true and correct to my knowledge, and on the basis of legal advice received and believed to be true. Nothing material has been concealed.

DEPONENT

VERIFICATION:-

Verified at Noida on this 12th day of November 2024 that the contents of my above affidavit are true and correct to my knowledge and no part thereof is false and nothing material has been concealed therefrom.

NOTARY N K Yadav Advocate Notary Govt. of India G.B. Nagar Regd. No. 4641 GOVT. OF INDIA

DEPONENT

ATTESTED
N.K. YADAV
Regd. 4641, Advocate
Govt. of India
G.B. Nagar

12 NOV 2024

ANNEXURE R-1

Triveni ENGINEERING & INDUSTRIES LTD.

Sugar Unit : **Milak Narayanpur**

Village - **Milak Narayanpur,** P.O. Dadiyal - 244925
Tehsil - Tanda Badli, Distt. Rampur (Uttar Pradesh.)
Tel. : +91-9758400190-191, Fax : (0595) 2565002

Ref. -TEIL/MNP/Admin./2019/1179
Dated: 5th December, 2019

The Chairman,
Central Pollution Control Board,
Ministry of Environment, Forest & Climate Change,
Government of India,
Parivesh Bhawan, East Arjun Nagar,
DELHI 110 032

Sub: Compliance of directions issued under Section 5 of the Environment (Protection) Act 1986, dated 04/07.11.2019 and our reply wide letter no. TEIL/MNP/Admin./ 1163.

Dear Sir,

This has reference to your letter bearing No. B-190198/WQM-II (RG)/CPCB/Sugar/57/2016-17/8556 dated 04/07.11.2019 and our reply wide letter no. TEIL/MNP/Admin./ 1163 regarding the captioned directions.

In compliance of your goodself's directions, we have opened an Escrow Account No. 7769002100000354 in Punjab National Bank Branch Milak Narayanpur and deposited the Environmental Compensation amount of Rs. 750000 (Rupees seven lac fifty thousand only) under intimation to the Department of Sugar, State of U.P., within the stipulated period, as directed in the notice under reference. The said account shall be operated by any from Group A and District Cane Officer (Rampur) jointly the following signatories-

Sl. No.	Group-A	Group-B
1.	Mr. Bhoopendra Singh General Manager	Mr. Hemraj Singh District Cane Officer (Rampur)
2.	Mr. Sudhir Kalra General Manager (F&A)	

This is for your information and directions, please.

Thanking you,

Yours truly,
For Triveni Engineering & Industries Ltd.

AUTHORISED SIGNATORY

Attached- Bank Details of Escrow Account.
Copy to-

1. The Joint Secretary (CP Division)
   Ministry of Environment, Forest & C. C.
   Prithvi Block, Indira Paryavaran Bhawan,
   Jorbagh Road, New Delhi – 110 003

P/2

Triveni
ENGINEERING & INDUSTRIES LTD.

Sugar Unit : **Milak Narayanpur**

Village - **Milak Narayanpur,** P.O. Dadiyal - 244925
Tehsil - Tanda Badli, Distt. Rampur (Uttar Pradesh.)
Tel. : +91-9758400190-191, Fax : (0595) 2565002

2. The Principal Secretary
   Sugar Industry and Cane Development Department
   "G" Block, 2/3, Mantri Wing, 4th Floor, Bapu Bhawan, Vidhan Sabha Marg
   Lucknow – 226 001

3. Member Secretary
   Uttar Pradesh Pollution Control Board,
   Building No. TC-12V, Vibhuthi Khand,
   Gomti Nagar, Lucknow – 226 010

4. District Magistrate,
   Rampur– 244901 (Uttar Pradesh).

5. Managing Director
   Urja Bhawan
   Pashchimanchal Vidyut Vitran Nigam Ltd.,
   Voctoria Park, Meerut 250001

6. Regional Director
   Regional Directorate Central Pollution Control Board, PICUP Bhawan,
   Ground Floor, Vibhuti KHand, Gomati Nagar,
   Lucknow- 226010

7. Regional Officer UPPCB
   Moradabad.

8. In-charge, IT Division, CPCB

9. In-charge, F&A, CPCB

5th Dec-2019

To,

General Manager
Triveni Engineering & Industries Ltd.
Sugar Unit Milak Narayanpur

Sub: **Escrow Account No 7769002100000354**

Dear Sir,

This is to confirm that we have opened an Escrow Account No 7769002100000354 and we have received a sum of Rs. 7,50,000/- on dated 22-11-2019 in the said account, towards compliance of direction issued by Central Pollution Control Board , Ministry of Environment, Forest & Climate Change, Government of India dated 06-11-2019, for deposit of Environmental Compensation (EC).

The said account shall be operated by any one from Group-A and DCO (Rampur) jointly by following Signatories:

S.No	Group-A	Group-B
1	Mr. Bhoopendra Singh General Manager	Mr. Hemraj Singh District Cane Officer (Rampur)
2	Mr. Sudhir Kalra General Manager (F & A)	

Yours truly,

For Punjab National Bank

PUNJAB NATIONAL BANK

शाखा प्रबन्धक/Branch Manager
नारायणपुर टाण्डा/Narainpur Tanda

Branch Manager
Narainpur (Rampur)

ANNEXURE R-2

Triveni
ENGINEERING & INDUSTRIES LTD.

Sugar Unit : **Milak Narayanpur**

Village - **Milak Narayanpur,** P.O. Dadiyal - 244925
Tehsil - Tanda Badli, Distt. Rampur (Uttar Pradesh.)
Tel. : +91-9758400190-191, Fax : (0595) 2565002

Ref. -TEIL/MNP/Admin./ 1163

The Chairman,
Central Pollution Control Board,
Ministry of Environment, Forest & Climate Change,
Government of India,
Parivesh Bhawan, East Arjun Nagar,
DELHI 110 032

Sub: Compliance of directions issued under Section 5 of the Environment (Protection) Act 1986, dated 04/07.11.2019.

Dear Sir,

This has reference to your letter bearing No. B-190198/WQM-II (RG)/CPCB/Sugar/57/2016-17/8556 dated 04/07.11.2019 which was received by us on 08.11.2019, regarding the captioned directions.

In compliance of your goodself's directions, we have opened an Escrow Account and deposited the Environmental Compensation amount of Rs. 750000 (Rupees seven lac fifty thousand only) under intimation to the Department of Sugar, State of U.P., within the stipulated period, as directed in the notice under reference.

In further compliance, we are submitting a time-bound action plan for your goodself's approval, for utilization of the environmental compensation amount for environmental management including augmentation and upgradation of ETP implementation of training program etc, duly detailed in the annexed letter, annexed hereto as Annexure A

After the action plan is approved by your goodself, we shall, in compliance of your direction, make the approved plan available to the Department of Sugar, State of U.P. We shall also submit the performance assessment of ETP by a reputed Government Institute within sixty days of resumption of operation, which for this Unit would expire on 05.01.2020.

P/2

Triveni
ENGINEERING & INDUSTRIES LTD.

Sugar Unit : **Milak Narayanpur**

Village - **Milak Narayanpur,** P.O. Dadiyal - 244925
Tehsil - Tanda Badli, Distt. Rampur (Uttar Pradesh.)
Tel. : +91-9758400190-191, Fax : (0595) 2565002

We have, after obtaining valid consent from UPPCB and in pursuance of the directions of the State Government for early commencement of crushing operations, commenced the crushing operations of the Unit on 09.11.2019.

This is for your further instructions and directions, please.

Thanking you,

Yours truly,
For Triveni Engineering & Industries Ltd.

AUTHORISED SIGNATORY

Copy to:

1. The Joint Secretary (CP Division)
   Ministry of Environment, Forest & C. C.
   Prithvi Block, Indira Paryavaran Bhawan,
   Jorbagh Road, New Delhi – 110 003

2. The Principal Secretary
   Sugar Industry and Cane Development Department
   "G" Block, 2/3, Mantri Wing, 4th Floor, Bapu Bhawan, Vidhan Sabha Marg
   Lucknow – 226 001

3. Member Secretary
   Uttar Pradesh Pollution Control Board,
   Building No. TC-12V, Vibhuthi Khand,
   Gomti Nagar, Lucknow – 226 010

4. District Magistrate,
   Rampur– 244901 (Uttar Pradesh).

5. Managing Director
   Urja Bhawan
   Pashchimanchal Vidyut Vitran Nigam Ltd.,
   Voctoria Park, Meerut 250001

6. Regional Director
   Regional Directorate Central Pollution Control Board, PICUP Bhawan,
   Ground Floor, Vibhuti KHand, Gomati Nagar,
   Lucknow- 226010

7. In-charge, IT Division, CPCB

8. In-charge, F&A, CPCB

Triveni Engineering & Industries Ltd. Sugar Unit- Milak Narayanpur
Action Plan for upgradation/Improvements of ETP

Annexure-A

S.No.	Detail of Jobs	Purpose/Benefits	Cost in Lac	Target date
1-	Construction of hazardous tank	Construction of hazardous tank (RCC) of 300 m3 to collect wash water generated during chemical/ mechanical cleaning of evaporator and discharging it in a controlled manner to ETP.	5.00	within two month
2-	Pump for hazardous tank	To dicharge effluent in controlled manner to ETP	0.50	within two month
3-	Drain covering	Covering of all drains to minimize the addition of bagasse & othe forein matters in effluent water.	1.00	within one month
4-	MS pipe lines for Irrigation	MS pipe line required for irrigation purpose to supply treated water to inhouse land & farmers land.	1.25	within two month
		Total	**7.75**	

Triveni
ENGINEERING & INDUSTRIES LTD.

+91 7055000738
bsingh@mnp.trivenigroup.com
www.trivenigroup.com

Ref No. TEIL/ MNP/125 **Date: 23rd May 2022**

Dr A.K. Vidyarthi,
Director & Head, WQM-II
Central Pollution Control Board,
Ministry of Environment, Forest & Climate Change,
Government of India, Parivesh Bhawan, East Arjun Nagar,
Delhi-110032.

Subject: Expenditure statement of Environmental Compensation (EC) amount utilized from ESCROW account.

Sir,

This is with reference to your letter no. B-19004/NGRBA/CPCB/2015-16 dated 17.02.2022 received through District Cane Officer, Rampur vide his letter no. 1977-79/Kray dated 24.02.2022 regarding utilization of Rs 7,50,000/- deposited in ESCROW account. Also, with reference to your letter no. B-19004/NGRBA/CPCB/2015-16/3180 dated 22.07.2020 and your letter no. B-19004/NGRBA/CPCB/2015-16/1387 dated 15.01.2020, we want to submit that we have already submitted the progress report against action plan for utilization of Environmental Compensation in ESCROW account by our letter no. TEIL/MNP/2020/1988 dated 29.07.2020.

However, in this regard we wish to submit that the said amount of Rs. 7,50,000/- has been properly utilized for execution as per CPCB approved action plan. In compliance to the said instructions, please find enclosed herewith the following:

(a) Status of available /utilized amount from fund position of ESCROW account.
(b) Account statement of ESCROW account no. 7769002100000354
(c) Copies of invoices
(d) Photographs of constructed hazardous tank and pH meter.

Submitted for your information and kind perusal of your good self-please.

Thanking You,

Yours faithfully,

For- Triveni Engineering & Industries Ltd.,

Authorized Signatory

CC to:

1. **District Cane Officer, Rampur**
2. **Regional Officer, UPPCB, 1-A, INS-1, Awas Vikas Colony, Budhi Vihar, Delhi Road, Moradabad.**

ANNEXURE R-4

U.P. SUGAR MILLS ASSOCIATION

403, Chintels House,
16, Station Road,
Lucknow - 226001
Email – upsma@rediffmail.com

July 9th, 2018

Circular No. **052** of 2018

TO ALL MEMBERS OF THE ASSOCIATION

As circulated by CPCB in the meeting in Lucknow on 6th,July,2018. We are forwarding herewith "Charter for Water Recycling & Pollution Prevention In Sugar Factories Situated in Ganga Basin".

For information and necessary action by the members.

Regards,

--sd./---

(Deepak Guptara)
Secretary General

CC : President / UPSMA

Enclosure : As above

CHARTER FOR WATER RECYCLING & POLLUTION PREVENTION IN SUGAR FACTORIES SITUATED IN GANGA BASIN

BARE MINIMUM TECHNOLOGY (BMT)

BMT is indicative of the systems, equipment, processes and practices that are generally considered essential to achievement of the objectives of this Charter.

Technology actually required , or implemented, by individual sugar factories to achieve the same documented level of environmental protection, may differ on account of their unique set of circumstances like scale of operations, equipment & system configuration , product portfolio, raw material etc.

Bare Minimum Technologies (BMT)			
Sl. No	Functional Area	Facility Required	
		BMT/Optional	Type of facility
1	Cane preparation and juice extraction		
1.1	Cane unloading	BMT	Cane carrier of suitable width & length with variable speed drive
		BMT	Hydraulic grabs with cross and longitudinal travel trolleys/ sling bar for cane unloading
			Truck /trolley tippler
1.2	Cane Preparation		System to ensure Preparatory Index (PI) of 85+ by installation of :
		Optional	Cane kicker
		BMT	cane leveller/cane chopper, cane cutter and swing hammer fibrizer/cane shredder
		BMT	Rake elevator below fibrizer/ shredder with variable drive
		BMT	Interlocking system in cane preparatory devices with cane carrier
		BMT	Closed loop water circulation for cooling of bearings of preparatory devices
1.3	Cane Milling	BMT	To attain a Reduced Mill Extraction (RME) of 96+ , a milling tandem comprised of 4 three rollers mills with toothed UFR and Donnelly chute with rake carriers between the mills or any other combination using 2/3 rollers mills with UFR/TRF/GRPF/TRPF
		BMT	Each mill driven by a variable speed DC drive with speed reduction through enclosed reduction gear box/ planetary gear
		BMT	Interlocking of all Rake elevator & rake carriers with mills
		BMT	Hydraulic loading and hot water Compound Imbibition using hot water of 85°C @ 250-300% on fibre or as required. Flow measurement & control system to be installed
		BMT	Closed loop water circulation for cooling of mill bearings & mill drives
1.4	Spillage Monitoring & Control	BMT	Spill pits/tanks, and drainage system for containment/recovery, dry cleaning of floors with bagasse.

2.0	**Steam Generation**		
		BMT for < 45 kg/cm^2 pressure boiler	Bi-drum boiler with tube bank, front ,roof ,rear and sides water walls. Super heater, economiser, air pre-heater with ID,FD SA fans etc. Wet scrubber for arresting ash and particulate matters (PM)
		BMT for > 45 kg/cm^2 pressure boiler	Bi-drum boiler with tube bank, front ,roof ,rear and sides water walls. Primary & secondary Super heaters, atemperator, economiser, air pre- heater, de-aerator , ID, FD, SA fans etc. Electrostatic Precipitator (ESP) for arresting ash and particulate matters (PM)
2.1	Instrumentation & control	BMT	Instrumentation , automation & control through DCS
2.2	Waste water re-cycling	BMT	Closed loop re-circulation of waste water generated from RO/DM reject and boiler blow down after treatment in ETP
2.3	Ash disposal	BMT	Supply to cement plant/ filling of low lying land/ bio-composting
3.0	**Power Generation**		
3.1	With/ without Incidental co-generation	BMT for boiler pressure up to 45 kg/cm^2	Back pressure/ Bleed cum back pressure steam turbine coupled with an alternator to generate electricity at 11 KV
3.2	With incidental co-generation	BMT for boiler pressure above 45 kg/cm^2	Back pressure/ Bleed cum back pressure/ Extraction cum condensing steam turbine coupled with an alternator to generate electricity at 11 KV
3.3	With incidental and off season co-generation		Extraction cum condensing (EC) steam turbine coupled with an alternator
			Water cooled condenser, cooling towers of suitable capacity for EC turbine
			Closed loop cooling water circulation at power generation with cooling tower of suitable capacity
			Suitable switch yard for power export to grid
4.0	**Handling of Discharges**		
4.1	**Waste water Discharges**		
4.1.1	Wastewater Treatment	BMT	Separate treatment of spray pond/ PCT overflow for sulphates removal followed by combined treatment with other wastewater streams after removal of oil & grease passing through primary, secondary and tertiary treatment
		BMT	Primary treatment : comprising course & fine screening, stabilization/equalization with aeration, settling in clarifier, primary sludge dewatering
		BMT	Secondary treatment : comprising anaerobic treatment in case of high COD, aerobic treatment with diffused

			aeration (Activated Sludge Process), secondary settling in secondary clarifier, thickening of sludge through centrifuging/ decanting /sun-drying(sludge drying beds)
		BMT	Tertiary treatment : comprising of multi-grade filter (MGF) and activated carbon filter (ACF) of suitable capacity
4.1.2	Effluent Treatment Plant (ETP) design	MBT	Details of various units of ETP are given at **Annexure-I**
4.1.3	Treated wastewater disposal		As per norms of CPCB/SPCB
4.1.4	Condensate Polishing Unit	BMT for surplus condensate for factories having boiler > 45 kg/cm^2 steam pressure	Reverse Osmosis (RO) followed by MGF and ACF or any other proven technology. Treated condensate may be used for various purposes e.g. power plant cooling tower make-up.
4.2	**Atmospheric Discharges**		
	Stacks		All stacks to be preceded by ESP or multi cyclone with wet scrubber as appropriate to arrest ashes and particulate matters
5.0	**General Pollution Abatement Measures**		
5.1	Resource Management		Optimum use of all material resources through input-output analysis and establishment of moving targets for specific consumption of inputs. Cost audits to be moderated by environmental considerations.
5.2	Good house keeping		Containment and management of material spillages to prevent contamination of soil, ambient air and ground water, besides increasing pollution loads and vitiating workplace environment.
5.3	Chemical cleaning of heat exchangers		Trial & use of hydroject cleaning in place conventional chemical + mechanical cleaning to the extent possible. Construction of " Hazardous Tank" to collect washings of chemical cleaning & for adding gradually in main ETP
5.4	Monitoring & control		Factory –wide fresh water distribution networks be colour coded (as per BIS) to identify process, utility and domestic supplies.
6.0	**Environmental Management Systems**		
6.1	Environmental Control Laboratory		Establishment of testing facilities, manned by trained and dedicated staff, for routine monitoring of effluent generation and performance measurement of pollution control systems, equipment and devices. The staff will also be responsible for maintaining proper records and initiating non-compliance warnings.
6.2	Environmental Audits/ Third party inspection		Half Yearly Comprehensive Audit/ third party inspection Performance audit/inspection by third party during season
7.0	**Compliance Monitoring**		

7.1	Off-line routine monitoring		Routine analysis of pH, TSS, COD, BOD, TDS, DO, Colour, MLSS etc. for waste water (effluent) and treated effluent from ETP
			Routine analysis of PM, SO_2, NOx , CO_2, O_2 for stacks
			pH,TSS, COD,TDS, MLSS, colour daily. Air quality measurements as prescribed by SPCB
7.2	Flow measurement		Magnetic flow meter with remote mounted transmitter and totaliser feature with connectivity to a remote PC through an RTU
7.3	Online Continuous Monitoring for wastewater		Online monitoring for flow, pH, TSS, BOD, TDS of treated water as required by SPCB
7.4	Online Continuous Monitoring for air emission		Particulate Matter (PM) emission from stacks as required by SPCB
8.0	**Manufacturing of Plantation White Sugar**		
8.1	Juice weighment	BMT	Mass flowmeter of suitable capacity with arrangement for check weighment. System to have auto juice flow control system to have stabilized flow to process.
8.2	Juice heating	BMT	Heating the raw juice and sulphited juice to 68-70 ^{0}C and 103-104^{0}C in tubular/DCH/PTHE/Condensate heaters of suitable heating surfaces in multiple stages. Similarly heating the clear juice in Tubular/PTHE/DCH to desired temperature. Condensates to be utilized for various purposes in mill and boiling house.
8.3	Clarification	BMT	Clarifying the heated raw juice by addition of milk of lime @ 1.2-1.8%, v/v and SO_2 gas in a juice Sulphiter preferably having auto pH control system.
8.4	Milk of lime preparation	BMT	Slacking quick lime with condensate and screening it through hydro cyclone/vibro screen/Koran classifier.
8.5	SO_2 generation	BMT	Generation of sulphur di-oxide in film type sulphur furnace having combustion control and molten sulphur feed control system with efficient cooling of gas to 70-72^{0}C. Re-circulation of cooling water through fanless cooling towers to minimize fresh water usage.
8.6	Settling	BMT	Use of efficient Rapi Dorr 444 type or equivalent clarifier with retention time not exceeding 2 ½ hours.
8.7	Filtration	BMT	Filtration of underflow/muddy juice from clarifier to recover juice in RVF. Hot condensate of about 70^{0}C to be used for cake wash. Alternatively use of Decanters. Quantity of wash water to be monitored by installing flow meters.
8.8	Evaporation	BMT	Concentration of juice so as to convert it in to syrup using Multiple Effect Evaporators, Quadruple or Quintuple with extensive vapour bleeding system to have heat recovery arrangement through installation of condensate cigar &

			condensate Heaters. Exhaust steam condensate to be used as boiler feed water, whereas condensate from other bodies to be used for meeting requirements of mill & boiling house. For boilers up to 45 kg/cm^2 g pressure, IInd body condensate to be used partially as boiler feed water make up, whereas, for higher boiler pressure, it is to be used after treatment though CPU.
8.9	Syrup Sulphitation	BMT for	Bleaching the syrup obtained from Evaporators to a pH 5.2-5.4 using SO_2 gas.
9.0	Crystallisation	BMT	**a.** Further concentration of sulphited syrup in vacuum pans (single effect evaporators) to carryout crystallization of sugar. Low head batch pans/ low head batch pans with mechanical circulator/continuous vacuum pans to be used. Level of boiling mass in pan and fluctuation in vacuum to be avoided to inhibit entrainment. Tell tail bottles to be provided to periodically check any entrainment. Use of hot water during pan boiling to be measured by installing flow meter & efforts to be made to keep it as low as possible. Condensates to be utilized in a closed loop for meeting mill & boiling house requirements. **b.** Cooling & conditioning of massecuite boiled in vacuum pans in air/water cooled batch/ continuous crystallizers. A – massecuite to be hot cured, B-massecuite cooled to about 52-54°C & C massecuite to be cooled to 40-42°C & then reheated to 52-54°C. Proper cooling arrangement to be provided for re-circulating cooling waters.
9.1	Centrifugation	BMT	Separation of sugar crystals from mother liquor by centrifuging in fully automatic recycling type batch centrifugal in case of A- Massecuite and in continuous machines in case of other massecuite. Quantity of wash water to be monitored & controlled by installing flow meters.
9.2	Cooling & Condensing		Installation of single entry stainless steel jet condensers. The difference between vapour and tail pipe temperature to be less than 10^{0}C. For spray ponds, minimum drop of 13^{0}C or within 7^{0}C of wet bulb temperature, whichever is less, to be achieved. For cooling towers, minimum drop of 20^{0}C or within 5^{0}C of wet bulb temperature, whichever is less, to be achieved.
9.2	Sugar Dryer	BMT	Drying of sugar on grass hoppers or fluidized bed dryers to the extent that level of moisture should not be more than 0.03 % w/w.
10.0	**Additional steps for production of Refined Sugar**		
10.1	Raw sugar melting	BMT	Raw sugar melting in sweet water generated from IER

			and hot condensate.
10.2	Filtration	BMT	Filtration of raw sugar melts through vibro screen / stationary screen of about 0.75 mm opening.
10.3	Remelt liquor heating	BMT for phosphatation process.	Remelt filtered liquor heating in DCH or PTHE up to 85^0C of suitable heating surfaces.
10.4	Clarification	BMT	Clarifying the heated remelt liquor by addition of colour precipitant of about 100-150 ppm & about 400-500 ppm P_2O_5 on solid and milk of lime of 2-2 ½ ^{0}Be. Retention time in reaction tank to be about 8 minutes and in floatation clarifier to be about 30 minutes.
10.5	Filtration	BMT	One or two stage filtration of underflow using MBF/ candle / leaf filters of suitable filtering area & filtration rate of about 0.45-0.50 $m^3/m^2/hr$.
10.6	Decolourization	BMT for ion exchange resin	Decolourization of clarified liquor in two stage IER columns used in series or in parallel using Acrylic & Styrenic type resins. Two stage brine recovery system to be provided for facilitating 80% recovery.
10.7	Melt Concentration	BMT	Evaporation in Double / Triple Effect Evaporator to convert it in to concentrated liquor of about 74-75^{0}Bx. Condensates to be utilized for various purposes of melting etc.

CHECK POINTS:

1. All the tube wells should be equipped with water flow meters having totalizer to measure the abstraction. The system should facilitate measurement of fresh water for use in sugar plant and other places viz. co-generation units, human needs and residential buildings separately. Suitable log books also to be maintained.

2. Flow meters for cold water usage to be provided at various unit operations/places to measure :

   a. Power turbine cooling water quantity

   b. Mills, Fibrizer (& other cane preparatory devices) bearing and pumps/compressor gland cooling water quantity

   c. Requirement at DM/RO plant at boiler, wet scrubber

   d. Cooling tower of co-generation

   e. Sulphur di-oxide gas cooling

   f. B and C Massecuite cooling

   g. Final molasses cooling

   h. As make water for shortfall at any unit operation including spray pond/process cooling tower.

   i. Cleaning and human requirements including laboratory requirements.

3. Flow meters for hot water usage to be provided at various unit operations/ places to measure:

   a. Imbibition water at mills.

   b. Filter cake wash water at Rotary Vacuum Filter

   c. Water requirement at sugar melting, pan boiling and molasses conditioning etc.

   d. Wash water at Centrifugals

4. Installation of flow meters at following places to determine generation of gross effluent quantity and also its generation from major sources. They may be installed at:

   a. Outlet of mill house and boiling house.

   b. Outlet of steam generation house.

   c. Outlet of cooling tower/spray pond i.e. over flow.

d. Inlet of Effluent treatment plant

e. Outlet of Effluent treatment plant. It should also have an integrated real time monitoring system to monitor and transmit data relating to flow rate and other important parameters of pH, TSS and BOD etc.

6. Recirculation of water employed in SO_2 gas coolers with proper cooling through cooling towers.

6. Construction of small pits with smooth cleaned inner surface preferably with ceramic tiles near to boiler feed pumps, condensate pumps. Injection pumps spray pumps and RVF vacuum pumps to collect gland cooling water in their respective pits without any contamination.

7. Dry cleaning of factory floors etc. using bagasse instead of wet cleaning using water.

8. Construction of 'Hazardous tanks' of adequate capacity to collect wash water generated during chemical/mechanical cleaning of evaporator tubes and discharging it in a controlled manner to the ETP. Alternatively, cleaning of evaporator tubes by ' Hydrojet , and reuse the water after allowing the wash water to stand for some time in settling tanks.

9. Use of hot water should be minimised by exercising proper control during the pan boiling operations except for grain hardening and molasses conditioning to improve the quality of the bagging sugar and also lower the steam consumption.

10. Re-circulation of cooling water used for cooling B and C- massecuites with proper cooling through cooling towers arrangement rather drawing fresh water.

11. Minimum and measured quantity of wash water to be applied at centrifugals for B and C massequite curing to minimize loss of sugar in molasses and to control steam consumption.

12. Installation of CPU (Condensate Polishing Unit) where high pressure boiler more than 45 kg/cm^2 working pressure are used.

13. Use of membrane based (2-stage) or other suitable technologies to attain a brine recovery of at least 80% in sugar refineries having Ion Exchange Resins for de-colorization of the sugar melt.

14. Use of surplus cooled condensate as make up water replacing the fresh water thus reducing fresh water requirement and effluent generation as well.

15. Closed loop hot and cold water circulation systems should be put in place and proper monitoring and recording of water usage is made so as to take corrective action.

16. Four different options for separate & combined treatment of spray pond/PCT overflow are given below:

a. Separate treatment of spray pond overflow/ process cooling tower blow down by precipitating sulphur/sulphates using milk of lime/alum/hydrogen peroxide, removing precipitates through micro settlers followed by secondary aerobic treatment and tertiary treatment through sand filter and activated carbon filter.

b. Combined treatment of entire effluent by precipitating sulphur/sulphates using milk of lime/alum/hydrogen peroxide, removing precipitates through micro settlers after removal of oil and grease followed by secondary aerobic treatment and tertiary treatment through sand filter and activated carbon filter.

c. Spray pond overflow/ process cooling tower blow down to be treated for removal of sulphates and subsequently to be treated with boiling house & mill house effluent using anaerobic filters followed by secondary aerobic treatment and tertiary treatment through sand filter and activated carbon filter.

d. Combined treatment of entire effluent for removal of sulphates and subsequently treated using anaerobic filters followed by secondary aerobic treatment and tertiary treatment through sand filter and activated carbon filter.

17. Maintaining of Retention /contact time in various units of ETP viz. equalization tank, aeration tank, primary and secondary clarifiers, multi-grade filters, multi grad and activated carbon filter etc. as given in table below:

Equipment Type	Function/ Description of equipment	Retention /contact time
Bar screen Chamber	To remove course materials and derbies from the effluent	Retention time : 30 minutes RCC chamber with Mild Steel epoxy for screen
Oil & grease trap	Used for recovery of oil & grease from effluent	Retention time : 45 minutes
Equalization Tank with aeration	It helps in pH and temperature stabilization	Retention time: 6 hrs. Diffused aeration in the tank to be provided
pH correction tank#	It neutralizes the raw effluent by dosing either acid or alkali depending on the pH of raw effluent.	One RCC tank to give retention of 10 minutes of effluent.
		One agitator in the tank is to provided
Primary clarifier	Used for recovery of suspended solids from the effluent.	Retention time: 5-6 hrs
Aeration Tank	Used for degradation of organic matter present in the effluent	Retention time: 24-28 hrs
Secondary clarifier	Used for separation of biological suspended solids from the effluent	Retention time : 7-8 hrs
Multi Grade Filter	It is to remove the residual suspended solids of the biologically treated effluent	Contact time : 20.0 – 25.0 minutes
Activated carbon filter	The adsorb various colouring impurities	Contact time : 20.0 – 25.0 minutes
Sludge drying bed OR	To dewater the sludge and recover the associated water through bed	Not less than 0.03 m^3 per ton of cane.
Centrifuge OR	To dewater the sludge and recover the associated water through centrifuging the sludge	The equipments to be of adequate capacity for handling the sludge generated in the process.
Filter press	To dewater the sludge and recover the associated water through filter press	

In case of plantation white sugar factories, installation of sulphate removal system.

18. Adoption of rain water harvesting system.

19. Development of proper infrastructure for operation and maintenance of ETP by recruiting /hiring required technical staff.

20. Development of analytical facilities (laboratory) for analysis various streams of water , untreated and treated effluent for various parameters viz. pH, BOD, COD, TSS, TDS and MLSS etc.

MONITORING PROTOCOL FOR CHARTER IMPLEMENTATION

Responsibilities of individual sugar factories

- Preparation of inventory of existing process technologies and practices within 15 days (upto July 20).
- Identification of process technology upgradation requirement *w.r.t.* Charter within 15 days (upto July 20).
- Preparation of Action Plan, including monthly Pert Chart for implementation of the Charter for technological and process up-gradation within 15 days (upto July 20).
- Implementation of technological up-gradation action plan and submission of monthly progress report.
- Implementation of ETP adequacy report (upto August).
- Installation of sealed flow meter along with running hours meter on bore wells so as to ascertain usage of fresh water for various uses (upto August).
- Installation of flow meters at major areas of cold and hot water consumption (upto August).
- Installation of flow meters for measuring generation of effluent from various prominent areas (upto August).
- Maintenance of log book for individual process unit for recording daily water consumption.
- Colour coding of pipe lines carrying recycled process water and fresh process water (upto August).
- Setting up of maximum water consumption targets for individual unit operation (within 15 days).
- Report preparation of existing water consumption- section wise, reuse/ recycle practices, strategies/ work plan to achieve fresh water consumption targets on fortnightly basis.

- Self-monitoring and reporting: Daily ETP performance monitoring and maintaining log book as per the prescribed format.
- Strengthening of Environmental Cell and laboratory facilities by recruiting competent staff and establishing analytical facilities (within August).
- Organising training programme for their personnel (within August).

Responsibilities of Technical Institutions

- Validation of action plan submitted by sugar mills (upto July 31).
- Verification of implementation of action plan by September.
- Verification of compliance during crushing season by December.
- Reporting to CPCB / SPCB and Sugarcane Department.
- Organizing training programme for ETP and laboratory staff (within August).

Responsibilities of State Agencies

- Constitution of surveillance squad having representatives from technical institutions:
    - ❖ for surprise visit to mills to ensure that no bypass arrangement is present and aeration tank of ETP is stabilized (*i.e.* MLSS in the range of 2000 – 2500 mg/L , and DO in the range of 1 – 2 mg/L).
    - ❖ to ensure maintenance of log book for all the water abstraction, water use, and effluent generation meters.

Triveni ENGINEERING & INDUSTRIES LTD.

Purchase Department-Sugar Division
Corporate Office: 8th Floor, Express Trade Towers
15-16, Sector 16-A
Noida-201301, U.P., India
Phone: +91-120-4308100 / 4308000
Fax: +91-120-4311010 / 4311011
Website: www.trivenigroup.com

ANNEXURE R-5

PURCHASE / WORK ORDER

SUPPLIER CODE:281075 NAME & ADDRESS :Membrane India #Plot No. 347, Phase-II, Udyog Vihar GURGAON-122016 Haryana(06) GSTIN No.-06AACPN8836D1ZQ TEL.NO : 0124-2341159, FAX: CONTACT PERSON: JasvinderSingh CELL NO: 8527998885 EMAIL : jasvinder@membranegroupindia.com	PURCHASE ORDER NO : 5000013635 DATE : 12.09.2018 REFERENCE :---- YOUR OFFER NO. MG/17-18/136/RS DATED 28.07.2018 FILE NO. 48

Please supply the following material / services strictly in accordance with terms and conditions mentioned below and overleaf.

SNO	Item Code	HSN / SAC Code	Description of material	UOM	QTY	Rate	Disc. %	Amount INR
1	151733	8421 21 10	TREATMENT PLANT FOR COOLING TOWER WATER	NO	1.000	3,612,000.000	0.00	3,612,000.00
Total :								**3,612,000.00**

Amount in Words : THIRTY SIX LAKH TWELVE THOUSAND Rupees ONLY

Consignee Name and Address :

Triveni Engineering & Industries Limited
Sugar Unit: Milak Narayanapur
Tehsil: Tanda--244925
Dist: Rampur
Uttar Pradesh (09)
Mobile : 09720003756/09105000335
Email :purchase@mnp.trivenigroup.com

Consignee Details

GSTIN NO :09AABCT6370L1ZW
PAN No :AABCT6370L

Special Instructions/ Other Terms & Conditions:

SPECIFICATIONS:

COOLING TOWER OVER FLOW TREATMENT SYSYTEM SHOULD BE SUITABLE TO TREAT 600 KLD(25 CUM/HR)COOLING TOWER OVERFLOW WATER COMPLETE WITH

SULPHATE REMOVAL FOLLOWED BY AERATION(ACTIVATED SLUDGE PROCESS) AND TERTIARY TREATMENT.TREEATED WATER SHOULD MEET CPCB NORMS AS P

ER GOVERNMENT OF INDIA GAZETTE DATED 14 JAN. 2016

pH RANGE-- 5.5 TO 8.5

BOD - <(><<)> 30 PPM

COD - <(><<)> 250 PPM

TSS - <(><<)> 30 PPM

TDS - <(><<)> 2100 PPM

OIL <(>&<)> GEASE- <(><<)> 10 PPM

LIST OF CIVIL UNIT BY TEIL

1. Collection tank-RCC-100 KL
2. Primary Clarifier # 6.0 M Dia x 3.0M SWD
3. Buffer Tank # 30 KL
4. Aeration Tank # 600 KL
5. Secondary Clarifier # 6.0M Dia x 3.0M SWD
6. Filter Feed Tank # 50 KL
7. Sludge Drying Bed-1.4m2-Brick Masonary-6 Nos.

ENGINEERING & INDUSTRIES LTD.

Purchase Department-Sugar Division
Corporate Office: 8th Floor, Express Trade Towers
15-16, Sector 16-A
Noida-201301, U.P., India
Phone: +91-120-4308100 / 4308000
Fax: +91-120-4311010 / 4311011
Website: www.trivenigroup.com

PURCHASE / WORK ORDER

8. Treated Water Tank # 100 KL
9. Foundation / Building for Equipments

The plant shall consist of the following equipments which will be supplied by supplier except as marked:-

S. No. Description Unit Specification

1.00 Effluent Transfer Pump 2 Nos. (1W+1S)
Make ~ Kirloskar/Equiv.
Flow Rate lph 25,000Lph@ 12m Head
Material of Construction ~ CI # Body, SS # Shaft, Non Clog
Type ~ Horizontal, centrifugal

2.00 Chemical Dosing System
2.1 Quantity Set 1
2.2 Dosing Pump Nos. 4 Nos. (Catalyst, Lime, Alum, Poly)
Make ~ Milton Roy/ Equiv.
Capacity lph 700 LPH # 1 No. , 200 LPH # 2 Nos., 0-10 LPH # 1 No.
Max. Working Pressure kg/cm2 1.0
Material of Construction ~ CI
2.3 Piping ~ UPVC/PP
2.4 Dosing Tank Capacity ltrs 1 nos. of 5000 Ltr, 2000 Ltr# 2 Nos., 200 Ltr# 1 Nos., HDPE;
2.5 Dosing Chemicals ~ Catalyst, Hydrated Lime, Alum, Poly
2.6 Mixing Arrangement ~ Agitator 4 nos. SS304 Agitator

3.00 Lime Preparation Tank
Qty. No. 01
Capacity M3 8
Tank MOC ~ MSEP
Mixing Arrangement ~ Agitator 1 no. SS304 Agitator
Lime Transfer Pump 2.0m3/hr @ 12M Head, 1 No., MOC # CI, Make # Kirloskar/Equi.

4.00 Coagulation Tank
Qty. No. 01
Capacity M3 12.0
Tank MOC ~ MSEP
Mixing Arrangement ~ Agitator 1 no. SS304 Agitator

5.00 Flocculation Tank
Qty. No. 01
Capacity M3 12.0
Tank MOC ~ MSEP
Mixing Arrangement ~ Agitator 1 no. SS304 Agitator

6.00 Primary Clarifier
Qty. Nos. 01

ENGINEERING & INDUSTRIES LTD.

Purchase Department-Sugar Division
Corporate Office: 8th Floor, Express Trade Towers
15-16, Sector 16-A
Noida-201301, U.P., India
Phone: +91-120-4308100 / 4308000
Fax: +91-120-4311010 / 4311011
Website: www.trivenigroup.com

PURCHASE / WORK ORDER

Flow KLH 25
Tank MOC ~ RCC # By Client
Size Mtr 6.0mtr Dia. x 3.0mtr SWD
Type ~ Rotating Bridge Type
Clarifier Mechanism ~ By MI
MOC ~ MSEP
Type ~ Central Driven Clarifier

7.00 Sludge Transfer Pump 1 No.
Make ~ Kirloskar/Equiv.
Flow Rate lph 15,000Lph@ 10m Head
Material of Construction ~ CI, Non Clog
Type ~ Horizontal, centrifugal

8.00 Aeration Feed Pumps 2 Nos. (1W+1S)
Make ~ Kirloskar/Equiv.
Flow Rate lph 25,000Lph@ 12m Head
Material of Construction ~ CI # Body, SS # Shaft, Non Clog
Type ~ Horizontal, centrifugal

9.00 Aeration Tank
Qty. No. 01
Capacity M3 600
Tank MOC ~ RCC by TEIL

10.00 Secondary Clarifier
Qty. Nos. 01
Flow KLH 25
Tank MOC ~ RCC # By Client
Size Mtr 6.0mtr Dia. x 3.0mtr SWD
Type ~ Rotating Bridge Type
Clarifier Mechanism ~ By MI
MOC ~ MSEP
Type ~ Central Driven Clarifier

11.00 Sludge Transfer Pump for Secondary Clarifier 2 Nos. (1W + 1S)
Make ~ Kirloskar/Equiv.
Flow Rate lph 15,000Lph@ 10m Head
Material of Construction ~ CI, Non Clog
Type ~ Horizontal, centrifugal

12.00 Fine Bubble Diffusers
Qty. ~ 1 Lot
Material of Construction ~ Silicon Based Membrane
Type Fine Bubble Diffusers
Make W2P/Equi.

ENGINEERING & INDUSTRIES LTD.

Purchase Department-Sugar Division
Corporate Office: 8th Floor, Express Trade Towers
15-16, Sector 16-A
Noida-201301, U.P., India
Phone: +91-120-4308100 / 4308000
Fax: +91-120-4311010 / 4311011
Website: www.trivenigroup.com

PURCHASE / WORK ORDER

13.00 Filter Feed Tank BY CLIENT
Qty. No. 01
Capacity M3 50
Tank MOC ~ RCC

14.00 Filter Feed Pump
Qty. nos. 2 (1w+1s)
Type - Horizontal centrifugal Pump
MOC - CI # Body, SS # Shaft
Capacity cum/hr 25
Head MWC 30
Make Kirloskar/Eq.

15.00 Dual Media Filter
Qty. No. 1
Capacity M3/hr 25 m3/hr
Type Down flow
MOC MSEP
Dia. Mm 1500
Height Mm 1500
Media Sand media
Max. Working pressure Kg/cm2 3.5
Max. operating flow M3/hr 27.5
Interconnecting valves <(>&<)> piping MSEP Piping with Butterfly valve # 5 no.
Make Fabricated

16.00 Activated Carbon Filter
Qty. No. 1
Capacity M3/hr 25 m3/hr
Type Down flow
MOC MSEP
Dia. Mm 1500
Height Mm 1500
Media Sand media with Carbon media
Max. Working pressure Kg/cm2 3.5
Max. operating flow M3/hr 27.5
Interconnecting valves <(>&<)> piping MSEP Piping with Butterfly valve # 5 no.
Make Fabricated

17.00 Electric Control Panel
Quantity nos. 1
Enclosure ~ Rital /BCH
Switchgear ~ L<(>&<)>T,ABB,Siemens
Material of Construction ~ M.S. Powder Coated
Power Available ~ 3ø, 415 V, 50Hz
Cables ~ Polycab/KEI/Lapp

ENGINEERING & INDUSTRIES LTD.

Purchase Department-Sugar Division
Corporate Office: 8th Floor, Express Trade Towers
15-16, Sector 16-A
Noida-201301, U.P., India
Phone: +91-120-4308100 / 4308000
Fax: +91-120-4311010 / 4311011
Website: www.trivenigroup.com

PURCHASE / WORK ORDER

18.00 Interconnecting Piping and Valve

Quantity Lot 1

Air Grid for Collection <(>&<)> Aeration Tank ~ 1 Lot, uPVC-Astral

Valve ~ 1 Lot

Interconnecting Piping MS / uPVC # Jindal/Tata Make

19.00 Accessories

A. Conductivity Monitor nos. 01 no. Online Digital- Aster/Equiv.(At Treated Water Tank)

B. pH Meter Nos. 01 no. at Coagulation Tank

C. Flow Monitor Nos. 1 No. Electro-magnetic Flow Meter Feed # Aster/Equiv.

D. Pressure Gauges ~ SS Internal- Glycerine Filled

Make # Waree/Micro

E. Level switch Nos. Lot; Make # Cirus

ERECTION AND COMMISSIONING INCLUSIVE ON THE ABOVE PRICE.

IF YOU FAIL TO COMPLETE THE AFORESAID WORK WITHIN 14 WEEKS FROM THE DATE OF ORDER, WE SHALL LEVY A LATE DELIVERY PENALTY @ 1% PER WEEK, SUBJECT TO MAXIMUM OF 5% OF TOTAL ORDER VALUE.

PAYMENT TERMS:

20% OF TOTAL CONTRACT VALUE AS ADVANCE AGAINST ABG.

70% OF TOTAL CONTRACT VALUE ALONG WITH 100% TAXES AND DUTIES AGAINST PROOF OF DESPATCH DOCUMENTS.

10% OF CONTRACT VALUE WITHIN 30 DAYS OF SUCCESSFUL PERFORMANCE, SUBJECT TO SUBMISSION OF PBG OF EQUAL AMOUNT VALID FOR 18 MONTHS FROM THE DATE OF COMMISSIONING.

SHALL BE WARRANTED FOR A PERIOD OF 12 / 18 MONTHS FROM COMMISSIONING / SUPPLY.

Packing & Forwarding	INCLUSIVE
GST Tax	18% IGST Receivable-MM
Price Basis	FOR MILAK NARAYANPUR UNIT
Delivery / Comp. Period	8 TO 10 WEEKS
Despatch Instructions	THROUGH ROAD TRANSPORT
Insurance	IN YOUR ACCOUNT
Misc	NIL
Payment Terms	As Per PO Terms and REFER ABOVE.

Authorised Signatory

Important:

1) Kindly send your order acceptance.
2) Invoice must be submitted in triplicate along with supplies.
3) Please mention our Purchase order No., supplier code and description in your Invoice to expedite payment.
4) Your Tax Invoice must have pre-printed No.
5)Terms and Conditions as overleaf.

ANNEXURE R-6

Triveni ENGINEERING & INDUSTRIES LTD.

Sugar Unit : **Milak Narayanpur**

Village - **Milak Narayanpur,** P.O. Dadiyal - 244925
Tehsil - Tanda Badli, Distt. Rampur (Uttar Pradesh.)
Tel. : +91-9758400190-191, Fax : (0595) 2565002

Ref. TEIL/MNP/Mfg./2019/1212
Dated: 17th December, 2019

The Director,
National Sugar Institute,
Govt. Of India
Kalyanpur,
KANPUR (U.P.)

Sub.: ETP Validation Charges.

Respected Sir,

Please find enclosed herewith the original copy of ETP Validation Charges for Triveni Sugar Milak Narayanpur, which has been deposited through "NEFT Transaction Ref. No. 1212190003301 dated 13th December, 2019.

Please do the needful.

Thanking you,

Yours faithfully,
For Triveni Engineering & Ind. Ltd.,
Sugar Unit: Milak Narayanpur

Madhur Gupta
Addl. General Manager (Mfg.)

Encl: A/a

Triveni ENGINEERING & INDUSTRIES LTD.

Sugar Unit : Milak Narayanpur

Village - Milak Narayanpur, P.O. Dadiyal - 244925
Via - Tanda Badli, Tehsil - Tanda Badli, Distt. Rampur (U.P.)
Tel. : (0595) 2564350, 2564627, 2564215 Fax : (0595)2565002

ANNEXURE R-7

Ref. -TEIL/MNP/Admin./ 1572
Date- 14.02.2020

The Chairman,
Central Pollution Control Board,
Ministry of Environment, Forest & Climate Change,
Government of India,
Parivesh Bhawan, East Arjun Nagar,
DELHI -110 032

Sub: Submission of Adequacy Report of ETP validation by NSI, Kanpur.

Dear Sir,

This has reference to your letter bearing No. B-190198/WQM-II (RG)/CPCB/Sugar/57/2016-17/8556 dated 04/07.11.2019, pl. find attached herewith adequacy assessment of treatment facility by National Sugar Institute Kanpur. They have visited our unit on 08 and 09 January 2020.

Kindly acknowledge the same and oblige.

For Triveni Engineering & Industries Ltd.

AUTHORISED SIGNATORY

Attached- Adequacy Report.

Copy to-

1. The Joint Secretary (CP Division)
   Ministry of Environment, Forest & C. C.
   Prithvi Block, Indira Paryavaran Bhawan,
   Jorbagh Road, New Delhi – 110 003

2. The Principal Secretary
   Sugar Industry and Cane Development Department
   "G" Block, 2/3, Mantri Wing, 4th Floor, Bapu Bhawan, Vidhan Sabha Marg
   Lucknow – 226 001

Contd.-

3. Member Secretary
Uttar Pradesh Pollution Control Board,
Building No. TC-12V, Vibhuthi Khand,
Gomti Nagar, Lucknow – 226 010

4. District Magistrate,
Rampur– 244901 (Uttar Pradesh).

5. Managing Director
Urja Bhawan
Pashchimanchal Vidyut Vitran Nigam Ltd.,
Voctoria Park, Meerut 250001

6 Regional Director
Regional Directorate Central Pollution Control Board, PICUP Bhawan,
Ground Floor, Vibhuti KHand, Gomati Nagar,
Lucknow- 226010

7. Regional Officer UPPCB
Moradabad.

भारतीय डाक
India Post

EU276522648IN IVR:6985276522648
SP TANDA BADLI SO <244925>
Counter No:1,14/02/2020,14:03
To:REGIONAL DIRE,PICUP LUCKNOW
PIN:226010, Gomti Nagar SO
From:TRIVENI ENG,MILAK NARAYNPUR
Wt:350gms
Amt:70.80(Cash)Tax:10.80
<Track on www.indiapost.gov.in>
<Dial 1800 266 6868>

भारतीय डाक
India Post

EU276522651IN IVR:6985276522651
SP TANDA BADLI SO <244925>
Counter No:1,14/02/2020,14:03
To:MEMBER SECRET,UPPCB LUCKNOW
PIN:226010, Gomti Nagar SO
From:TRIVENI ENG,MILAK NARAYNPUR
Wt:350gms
Amt:70.80(Cash)Tax:10.80
<Track on www.indiapost.gov.in>
<Dial 1800 266 6868>

भारतीय डाक
India Post

EU276522665IN IVR:6985276522665
SP TANDA BADLI SO <244925>
Counter No:1,14/02/2020,14:03
To:THE PRINCIPAL,LUCKNOW
PIN:226001, Lucknow GPO
From:TRIVENI ENG,MILAK NARAYNPUR
Wt:350gms
Amt:70.80(Cash)Tax:10.80
<Track on www.indiapost.gov.in>
<Dial 1800 266 6868>

भारतीय डाक
India Post

EU276522679IN IVR:6985276522679
SP TANDA BADLI SO <244925>
Counter No:1,14/02/2020,14:03
To:THE CHAIRMAN CPCB ,DELHI
PIN:110032, Shahdara SO
From:TRIVENI ENG,MILAK NARAYNPUR
Wt:350gms
Amt:59.00(Cash)Tax:9.00
<Track on www.indiapost.gov.in>
<Dial 1800 266 6868>

भारतीय डाक
India Post

EU276522682IN IVR:6985276522682
SP TANDA BADLI SO <244925>
Counter No:1,14/02/2020,14:03
To:THE JOINT SEC,NEW DELHI
PIN:110003, Lodi Road HO
From:TRIVENI ENG,MILAK NARAYNPUR
Wt:350gms
Amt:59.00(Cash)Tax:9.00
<Track on www.indiapost.gov.in>

भारतीय डाक
India Post

EU959574851IN IVR:6985959574851
SP TANDA BADLI SO <244925>
Counter No:1,17/02/2020,15:26
To:THE REGIONAL ,UPPCB MORADABAD
PIN:244001, Moradabad HO
From:TRIVENI ENG,MILAK NARAYANPUR
Wt:350gms
Amt:59.00(Cash)Tax:9.00
<Track on www.indiapost.gov.in>
<Dial 1800 266 6868>

भारतीय डाक
India Post

EU959574879IN IVR:6985959574879
SP TANDA BADLI SO <244925>
Counter No:1,17/02/2020,15:26
To:DM ,RAMPUR
PIN:244901, Rampur HO
From:TRIVENI ENG,MILAK NARAYANPUR
Wt:350gms
Amt:59.00(Cash)Tax:9.00
<Track on www.indiapost.gov.in>
<Dial 1800 266 6868>

भारतीय डाक
India Post

EU959574882IN IVR:6985959574882
SP TANDA BADLI SO <244925>
Counter No:1,17/02/2020,15:26
To:THE MANAGER DIRECTORS ,MEERUT
PIN:250001, Meerut Cantt HO .
From:TRIVENI ENG,MILAK NARAYANPUR
Wt:350gms
Amt:59.00(Cash)Tax:9.00
<Track on www.indiapost.gov.in>