BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH PUNE AT PUNE.

ORIGINAL APPLICATION NO. 198 OF 2023 (WZ)

NARAYAN SHIVAJI GUND **APPLICANT**

V/s

MAHARASHTRA POLLUTION CONTROL BOARD AND ORS. **RESPONDENTS**

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PUNE

DATE 20/04/2024

ADVOCATE FOR RESPONDENT NO.2

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE BENCH PUNE AT PUNE.

ORIGINAL APPLICATION NO. 198 OF 2023 (WZ)

NARAYAN SHIVAJI GUND **APPLICANT**

V/s

MAHARASHTRA POLLUTION
CONTROL BOARD AND ORS. **RESPONDENTS**

REPLY ON BEHALF OF RESPONDENT NO.2

MAY IT PLEASE THE HON'BLE TRIBUNAL -

1. At the outset, it is submitted that, the contents of the Original Application are not admitted by the Respondent No.2 and that the contents therein of are false and incorrect. The Respondent No.2 submits that the statements and averments made in the said Original Application are not admitted by the Respondent No.1 except so far they are expressly admitted herein under. It is further submitted that, the Respondent No.2 craves leave of this Hon'ble Tribunal to file a detailed reply, if necessary in the present proceedings. At the further outset, the original Application filed by the Applicant is devoid of any merit and is liable to be dismissed with the compensatory cost. The Applicant herein is neither

with the compensatory cost. The Applicant herein is neither resident of the concerned area nor an aggrieved party. The Applicant herein is claiming relief, which is beyond the purview of this Hon'ble Tribunal.

PRELIMINARY OBJECTIONS

2. The Respondent No.2 submits that no substantial issue has been made out for adjudication of this Hon'ble Tribunal. The statutory authorities are already performing their statutory duties. The improvements done by the Respondent No.2 are already on record, hence there is no dispute for the Hon'ble Tribunal to be adjudicated. The Respondent No.2 further submits that the Applicant herein has no locus to file the present application and it is also not an aggrieved party to the present proceedings. The Hon'ble Supreme Court has held that the bonafides of the litigant are to be tested before proceeding with the proceedings for adjudication.

3. The Respondent No.2 submits that the Applicant is having vested interest in filing the present Original Application as it is clear from the background of the Applicant, wherein there is a chequered history of the said Applicant, as a FIR has been filed by the officer of Respondent No.1 one Mr. Sanjay Tarachand Nanavare against the Applicant u/s 353, 504, 506, 34 of IPC on 16.06.2023 for assault, threatening the officer of MPCB and insulting him. *The copy of the said FIR is annexed herewith and marked as* **ANNEXURE R-1**. Further, there is a civil suit pending between

the Applicant and Respondent No.2 bearing No.548 of 2023 filed on 25.04.2023 pertaining to the road between the Respondent No.2 and the farm of Applicant. Thus it is pertinent to note herein that the present application is nothing but the offshoot of the said dispute between the Applicant and the Respondent No.2. The Respondent No.2 further submits that the Applicant on 26.11.2021 has given an Application to Respondent No.1 for withdrawal of all his Complaints. Further, on 22.08.2022 the members of Gram Panchayat Yenaki village has written a letter to Respondent no. 1 that the letterhead of the Gram Panchayat has been mis-used and it has no compliant regarding the Respondent no. 2.

The of copy of letter dated 26.11.2021 and letter dated 22.08.2022 are annexed here with and marked as ***ANNEXURE –R-2 and R-3 respectively.***

4. The Respondent No.2 would also like to submit that the present Applicant is related to one Mr. Popat Keshav Jadhav, who is the Sarpanch of Gram Panchayat Yenaki, as he is in opposition to the Chairman of the Respondent No.2 Mr Birappa Jadhav who is the native and resident of village Yenaki.

5. The Respondent No.2 submits that the Applicant has not disclosed any environmental loss and has not even made out a substantial question relating to environment under section 2(m) of the NGT Act, which is a mandatory requirement for this Hon’ble Tribunal to consider any application under Section 14 of the NGT Act, 2010. Further, it is the requirement of any application u/s 15 that it should specifically put up the claim in the prescribed format with details

of the loss caused if any, but in the instance case the Applicant is involved in fishing and rowing activity by submitting that he shall pay the stamp duty after the committee report. The said act of the Applicant is nothing but abuse of process of law and is required to be deprecated by the hands of this Hon'ble Tribunal by dismissing the present Application.

6. Further, the Respondent No.2 submits that the committee was appointed by this Hon'ble Tribunal vide order dated 29.11.2023, without issuing notice to Respondent No.2 or affording an opportunity of hearing and the same is against the principles of natural justice and procedural requirement laid down u/s section 19 of the NGT Act.

7. <u>FACTS OF THE CASE</u>

a. The Respondent No.2 submits that the Respondent No.2 is having a sugar factory and a co-generation unit and for the same the Respondent No.1 has granted consent to operate which is valid up to 31.07.2024. ***<u>The copy of the consent to operate is annexed at Annexure A-8 in the committee report at page no.366.</u>***

b. The Respondent No.2 further submits that for the distillery unit, the Respondent No.1 has granted consent to operate (renewal) on 23.11.2023, which is valid up to 31.08.2024. ***<u>The copy of the said consent to operate dated 23.11.2023 is annexed at Annexure A-9 in the committee report at page no. 376</u>***.

c. The Respondent No.2 has provided ETP, CPU (condenser polishing unit) of capacity 2 MLD for treatment of industrial effluent. The ETP comprises of primary, secondary, and tertiary treatment system for the effluent. The treated effluent is partly recycled in the process and remains used for irrigation on land of the factory.

d. The Respondent No.2 has also provided online monitoring system at ETP outlet and connected with the MPCB/CPCB server, and has also provided 15 days storage tank having impervious HDPE paper lining.

e. For the disposal of spent wash generated from the distillery unit, the industry has provided bio digester of capacity 11,000 m^3 followed with MEE (2 numbers of capacity 25 m^3 per hour and 20 m^3 per hour respectively) and dryers of two numbers of capacity 9 m^3 and 6m^3 respectively. The potash powder generated from the dryer is sold to farmers as manure.

f. The Respondent No.2 submits that the Respondent No.2 has provided 70 TPH baggage fired boiler for both sugar and distillery unit. The Respondent No.2 has provided wet scrubber followed with stack height of 72 meter as an air pollution control system attached to the boiler. The Respondent No.2 has further provided continuous online emission monitoring system (COEMS) system at boiler stack.

g. The Respondent No.1 has collected all the samples during the visit from the Respondent No.1 factory namely JVS ETP

Outlet, Ambient Air Quality Monitoring, Stack Monitoring, Surrounding dug well water samples and soil samples. The said reports are from page 332 of the Committee Report. The same are within consented parameters and norms as prescribed.

h. The Respondent No.2 submits that as per the observations of the committee the procurement order for RPC (Rotary particle collector) has also been placed and the installation process will be undertaken shortly.

The copy of the procurement order of RPC is annexed herewith and marked as ***ANNEXURE R – 4.***

i. The Respondent No.2 further submits that the Respondent No.2 is having two numbers of HSD fired DG sets of capacity 625 KVA each and the same are provided with acoustic enclosures and stack height of 5 m as per the consent conditions.

j. The Respondent No.2 submits that it has received notices in the year 2021 to 2023 from Respondent No.1 at the behest of the Applicant. The said complaints are made by the Applicant for the reasons as stated above and for his personal grudges. The Respondent No.2 has replied to all the notices and has shown the compliances by the Respondent No.2 from time to time.

k. Further, it is pertinent to note herein that the Respondent No.2 has received the conditional restart order dated 22.10.2021 where in the Respondent No.1 had imposed 13 conditions to which the Respondent No.2 has complied and

has also submitted the Bank Guarantee of Rs. 10 Lakhs which the Respondent no. 1 has forfeited. Further, the Respondent no. 2 has submitted the compliance report to Respondent No.1 on 13.04.2022. *The copy of the compliance report dated 13.04.2022 is annexed hereto and marked as* ***ANNEXURE R-5.***

l. The Respondent No.2 submits that as far as the warning letter notice dated 16.03.2023 received from Respondent No. 1 is concerned, it is before the Respondent No.2 could reply to the to the said notice a personal hearing dated 27.04.2023 at the Head Officer of Respondent No.1 in Mumbai, was provided to the Respondent No.2, wherein the Respondent No.2 has shown all the compliances and has given an undertaking regarding the observation submitted by the board along with a timeline for making the compliances. *The copy of minutes of personal hearing dated 27.04.2023 and the copy undertaking dated 03.05.2023 is annexed hereto and marked as* ***ANNEXURE R–6 AND R-7 respectively****.*

m. Further, it is on 06.06.2023 the Respondent No.1 has once again on the complaint made by the present Applicant has issued interim directions to the Respondent No.2 wherein the Respondent No.2 has categorically replied to the same stating all the compliances done by the Respondent No.2 vide letter dated 17.06.2023.

The copy of the notice dated 06.06.2023 along with the copy of reply of the Respondent No.2 dated 17.06.2023 is annexed

hereto and marked as ***ANNEXURE R-8 AND R-9 respectively.***

n. The Respondent No.2 submits that as per the observations and the undertaking given by the Respondent No.2, it has carried out a study regarding the environmental adequacy report from Shivaji University, Kolhapur and said report dated 05.09.2023 at page number 48 clearly makes an observation regarding the adequacy of pollution control systems provided by the Respondent No.2 and has recommended the Respondent No.2 to install two STP's and RPC.

The copy of the Report of Shivaji University dated 05.09.2023 is annexed hereto and marked as ***ANNEXURE R-10.***

o. Thus, according to the recommendations of the said report, the Respondent No.2 has installed two STP of 5 KLD capacity and RPC before the wet scrubber.

The copy of the Purchase order along with photos of the ETP is annexed hereto and marked as ***ANNEXURE R-11.***

p. The Respondent No.2 has demolished the Kaccha lagoon and the same is evident from the visit report dated 08.04.2022 of respondent no. 1 officer.

The copy of visit report dated 08.04.2022 along with the photographs of demolished kaccha lagoon is annexed hereto and marked as ***ANNEXURE – R-12.***

8. PARA-WISE REPLY

a. The Respondent No.2 submits that without prejudice to the above submissions, the para wise reply of Respondent No.2 to the original application is as under –

b. At the outset, the entire contents of the Original Application are denied by the Respondent No.2 in toto unless they are expressly admitted hereunder.

c. The contents of para 3 of the Original Application are denied by the Respondent No.2, as no case is made out under section 14 and 15 of the National Green Tribunal Act 2010 by the Applicant and has miserably failed to raise any substantial question relating to the environment in the present matter.

d. The allegation of the Applicant regarding unregulated operations by Respondent No.2 is denied by the Respondent No.2 as the same is vague and baseless. The Respondent No.2 also denies the allegation of the Applicant regarding the discharge of untreated effluents from the factory and disposing of spent wash through water tankers outside the premises and emitting of black ash from the boiler stack of sugar factory, as there is no such activity undertaken by the Respondent No.2 which is in contravention to the consented norms.

e. The description of the land of the Applicant in para 4A is in general admitted, but the allegations regarding the discharging of untreated influence and the settling of fly on

the crops in the Applicants farm is denied by the Respondent No.2 in totality.

f. The contents of the para 4(B) and (C) as regard to the description of the parties in general are admitted by the Respondent No.2, but the allegations made therein are specifically denied by Respondent No.2 for the reason that the same are false and frivolous, merely based on the surmises of the Applicant.

g. In para 5 of the Original Application, the Applicant has titled it as facts of the case, but the same are nothing but misleading statements made by the Applicant and the same are denied by the Respondent No.2 in totality. The Respondent No.2 submits that the Respondent No.2 is engaged into the activities as permitted and consented by the regulatory authorities and there are no any unregulated activities which are resulting into environmental degradation in and around the vicinity of the factory of the Respondent No.2. The address of the Respondent No.2 sugar factory and the distillery unit is correct and the Respondent No. 1 has issued the renewal of consent to operate dated 21.10.2020, which is valid till date 31.07.2024.

h. As regard to para 5(B) of the Original Application and more specifically the closure directions dated 08.09.2021 issued by the Respondent No. 1. The Respondent No.2 submits that the closure directions issued against Respondent No.2 were *ex-parte* without giving an opportunity of being heard to

Respondent No.2, thus for the same the unit was closed for 45 days which culminated into a total business loss of 32,40,00,000/-. The Respondent No.2 vide its reply dated 13.09.2021 has given detail explanation regarding the non-compliances stated in the said closure order.

i. Further, after due inspection on 20.10.2021, the Respondent No. 1, withdrew its closure directions. The said restart order was a conditional restart order wherein all the 13 conditions are compiled by the Respondent No.2. The undertaking from the Managing Director of the Respondent No.2 is one of the condition of the said restart direction which was compiled by the Respondent No.2. It is pertinent to note herein that the said undertaking specifically mentions about no complaints from any of the farmers regarding damage to the crop or to the bore-wells.

j. It is submitted that in paragraph 5(H) the Applicant refers a water analysis report dated 22.10.2021, but has not annexed the said so-called report, thus the allegations as regards to the high pollutants in water are baseless and denied by the Respondent No.2 in totality. The Respondent No.2 submits that no such report is in existence as alleged.

k. In paragraph No. 5(I), the Applicant is referring to an undertaking furnished by the Respondent No.2 dated 28.10.2021, which was the condition in the restart direction, but the Applicant has cooked a story that there was a pollution caused by the Respondent No.2 and hence the said

undertaking was obtained by Respondent No.1 from Respondent No.2. The Respondent No.2, therefore humbly submits to this Hon'ble Tribunal to dismiss the Original Application on this ground itself, as the Applicant is simply trying to make a jugglery and gain sympathy of this Hon'ble Tribunal by portraying false cause of environmental pollution.

l. The Applicant in its application has left no chance to misinterpret the reports and try to exaggerate the facts and more particularly stating false statements which is evident from para 5K where in the Applicant is referring to a visit report of an officer of Respondent No. 1 dated 16.11.2021 alleging that several components of ETP of sugar unit of the Respondent No.2 industry were not installed and the ETP of the Respondent No.2 was not in operation. The Respondent No.2 submits that the said visit report was prepared in a routine visit and is on record, which can be clearly read and interpreted so that the allegations put forth by the Applicant are proved to be misleading facts. It is stated in the said report that the distillery unit was not in operation and the ETP is having the primary secondary and tertiary treatment systems and also the said report clearly states about the discharge of the treated water and not untreated water.

m. The contents of Para 5(L) are denied by the Respondent No.2 as the said warning letter dated 19.01.2022 was issued by Respondent no.1 on complaint of Mr. Popat Jadhav and the present Applicant and after receipt of the said notice it

was replied by the Respondent No.2 denying the observations in the said letter. The Respondent No.2 submits that it has also complied with certain observations to improve the quality of discharge. The allegations that the discharge was not within the consented norms is denied by Respondent No.2.

n. The allegations in para 5 (M) are denied by the Respondent No.2 in totality, as the said Panchanama does not reveal the source of the said fly ash. Further, the activities of the Applicant are itself responsible for the said conditions in its farm land and not the Respondent No.2 as the wind direction is west to east and the distance from the Respondent No.2 and the farm of the Applicant is in opposite direction of the wind.

o. The Respondent No.2 specifically denies contents of the so called letters addressed by the Applicant to various authorities dated 19.11.2022, 12.12.2022.

p. The Applicant is interpreting the reply of the Respondent No.2 as per his own convenience thus the contents of the Para 5 (BB) are denied in totality.

q. As far as the contents of para 5(CC) are concerned the same are denied by the Respondent No.2 and regarding the notice dated 16.03.2023 as stated earlier that before the same could be replied a personal hearing dated 27.04.2023 was granted by the Respondent No.1 and the Respondent No.2 has given

an undertaking dated 03.05.2023 with timeline for showing compliances.

r. The contents of Para 5(DD) are denied as the location and the date in the said photos are in question. The same are denied by the Respondent No.2 in totality as these are totally false and fabricated photographs.

9. <u>SUBMISSIONS TO THE JOINT COMMITTEE REPORT</u>

a. It is submitted that, the committee in its report has categorically taken note of the written request from nearby villagers present before the committee claiming that there is false allegation made against the Respondent No.2 for causing pollution and request to take field visit to their farms as well. The Committee has not visited the said farms as these farms are adjacent to the farms of the complainants and the present Applicant. Thus, by any stretch of imagination it cannot be the case that one farm is being affected however the adjacent ones are not affected, which shows that the complaints and the present application is false and frivolous.

b. It is further submitted that the locations of the complainants farms' at **<u>pg. 233</u>** of the committee report shows that some of the complainants are on east side of the factory and some are on west side and some farms are far off. Thus considering

the wind direction it cannot be the case that farms in all directions will get affected by air pollution, if any by the Respondent No.2 and so also the committee in its report has stated that the ambient air quality monitoring and stack monitoring reports do not show any exceedance with respect to the consented limits. Thus the said allegations of the Applicant against Respondent No.2 are vague and merely based on surmises.

c. The locations of the complainants are clearly shown at page **no.233** of the committee report along with the observations and findings at **page 241** which clearly shows that that the BOD and COD levels are within consented norms and they are close to the benchmark levels and no adverse values are reported.

d. The committee at **page 246** has observed compliances under the Air Act, Water Act, showing that the Respondent No.2 is functioning well within consented parameters.

e. The photographs at **page 250** of banana and leaves shows some disease on the crops and not due to fly ash as the ash do not create any net on the crops or any place wherever it is settled. Further, it is not evident from the report that the ash

is from the pollution done by the Respondent No.2. Thus the Respondent No.2 being complying with all the consented norms cannot be held liable for the same. Also, the committee at **page 394** has observed that the Applicant is not having proper weed control and orchard management at his field and hence whatever losses have been caused, if any, cannot be attributed to Respondent No.2.

f. It is submitted that the committee has also observed that the there was no visual evidence of spread of spent wash as per the allegations of the Applicant. Further, the committee has also observed that no kaccha lagoon was used by the industry.

g. The Respondent No.2 further states that the Respondent No.2 has already procured the RPC and as it is required to be installed in the boiler the thus the said work is in progress.

10. SUBMISSIONS OVER THE REPLY OF THE RESPONDENT NO. 1.

a. The Respondent No.1 Board is a statutory authority which comprises of specialized environment experts and scientists. Further, the Respondent No.1 has a central body Central Pollution Control Board, which also comprises of experts

and scientist in the field of environment. Thus, even though the Committee formed by this Hon'ble Tribunal has suggested for a report from agronomist as regards to the damage to the crops. The Respondent No.1 is mis-interpreting the said suggestion has gone a step ahead appointing IITB as expert to study adequacy of pollution control equipment installed by the Respondent No.2 and seems to have placed an order which involves expenses around 58 Lakhs. This is sheer misuse of powers by the Respondent No.1 that too without board resolution and consultation with Member Secretary and involving CPCB. Thus, the said decision is required to be scrapped with immediate effect as the question arises as to who shall pay such a huge amount for the work where we have two apex statutory bodies with top level scientists as its employees.

b. The Respondent No.2 further submits that, it is not the case that the committee has found the violation of environment by way of non-adherence to the norms led down by the authorities from time to time, but merely to deviate the entire case the present steps seem to have been taken by the SRO and the RO of the Board.

c. As many of the complainants has already withdrawn their complaints, further it is crystal clear from the facts that the Applicant is having ulterior motive behind filing of present Applicant and further no case is made out that of any substantial question relating to the environment. Thus, the present Original Applicant be dismissed in totality. The activity of the board by further appointing IITB is nothing but *arranging the deckchairs on the Titanic* just because someone has filed an original application before this Hon'ble Tribunal the same is required to be deprecated by the hands of this Hon'ble Tribunal. It is needless to say that the experts' opinion of the committee is only by way of assistance in arriving at a final conclusion, but in the instance case the report of the expert Committee, as well as the recommendations have been made the basis of further directions by the Respondent no. 1, without even waiting for this Hon'ble Tribunal to adjudicate the said report and such an approach is improper.

11. On all the said background, the Respondent No.2 most humbly submits that the present Application of the Applicant is nothing but the offshoot of the personal grievance against the Respondent No.2

and the allegations made therein are false and frivolous, thus the application of the Applicant is required to be dismissed.

12.<u>It is therefore prayed that –</u>

The present Original Application may kindly be dismissed.

PUNE
DATE - 22/04 /2024

ADVOCATE FOR RESPONDENT NO.2

2104

Before Notary Public Mangalwedha

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH PUNE AT PUNE.

ORIGINAL APPLICATION NO. 198 OF 2023 (WZ)

NARAYAN SHIVAJI GUND **APPLICANT**

V/s

MAHARASHTRA POLLUTION CONTROL BOARD AND ORS. **RESPONDENTS**

AFFIDAVIT IN SUPPORT OF REPLY ON BEHALF OF RESPONDENT NO. 2

MAY IT PLEASE THE HON'BLE TRIBUNAL:

I, Sachin Birappa Jadhav, Age: 45, Occu.: Service, having office at Chelekar Galli, Mangalwedha Tal- Mangalwedha, Dist- Solapur- 413 305 do hereby state on solemn affirmation as under: -

NOTARY Dhananjay C. Jadhav Govt. of India (Maharashtra State) Reg. No. 15916 Exp. Dt. 12/12/2024 GOVT. OF INDIA

1. I am the Managing Director of the Respondent no. 2 Company and responsible for day to day administration of my business. As such, I have gone through the Reply to the Original Application and the documents being filed today.

2. I find that the contents therein are true and correct to the best of my knowledge and belief and which may be treated as part and parcel of the present affidavit.

WHATEVER STATED ABOVE is true and correct to the best of my knowledge and belief. In witness whereof I have signed hereunder at **Mangalwedha on 20th day of April 2024.**

AFFIANT

I know the Affiant
Adv. S.L. Mane.

Advocate

BEFORE ME

DHANANJAY C. JADHAV
NOTARY
GOVT. OF INDIA
REG. NO. 15916

Solemnly affirmed before me by
Shri Sachin Birulla Jadhav
Who is identified by Shri Adv. S.L. Mane
Whom I personally know
Date :- 20/04/2024

Noted and Registered at	
Serial No.	2104/2024
Page No.	02
Date	20/04/2024

NOTARY Dhananjay C.Jadhav Govt. of India (Maharashtra State) Reg. No. 15916 Exp.Dt.12/12/2024 GOVT. OF INDIA

GOVT. OF INDIA

CANCELLED NOTARIAL CANCELLED NOTARIAL CANCELLED NOTARIAL

ANNEXURE-R-1

N.C.R.B (एन.सी.आर.बी)

I.I.F.-I (एकीकृत अन्वेषण फॉर्म - १)

FIRST INFORMATION REPORT

(Under Section 154 Cr.P.C.)
प्रथम खबर अहवाल
(कलम १५४ फौजदारी प्रक्रिया संहिता)

1. District (जिल्हा): सोलापुर ग्रामीण P.S.(ठाणे): कमाती Year (वर्ष): 2022

FIR No.(प्रथम खबर क्र.): 0177 Date and Time of FIR (प्र. ख. दिनांक आणि वेळ): 15/06/2022 15:30 बजे

2.

S.No. (अ.क्र.)	Acts (अधिनियम)	Sections (कलम)
1	भारतीय दंड संहिता १८६०	३५३
2	भारतीय दंड संहिता १८६०	५०४
3	भारतीय दंड संहिता १८६०	५०६
4	भारतीय दंड संहिता १८६०	३४

3. (a) Occurrence of offence (गुन्ह्याची घटना):

1. Day(दिवस):मंगलवार

Time Period (कालावधी):

Date From (दिनांक पासून): 14/06/2022
Date To (दिनांक पर्यंत): 14/06/2022
Time From (वेळेपासून): 14:00 बजे
Time To (वेळेपर्यंत): 16:00 बजे

(b) Information received at P.S. (माहिती मिळालेले पोलीस ठाणे):

Date (दिनांक): 15/06/2022 Time (वेळ): 14:21 बजे

(c) General Diary Reference (रोजनामचा संदर्भ

Entry No. (नोंद क्र.): 013 Date & Time (दिनांक आणि वेळ): 15/06/2022 15:21 बजे

4. Type of Information (माहितीचा प्रकार): लेखी

5. Place of Occurrence (घटनास्थळ):

1.(a) Direction and distance from P.S.(पोलीस ठाण्यापासून दिशा व अंतर): पश्चिम, 10 किमी

Beat No. (बिट क्र.):

(b) Address (पत्ता): जकराया शुगर लि वटवटे ता मोह

(c) In case, outside the limit of this Police Station, then (या पोलीस ठाण्याच्या हद्दीबाहेर असल्यास):

Name of P.S.(पोलीस ठाण्याचे नाव):

District(State) (जिल्हा(राज्य)):

6. **Complainant / Informant** (तक्रारदार/माहिती देणारा):

(a) **Name** (नाव): संजय ताराचंद ननवरे

(b) **Father's/Husband's Name**(वडील / पती चे नाव) :

(c) **Date/Year of Birth** (जन्म तारीख/वर्ष): 1965 (d) **Nationality** (राष्ट्रीयत्व): भारत

(e) **UID No.** (यु.आय.डी. क्र.):

(f) **Passport No.**(पारपत्र क्र.): **Date of Issue** (दिल्याची तारीख):

Place of Issue (दिल्याचे ठिकाण):

(g) **Id details (Ration Card,Voter ID Card,Passport,UID No.,Driving License,PAN)**
ओळखपत्र विवरण (राशन कार्ड ,मतदाता कार्ड ,पासपोर्ट, यूआईडी सं., ड्राइविंग लाइसेंस, पॅन कार्ड)

S.No.(अ.	Id Type (ओळखपत्राचा प्रकार)	Id Number (ओळखपत्राचा क्रमांक)
1		

(h) **Address** (पत्ता):

S.No.(अ. क्र.)	Address Type (पत्याचा प्रकार)	Address (पत्ता)
1	वर्तमान पता	इंद्रधनू अपार्टमेंट, मरीआई चैक,सोलापुर,कमाती,सोलापुर ग्रामीण,महाराष्ट्र,भारत
2	स्थायी पता	संग्राम नगर अकलूज ता माळशिरस ,कमाती,सोलापुर ग्रामीण,महाराष्ट्र,भारत

(i) **Occupation** (व्यवसाय):

(j) **Phone number** (फोन नं.): **Mobile** (मोबाइल नं.): 91-9420167796

7. **Details of known/suspected/unknown accused with full particulars** (माहीत असलेल्या /संशयीत/अनोळखी आरोपीचा संपूर्ण पत्ता):

S.No. (अ.क्र.)	Name (नाव)	Alias (उर्फनाव)	Relative's Name (नातेवाईकाचे नाव)	Present Address (वर्तमान पता)
1	नारायण शिवाजी गुंड			1. येणकी ता मोहोळ,कमाती,सोलापुर ग्रामीण,महाराष्ट्र,भारत
2	हर्सी शिवाजी गुंड			1. येणकी ता मोहोळ,कमाती,सोलापुर ग्रामीण,महाराष्ट्र,भारत
3	लहू पंढर्सी जाधव			1. येणकी ,मोहोळ ,कमाती,सोलापुर ग्रामीण,महाराष्ट्र,भारत

8. **Reasons for delay in reporting by the complainant/informant** (तक्रारदार/माहिती देणा-याकडून तक्रार करण्यातील विलंबाची कारणे):

9. **Particulars of properties of interest** (संबंधीत मालमत्तेचा तपशील):

S.No. (अ.क्र.)	Property Category (मालमत्ता वर्ग)	Property Type (मालमत्ता प्रकार)	Description (वर्णन)	Value(In Rs/-) (मुल्य (रू. मध्ये))

10 **Total value of property (In Rs/-)**-(चोरीस गेलेल्या मालमत्तेचे एकूण मुल्य (रू. मध्ये)):

11 **Inquest Report / U.D. case No., If any** (इन्क्वेस्ट अहवाल/ अकस्मात मृत्यू प्रकरण क्र.,जर असल्यास)):

S.No. (अ. क्र.)	UIDB Number (यु.आय.डी. बी.क्र.)

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N.C.R.B (एन.सी.आर.बी)

I.I.F.-I (एकीकृत अन्वेषण फॉर्म - १)

12 First Information contents (प्रथम खबर हकीकत):

फिर्यादी जबाब ता. 15/06/2022मी संजय ताराचंद ननवरे, वय 57 वर्षे, व्यवसाय-नोकरी (क्षेत्र अधिकारी, महाराष्ट्र प्रदुषण नियंत्रण मंडळ) मुळ रा. संग्राम नगर अकलूज ता. माळशिरस सध्या रा. इंद्रधनू अपार्टमेंट, मरीआई चैक, सोलापूर समक्ष फिर्यादी जबाब देतो की, मो.नं. 9420167796मी महाराष्ट्र प्रदुषण नियंत्रण मंडळ, सोलापूर येथे क्षेत्र अधिकारी म्हणून नोकरी करीत असून माझेकडे संपुर्ण सोलापूर जिल्हयाचा पदभार आहे.दि. 02/05/2022 रोजी आमचे कार्यालयास इसम नामे नारायण शिवाजी गुंड, रा. येणकी ता. मोहोळ यांनी जकराया शुगर लि. वटवटे ता.मोहोळ येथे होणारे प्रदुषणाबाबत तक्रारी अर्ज दिलेला होता. काल दि.14/06/2022 रोजी उपप्रादेशिक अधिकारी अजित पाटील सो यांनी तात्काळ सदर तक्रारीचे अनुशंगाने पाहणी करणेकरीता जाणेबाबत फोनव्दारे कळविल्याने मी व माझेसोबत चालक सलगर असे शासकीय वाहन क्र. MH13BN1679 यामधून 13/30 वा. चे सुमारास जकराया शुगर लि. वटवटे येथे पोहचलो व मी सदर तक्रार देणारे अर्जदार नारायण शिवाजी गुंड यांना त्यांचे मोबाईल नंबरवर संपर्क करून समक्ष हजर राहणेबाबत कळविले, त्यावेळी ते कारखान्याचे गेटसमोर आले, तेंव्हा मी त्यांना माझी ओळख सांगून त्यांनी दिलेले तक्रारी प्रमाणे त्यांचेशी चर्चा करून त्यांनी तक्रारी अर्जात दिलेले गट नं. 149/1 व 149/2 मध्ये प्रदुषण होत असल्याचे नमुद केल्याने कारवाई करणेकरीता त्यांचेसोबत जात असताना अर्जदार यांनी आम्हास मध्येच थांबवून गट नं. 149/1 व 149/2 मध्ये न नेता गट नं. 147/1 मध्ये घेवून गेले व तेथे साठलेल्या डबक्यातील पाणी नमुना घेणेस सांगीतला, त्यांचे म्हणनेप्रमाणे मी सदर ठिकाणचा नमुना तपासणी करीता घेतला. त्यानंतर मी त्यांना त्यांनी दिलेले अर्जातील गट नं. 149/1 व 149/2 मध्ये चला असे म्हणलो. त्यावेळी सदर ठिकाणी कांही लोक जमा झाले, मी माझे काम करणेकरीता अर्जदार यांना चला असे परत म्हणालो असता त्यांनी मला दमबाजी करून मोठया आवाजात मी तुम्हाला दाखवेल तेथे सम्पल घ्यावे लागतील असे म्हणून मला शेजारील नाल्याकडे घेवून जावून नाल्यातील सम्पल घ्यावयास लावले, मी त्यांचे म्हणनेप्रमाणे सदर ठिकाणचे सम्पल घेतले. त्यानंतर मी त्यांनी तक्रारी अर्जाप्रमाणे मला गट नं. 149/1 व 149/2 मध्ये पाहणी करावी लागेल, आपण मला सदरचा गट दाखवा असे म्हणालो असता सदर ठिकाणी अर्जदार नारायण शिवाजी गुंड, हरी शिवाजी गुंड व लहू पंढरी जाधव यांनी जमलेल्या सर्व लोकांसमक्ष तुम्ही आम्ही दाखवेल तेथे यावे लागेल व सम्पल घ्यावे लागतील असे म्हणाले असता मी त्यांना प्रथमतः तक्रारी अर्जात नमुद ठिकाणी सम्पल घेवू असे म्हणताच वरील तिघांनी मला तु भ्रष्ट अधिकारी आहेस, हरामखोर असे म्हणून शिवीगाळी करून एकेरी व अर्वाच्च भाषेत बोलून माझे अंगावर येवू लागले. तेंव्हा मी माझे शासकीय काम करणेकरीता तक्रारी अर्जाप्रमाणे गट नं. 149/1 व 149/2 मध्ये जात असताना मला तेथे जावू न देता, सदर ठिकाणचे सम्पल घेण्यापासून थांबवून षासकीय कामकाज करणेस मज्जाव केला आहे. याबाबत मी दि. 14/06/2022 रोजी कामती पोलीस ठाणेस येवून लेखी अर्ज दिला होता, त्यावेळी मला घडले प्रकाराचे अनुशंगाने तक्रार देणेस पोलीस प्रशासनाकडून सांगण्यात आले होते. परंतू मी माझे वरिष्ठाशी चर्चा करून तक्रार देतो असे सांगून सोलापूर येथे आमचे कार्यालयात जावून उपप्रादेशिक अधिकारी अजित पाटील सो यांचेशी फोनव्दारे चर्चा केली, त्यांना सर्व घडलेला प्रकार सांगीतला. त्यानंतर घडले प्रकाराने मला मानसिक त्रास झाल्याने आज रोजी आमचे कार्यालयास मी कामती पोलीस ठाणेस जावून तक्रार दाखल करीत असल्याचे कळवून आज रोजी तक्रार देणेकरीता आलो आहे. तरी, दि. 14/06/2022 रोजी दुपारी 14/00 वा. ते 16/00 वा. चे दरम्यान जकराया शुगर लि. वटवटे ता. मोहोळ येथे मी आमचे कार्यालयास प्राप्त तक्रारी अर्जाप्रमाणे पाहणी करून सम्पल घेणेकरीता आलो असता तक्रार देणारे 1) नारायण शिवाजी गुंड व त्यांचे सोबत 2) हरी शिवाजी गुंड 3) लहू पंढरी जाधव सर्व रा. येणकी ता. मोहोळ यांनी जमलेल्या सर्व लोकांसमक्ष मला तु भ्रष्ट अधिकारी आहेस, हरामखोर असे म्हणून शिवीगाळी करून एकेरी व अर्वाच्च भाषेत बोलून माझे अंगावर येवून तक्रारी अर्जाप्रमाणे गट नं. 149/1 व 149/2 मध्ये जात असताना मला तेथे जावू न देता, सदर ठिकाणचे सम्पल घेण्यापासून थांबवून शासकीय कामकाज करणेस मज्जाव केला आहे म्हणून माझी वरील तिघांविरूध्द फिर्याद आहे.माझा वरील जबाब संगणकावर टंकलिखीत करून त्याची प्रिंट काढल्यानंतर मी वाचून पाहीला असता तो माझे सांगणेप्रमाणे बरोबर आहे. समक्ष
हा जबाब दिला स.ता.म.पोलीस ठाणे अंमलदारकामती पोलीस स्टेशन

13.Action **Since the above information reveals commission of offence(s) u/s as mentioned at** (केलेली कारवाईः बाब क्र.२ मध्ये नमूद केलेल्या कलमान्वये वरील अहवालावरून अपराध घडल्याचे.)

(1) **Registered the case and took up the investigation:** (प्रकरण नोंदविले आणि तपासाचे काम हाती घेतले): ankush shivaji mane (I (Inspector)) / API **or** (किंवा)

(2) **Directed (Name of I.O.)** (तपास अधिका-याचे नाव):
Rank (पद):
No.(क्र.): **to take up the Investigation** (ला तपास करण्याचे अधिकार दिले) **or** (किंवा)

(3) **Refused investigation due to** (ज्या कारणामुळे तपास करण्यास नकार दिला):

or (ज्या कारणामुळे तपास करण्यास नकार दिला)

(4) **Transferred to P.S.**(गुन्हा दुसरीकडे पाठविला असल्यास त्या पोलीस ठाण्याचे नाव):
District (जिल्हा):
on point of jurisdiction (को क्षेत्राधिकार के कारण हस्तांतरित) .

F.I.R. read over to the complainant / informant,admitted to be correctly recorded and a copy given to the complainant / informant free of cost. (प्रथम खबर तक्रारदाराला/खबरीला वाचून दाखविली, बरोबर नोंदविली असल्याचे त्याने मान्य केले आणि तक्रारदाराला/खबरीला खबरीची प्रत मोफत दिली.)

R.O.A.C.(आर. ओ .ए .सी.)

14. Signature/Thumb impression of the complainant / informant.(तक्रारदाराची/खबर देणा-याची सही/अंगठा):

15. Date and time of dispatch to the court (न्यायालयात पाठवल्याची तारीख व वेळ):

पोलीस ठाणे अंमलदार

Signature of Officer in Charge of Police Station (ठाणे प्रभारी अधिका-याची)

Name (नाव): ankush shivaji mane
Rank(पद): I (Inspector)
No.(सं.): API

FIRST INFORMATION REPORT
Under Section 154 Cr. P. Code

1. District : Solapur Rural

FIR No. 0177, Date and time of FIR : 15.6.2022, 15.30 hours

2.

Sr No.	Acts	Sections
1	Indian Penal Code, 1860	353
2	Indian Penal Code, 1860	504
3	Indian Penal Code, 1860	506
4	Indian Penal Code, 1860	34

3. (a) Occurrence of offence :

1. Date : Tuesday
2. Time Period

Date from : 14.6.2022
Date to : 14.6.2022
Time from : 14.00 hours
Time to : 16.00 hours

(b) Information receipt at P. S.

Date : 15.6.2022 Time : 14.21 hours

(c) General Diary Reference :
Entry No. 013 Date & time : 15.6.2022, 15.21 hrs

4. Type of information : Written

5. Place of occurrence :

1. (a) Direction and distance from P. S. : 10 k.m.

(b) Address : Jakaraya Sugar Ltd, Vatvate, Tal. Mohol

(c) In case, outside the limit of this police Station, then

Name of Police Station

District : / State

6. Complainant / Informant :

(a) Name : Sanjay Tarachand Nanavare

(b) Father's / Husband's Name :

(c) Date / year of birth : 1965

(d) Nationality : Bharat

(e) UID No.

(f) Passport No. Date of issue

Place of issue

(g) ID details (Ration Card, Voters ID Card, Passport, UID No. Driving licence No. Pan

S. No.	ID type	Id Number

(h) Address :

1	Present address	Indradhanu Apartment, Mariayi chowk, Solapur, Kamati, Solapur Rural, Maharashtra, Bharat
2	Permanent address	Sangram Nagar, Akluj, Tal. Malshrias, Kamati, Solapur Rural, Maharashtra, Bharat

(i) Occupation :

(j) Phone number : Mobile : 91-9420167796

7. Details of known / suspected / unknown accused with full particulars :

S. No	Name	Alias	Relative's name	Present address
1	Narayan Shivaji Gund			1. Yenaki Tal. Mohol, Kamati, Solapur Rural, Mah. Bharat
2	Hari Shivaji Gund			1. Yenaki, Tal. Mohol, Kamati, Solapur Rural Mah. Bharat
3	Lahu Pandhari Jadhav			1. Yenaki, Tal. Mohol, Kamati, Solapur Rural Mah. Bharat

8. Reasons for delay in reporting by the complainant/ informant :

9. Particulars of properties of interest :

S No	Property category	Property type	Description	Value

10. Total Value of property (in rs)

11. Inquest Report / UD case No., if any :

S. No.	UIDB number

12. First Information Contents :

Complaint's statement Dt. 15.6.2022 :

I Sanjay Tarachand Nanavare, Age 57 years, Occu. Service (Regional Officer, Maharashtra Pollution Control Board), permanent resident of Sangram Nagar, Akluj, Tal. Malshiras, presently at Indradhanu Apartment, Mariaayi Chowk, Solapur personally give this complaint that, Mobile No. 9420167796.

I have been serving as Range officer in Maharashtra Pollution Control Board, Solapur and I am the in-charge of entire Solapur District. On 2.5.2022, a person by name Narayan Shivaji Gund, R/o Yenaki, Tal. Mohol, had given a complaint application regarding pollution being taken place at Jakaraya Sugar Ltd, Vatvate, Tal. Mohol. Yesterday on 14.6.2022, the Deputy Regional Officer, Ajit Patilsaheb directed me through phone to take local inspection of the sight in the light of said complaint. Accordingly, at about 13.30 hours I along with driver

Salgar by Govt vehicle No. MH-13/BN-1679 visited Jakaraya Sugar Ltd, Vatvate. Then, on mobile phone, I contacted and informed the complainant Narayan Shivaji Gund to remain personally present at the spot. He came in front of gate of Factory. I then introduced myself to him and discussed with him about the complaint. He disclosed about the pollution in the lands Gat Nos. 149/1 and 149/2 and thereupon, I started proceedings towards the said lands, but instead of taking me to the land Gat No. 149/1 and 149/2, he took me to land Gat No.147/1 and asked me to take sample of water collected in a ditch in the said land. As per his say, I collected sample of water for examination. Thereafter, I asked him to come to land Gat NO. 149/1 and 149/2. At that time, some people gathered there. In order to discharge my duty, I again asked the applicant to come to said lands, but he threatened me in a loud voice that I will have to take sample from the spot which he would show to me and took me to a nearby Nala and compelled me to take the sample from the said Nala. I took sample from the said Nala at his instance. I then told them that as per the complaint application, I will have to inspect the land Gat

Nos. 149/1 and 149/2 and therefore, show me the said lands and thereupon, the applicant Narayan Shivaji Gund and two others viz; Hari Shivaji Gund and Lahu Pandhari Jadhav in presence of people gathered there told me that I will have to come to the spot they would show and will have to take samples. Thereupon, I told them that first I will have to take samples from the spot mentioned in the complaint. Thereupon, they all threatened me that I am the corrupt Officer, and abused me saying "Haramkhor and rushed on my person using unparliamentarily and abusive language. Thus, they have created a hurdle for me while going to the land Gat Nos. 149/1 and 149/2 for doing my official duty and prevented me from taking samples from the said spot as a part of my Government duty. I had submitted a written application about the same at Kamati police station on 14.6.2022. At that time, I was asked by the police administration that I should lodge a complaint in writing about the same. Thereupon, telling them that I would discuss the matter with my superior Officers and then file the complaint, I came back to my Office at Solapur and contacted the Deputy Regional Officer Ajit Patil on phone and discussed

the issue and told him the entire facts. Thereafter, as I suffered mental agony because of the aforesaid events, today, I informed my Office that I am going to Kamati police Station to file a complaint and accordingly came to file the complaint. Hence, on 14.6.2022, in the afternoon between 14.00 hours to 16.00 hours, when I had gone to Jakaraya Sugar Ltd Vatvate, Tal. Mohol to inspect the spot and take samples as per the complaint received by our Office, the complainant (1) Narayan Shivaji Gund along with two others viz; (2) Hari Shivaji Gund, and (3) Lahu Pandhari Jadhav all R/o Yenaki, Tal. Mohol in presence of all the people gathered there abused me saying that I am the corrupt Officer and also by using the word Haramkhor and rushed on my person while using unparliamentarily and abusive language, while I am proceeding towards the lands Gat Nos. 149/1 and 149/2 as per the complainant application, and thus prevented me from going there and taking samples from the said spot, and deterred me from discharging my duty as a Government servant and hence, I have complaint against the above named three persons. My aforesaid complaint has been got typed on the computer and after having

taken a print thereof, I have read the same and the same is correct as per my say. Hence, this statement.

Sd/- Police Stn. Officer, Karmati Police Station

13. Action since the above information reveals commission of offences under section as mentioned at

(1) Registered the case and took up the investigation

(2) Directed (Name of IO) Rank No. to take up the investigation

(3) Refused investigation due to or

(4) Transferred to P. S. District

On the point of jurisdiction

FIR read over to the complainant / information, admitted to be correctly recorded and a coy given to the complaint / informant free of costs

ROAC

14. Signature / Thump impression of the Complainant / informant

15. Date and time of dispatch to the Court

Sd/-

Signature of Officer
Incharge police Station
Name : Ankush Shivaji Mane
Rank : Inspector, No. API

ANNEXURE-R-2

Date : 26-11-2021

प्रति

मा. उप प्रादेशिक आधिकारी.
महाराष्ट्र प्रदुषण नियंत्रण मंडळ.
सोलापुर. ४१३००३

अर्जदार : नारायण शिवाजी गुंड
रा. येणकी ता. गोहोळ जि. सोलापुर

विषय : जकराया शुगर व आसवणी विरोधात केलेल्या तकारी परत घेणेवावत...

महोदय.

वरील विषयास अनुसरून अर्ज करतो की मी जकराया साखर कारखाना व जकराया आसवणी (डिस्टलरी) च्या विरोधात प्रदुषण नियंत्रण मंडळाच्या कार्यालयाकडे मेल व लेखी तकारी दिल्या आहेत.

सदर तकारीच्या अनुषंगाने जकराया कारखान्याच्या प्रशासनाने दखल घेवुन प्रदूषणा वरती उपाय योजना काढून वंद करण्याचे द्रष्टीने काम केले आहे. त्यामुळे मी यापुर्वी प्रदुषण मंडळाकडे केलेल्या सर्व तकारीचे अर्ज रद्द करावे ही विनंती व यापुढे मी व माझ्या कुटुंवातील कोणीही जकराया शुगर व डिस्टलरी वावतची कोणतीही तकार करणार नाही.

सदरचा अर्ज मी सांगितले प्रमाणे संगणकावरती टाईप केला असुन मला तो मान्य असुन कोणाच्याही दवावापोटी लिहला नाही.

कळावे.

Received
26/11/2021
Sub. Regional Office
M. P. C. Board
4/B, Bali Block, Civil Line
Saat Rasta, Solapur-413003

आपला विश्वासु

नारायण शिवाजी गुंड

Date 26.11.2021

To

The Hon. Deputy Regional Officer,
Maharashtra Pollution Control Board,
Solapur – 413 003

Applicant : Narayan Shivaji Gund
R/o Yenaki, Tal. Mohol, Dist. Solapur

Subject : Regarding taking back the complaints made against Jakaraya Sugar & distillery

Sir,

With reference to the subject cited above, I have submitted written complaints to the Pollution Control Board against Jakaraya Sugar Factory and Jakaraya Distillery.

The Administration of the Jakaraya Sugar Factory by taking cognizance of those complaints, has taken measures and worked for removal of the pollution. Hence, it is requested that all my applications submitted herein before to the Board may kindly be filed and hence, neither myself nor anybody from my family would submit any complaint against the Jakaraya Sugar and distillery.

This application has been typed on the computer as per my dictation and the same is admitted to me and same is not reduced into writing under anybodies pressure.

Hence submitted

Yours faithfully,

Sd/- Narayan Shivaji Gund

Sd/- Sub Regional Officer,
M. P. C. Board 4/B, Bali block, Civil Line, Saat Rasta, Solapur

ANNEXURE-R-3

ग्रामपंचायत येणकी ता. मोहोळ जि. सोलापूर

(उपसरपंच)
मोबा. ९०७५१२२५८८

(सरपंच)
मोबा. ९५६१७०२०७०

जावक क्र. :

दिनांक : 23 / 08 /२०२2

प्रति,
मा.उपप्रादेशिक अधिकारी,
महाराष्ट्र प्रदुषण नियंत्रण मंडळ, सोलापूर.

विषय - ग्रामपंचायत लेटरपॅड चा गैरवापर केलेबाबत...

महोदय,

वरील विषयास अनुसरुन कळविण्यात येते की, येणकी ता.मोहोळ जि.सोलापुर गावचे विद्यमान सरपंच श्री.पोपटराव केशव जाधव यांनी ग्रामपंचायत येणकी चे लेटरपॅड वरती जकराया शुगर लि.वटवटे या कारखान्याच्या व डिस्टलरी च्या विरुध्द महाराष्ट्र प्रदुषण नियंत्रण मंडळ, सोलापूर व पुणे, मुंबई, केंद्रिय प्रदुषण नियंत्रण मंडळ पुणे या कार्यालयाकडे वेळोवेळी तक्रारी दिलेल्या आहेत. सदरच्या तक्रारीतील मजकुराशी आम्ही खालील सह्या करणारे ग्रामपंचायत येणकी चे विध्यमान सदस्य सहमत नाही.

तरी मे.साहेबांस कळविण्यात येते की,सरपंच पोपटराव केशव जाधव यांनी ग्रामपंचायत लेटरपॅड वरती दिलेल्या सर्व तक्रारी खोट्या व व्यक्तीगत स्वरुपाच्या / वयैक्तीक स्वार्थासाठी केलेल्या आहेत. सदरच्या तक्रारिशी ग्रामपंचायत येणकी चा काहीही संबध नाही. जकराया शुगर लि.वटवटे या साखर कारखान्यामुळे व डिस्टलरी प्रकल्पामुळे कोणतेही हवा, पाणी प्रदुषण झालेले नाही.

म्हणुन हा अर्ज दिला असे.

कळावे,

आपला विश्वासू,
सही

विध्यमान ग्रामपंचायत सदस्य -

१)आकाश अनिल खरात (उप.सरपंच)

२)समाधान हरी घुले (सदस्य)

३)चंद्रकला वसंत गुंड (सदस्य) C.V. गुंड.

४)सोनाली संतोष परीट (सदस्य) सोनाली संतोष परी

५)ताई केराप्पा कसबे (सदस्य)

माहितीस्तव प्रत-

१) मा.सदस्य सचिव, महाराष्ट्र प्रदुषण नियंत्रण मंडळ, (मुख्यालय) मुंबई.
२) मा.सहाय्यक सचिव, तांत्रीक महाराष्ट्र प्रदुषण नियंत्रण मंडळ, (मुख्यालय) मुंबई.
३) मा.सहसंचालक हवा, महाराष्ट्र प्रदुषण नियंत्रण मंडळ, (मुख्यालय) मुंबई.
४) मा.सहसंचालक जल, महाराष्ट्र प्रदुषण नियंत्रण मंडळ, (मुख्यालय) मुंबई.
५) मा.प्रादेशिक अधिकारी, महाराष्ट्र प्रदुषण नियंत्रण मंडळ,पुणे
६) मा. बी.के. शर्मा, केंद्रिय प्रदुषण नियंत्रण मंडळ पुणे

23/8/02.
Sub. Regional Office
M. P. C. Board
4/B, Ball Block, Civil Line,
Solapur-413003

मुली वाचवा देश वाचवा! एक पाऊल स्वच्छतेकडे! पाणी अडवा पाणी जिरवा!

Tal. Mohol, District Solapur
Deputy Sarpanch / Sarpanch

Dt. 23.8.2022

To

The Hon. Deputy Regional officer,
Maharashtra Pollution Control Board,
Solapur

Subject : Regarding misuse of Gram Panchayat letter pad

Sir,

With reference to subject cited above, it is to inform you that the acting Sarpanch of village Yenaki, Tal. Mohol, District Solapur by name Shri. Popatrao Keshav Jadhav on the letter of pad of the Gram Panchayat has submitted complaint applications to the Office of Mahrashtra Pollution Control Board, Solapur, Pune, Mumbai and also to Central Pollution Control Board, Pune from time to time again the Factory by name Jakaraya Sugar Ltd, Vatvate and its distillery. We the undersigned acting members of the Gram Panchayat, Yenaki do not agree with the contents of those complaints.

Hence, it is to inform you that all the complaints submitted by Sarpanch Popatrao Keshav Jadhav on the gram Panchayat letter Pad are false and are of personal nature and are made out of his personal interest. The

ANNEXURE-R-4

JAKRAYA SUGAR LTD.

Regd. Office:
Chelekar Galli, Mangalwedha.Dist.-Solapur-413305
Phone: 02188-221173. Fax: 02188-220523
E-mail: jakraya@rediffmail.com; Jakraya@gmail.com
Factory: At. Watwate, Tal-Mohol, Dist.-Solapur-413253
Phone: 02189-259498, 259499, Fax: 02189-259497

Chairman
Adv.Birappa B. Jadhav (B.sc.Agri. LL.b.)
Managing Director
Sachin B. Jadhav (B.sc.Agri. MBA)

Purchase Order

To, **ECOMATRIX GLOBAL PRIVET LIMITTD** **2nd Floor, Prajwal Motif, Old No- 598/ New No-14, Alagirisamy Salai KK Nagar, Chennai- 600 078.** **Email id- marketing@ecomatrixglobal.com** **Ph no- +91 7410050540**	**Order No : JSL /Purchase / 725 /2023-24** **Date : 15/ 06 /2023**

Subject: - Purchase Order for Supply of Rotary Particulate Collector (RPC).

Dear Sir

With reference to your Quotation no. EGPL/RPC/002 on Dated 10/06/2023 we are pleased to place purchase order for Purchase Order for Supply of Rotary Particulate Collector (RPC) as per following terms and conditions. Please return a copy of this order signed as an acceptance of this order

Sr. No.	Description	Qty	Rate	Amount
1	Design, Engineering, Manufacture and supply of one number of Rotary Particulate Collector.	01 nos	1,20,00,000.00	1,20,00,000.00
2	Erection, Testing and Commissioning of one number of RPC,(only EGPL supplied Equipment)	01 nos	12,00,000.00	12,00,000.00
			Total amount-	**1,32,00,000.00**

1. Scope of Work/ Supply and Services.

The scope of supply shall include the following;

1. Rotary Particulate Collector (RPC) suitable for consisting of Rotor, Inlet & Outlet transition gas hoods
2. Drive Assembly.
3. Ash discharge Hopper with RAV.
4. Draft gauges and temperature gauges at the inlet & outlet hood hoods/ducts to measure the pressure and temperatures.
5. Support Structure, Platforms. Staircases and Ladders for easy access to all areas which require maintenance.
6. Dampers at the inlet and outlet ducts to RPC.

2.Technical Details

1. RPC shall be suitable for Travelling Grate Boiler
2. Fuel Fired- Bagasse
3. Boiler Capacity - 70 TPH
4. Flue gas temp. at Inlet of RPC – 120 to 140 deg.c
5. Pressure drop across RPC: 60mmwc (Predicted)
6. Temperature drop across RPC: 10 deg.C (predicted)
7. Total particulate matter at outlet of RPC shall not exceed 150mg/Nm^3

3. Terminal points

3.1. Flue Gas	: At inlet & outlet transition duct Flange of RPC.
3.2. Ash/Dust	: At outlet of Rotary air lock Valve.
3.3. Service Air	: At the inlet header. at RPC drive level.
3.4. Power	: At our motor terminals.

4.Exclusions

The following are excluded from your scope of supply and services.

1. All Civil Work of any nature.
2. Air Compressors for service air/Instrument air (2000 CFM)
3. Gas ducting from APH outlet to RPC and RPC outlet to ID Fans.
4. UPS / Power for construction. testing and commissioning.
5. Spares for operation and maintenance.
6. Ash disposal beyond RAV.
7. Earthing & Lighting
8. Any tax applicable etc.. / Government applications and approvals including local authority legal or statutory requirements / fees/approvals/ Third party Inspection
9. Any item not specified in this offer.

5. Special Points.

1. EGPL Shall provide necessary drawings for duct fabrication and hookup beyond their scope of supply.(Jakarya scope of Supply & Erection)
2. EGPL Engineer shall suggest/recommend pipe sizes for compressed air piping from Compressor to Air Header at Rotor drive level. (Jakarya scope of supply & Laying)
3. EGPL Shall indicate Insulation thk to enable Jakarya to lay the insulation & Cladding.

6. Term of Payment:-

A. Supply order-

1. 20% of supply order value as advance along with Purchase Order
2. 70% of supply value Order against Proforma Invoices
3. Balance 10% of Supply order value on Commissioning of RPC.

Erection, Testing and Commissioning

4 20% of Erection order value against Site mobilization.
5 80% of Erection value Order against Proforma Invoice/Site progress.
6 GST Extra as applicable.

Billed To: Jakraya sugar Ltd
Plant Address: A/P Watwate, Tal- Mohol,
Dist- Solapur Pin- 413253
Phone-7774090551,
GST NO -27AABCJ9429L1Z2

TRUE COPY ADVOCATE

Purchase Officer **Managing Director**

ANNEXURE-R-5

JAKRAYA SUGAR LTD.
Regd. Office :
Chelekar Galli, Mangalwadha. Dist. Solapur - 413 305.
Phone : 02188 - 221173 Fax : 02188 - 220523
E-mail : jakraya@gmail.com / jakrayamd@gmail.com

Factory : At. Watwate, Tal - Mohol, Dist. Solapur - 413 253
Phone : 02189 - 259498, 250499, Fax : 02189 - 259497

Chairman
Adv. Birappa B. Jadhav (B.Sc. Agri.,LL.B.)

Managing Director
Sachin B. Jadhav (B.Sc. Agri.,M.B.A.)

Ref. No. JSL/ADMN-MFG/POLLUTION/ 99 / 2022-23 Date :- 13.04.2022

To,

Sub Regional Officer
MPC Board, Saat Rasta,
Solapur

Sub :- Compliance Report for warning notice dated 19.01.2022

Ref:- Your Notice No. 2201190001 dated 19.01.2022

Respected Sir,

With reference to above cited subject and your referred letter. We are submitting herewith our compliance report as under....

1. We have been demolished our Kaccha Lagoon on priority basis after visit of MPCB officers visited on 21.09.2021. The photocopy of kaccha lagoon demolition area is attached herewith for your ready reference. After that on 22.10.2021 Regional Officer Pune have given Restart for Distillery Unit.

2. Our Effluent Treatment Plant having 500 m3/Day capacity containing 15 days storage Lagoon, One day storage tank, correction tank, primary clarifier, diffused aeration system, secondary clarifier, collection tank fallowed by MGF & ACF and final treated tank. We have installed online monitoring system to monitor parameter of treated effluent it is available in our record we enclose the detail.

3. We installed online monitoring system by Nevco Engg. Banglore which upload parameter with CPCB/MPCB server.

4. JVS samples collected in month November 2021 have exceed limits due to have electricity trouble from factory main transformer to ETP Unit. After that we have provided direct HT line up to ETP section to improve ETP parameters.

Now a days our ETP is running much satisfactory maintaining all parameters within consented limits. We enclose data of parameter from November on words.

5. We have already provided fifteen days effluents collecting lagoon near ETP unit. We are totally recycled our sugar condensate in process. We use pressure jet fighter for cleaning of evaporator tubes which resulting minimum generation of effluents on ETP. We installed Flow meters at ETP inlet & ETP outlet photograph attached

6. We have installed CPU plant having capacity 85 m3/Hr.(2000 m3/Day) including primary treatment/correction tank, anaerobic digester, Defused aeration system(Aerobic Treatment), MGF-ACF, laser screening, followed by Ultra Filtration unit. Outlet of this CPU plant using for feed to R.O. Plant which is further used in Sugar & Distillery process. At the time of visit of officer of M.P.C.B. the work of CPU Unit is in progress it is now completed and under operation.

7. On date 08.04.2022 your Field Officer Shri Nanware visited to our factory and examined all the units of ETP which is running properly & collected the JVS samples. Also he visited our CPU plant which is in commissioning mode, finally he visited our spent wash dryer unit where Spray Dryer make dry powder from spent wash. He has given his visit report. Copy of the same is attached.

8. Spent wash generated from our distillery treated by MEE & Bio-digester fallowed by spent wash dryer in which we make liquid spent in powdered form. This powder contains Rich in Potash (14 % to 17%) which is sold to farmers and other agricultural units as a manure.

9. We give the explanation about the complaints of Popat Jadhav, Narayan Gund & Sachin Salave as under.

A) Popat Keshav Jadhav is repeatedly giving the complaints against our Sugar Factory in personal capacity. He is misusing the letter head of Grampanchat Yenki As 102 farmer/Owner of well & bore well have given application to sub Regional officer Solapur on 12.7.2021 Stating that the letter given by Popat Jadhav on 15.05.2021 is false one. The water of wells, Bore wells of 102 farmer were not polluted but water of their wells & Bore well is clear and they are drinking as well as irrigating water to their Crops. The Popat Jadhav is giving repeatedly complaints to M.P.C.B. with intention to cause damage to distillery & Sugar Unit and Company should suffer loss. The employee of our company have given complaint against Popat Keshav Jadhav U/S 465 & 500 I.P.C. to police station Kamti Tal. Mohol on 11.04.2022

B) Narayan Shivaji Gund is giving false complaints because his land is situated adjacent to sugar factory. He is insisting upon the company to purchase his land and land of his brother, mother and nephew of 7 persons at the rate of four times more than market price. The company is ready to purchase their land at market rate. He has given application to sub regional officer on 26.11.2021 stating that my application regarding complaints about JSL should be cancelled myself & my family members will not complaint against Jakraya Sugar Ltd. (Copy Enclosed)

C) Sachin Salave is ex-employee of the company & he is not a farmer. He demanding Rs.5 Lakh to company. The company have filed extortion case under section 384 of

We request you to take samples of well & bore wells of 102 villagers of Yenaki who have given their application on 12.07.2021 to Sub Regional Office Solapur in order to clarify/ truth of complaints given by Popat Jadhav, Narayan Gund and Sachin Salave.

After all our unit updated in all the ways against water pollution & currently we achieved ZLD.

Thanking You,

Yours faithfully,

Managing Director

JAKRAYA SUGAR LTD.

C.C.To:-

Regional Officer, MPCB-Pune.

Sub. Regional Office
M. P. C. Board
45, Bal Bhavan, Civil Line,
Near Rest. Solapur-413003

TRUE COPY
ADVOCATE

ANNEXURE-R-6

Personal Hearing of M/s. Jakraya Sugar Ltd., Gat No. 61/1/A, At post. Watwate, Tal. Mohol, Dist. Soaplur held on 27/04/2023 in respect of legal proposal No. MPCB-LEGAL-Action-190122006 submitted by regional Officer, Pune.

Vide MPCB-LEGAL_ACTIONS- 190122006 Regional Officer, Pune has submitted legal action proposal against M/s. Jakraya Sugar Ltd., Gat No. 61/1/A, At post. Watwate, Tal. Mohol, Dist. Soaplur and submitted that Board has issued the interim directions followed by opportunity of personal hearing. The Sub Regional Officer Solapur visited the unit on 16/03/2023 and reported major non-compliances as, provided the storage tank for storage of effluent but same is not adequate as per CREP guidelines. The stagnant effluent was observed near the scrubber area, installed 70 TPH Boiler without consent from the Board (4) Not provided ESP as per the consent conditions. The MEE followed by ATFD of 6,000 lit/hr is installed same is inadequate and installation of additional ATFD of capacity 9,000 lit/hr is in progress. STP not provided as per consent conditions, OCEMS not calibrated and also not operated properly, Composting is carried out without consent from the Board. Due to these non-compliances the complaint from the nearby residents is constantly received by this office and one of the residents are seating indefinite cyclical fast since last 13 days. However, complainant has not attended the investigation in spite of the request of the Board Official at the site.

The hearing of industry held 27/04/2023 before Joint Director (APC). Industry authorised person Mr. Sachin Jadhav, Managing Director has attended hearing. Regional Officer, Pune and Sub-Regional Officer, Solapur has attended hearing virtually.

During hearing SRO Solapur has informed that industry having valid consent. Industry has provided treated effluent storage tank of capacity 10.5 MLD lined with polythene paper which is for 15 days storage capacity of treated effluent. The treated effluent used partly for cooling tower and irrigation purpose on land of 30 acre. For spent wash disposal industry is currently operating - dryer for potash power generation and bio composting. However, the bio-composting activity is not reflected in consent condition. Currently operated potash powder generation plant is inadequate for treating entire spent wash. Industry is having concreted compost yard of around 4 acre land and provided temporary HDPE lined storage tank near to compost yard. Industry has provided pipeline network for irrigation purpose utilizing CPU treated water. Industry has not provided ESP as per consent conditions. Currently wet scrubber attached to 70 TPH boiler. Industry having additional boilers of 6TPH each and need to get reflected in consent condition. Industry has not provided STP as per consent conditions. Compressed biogas plant is under erection and about 90% work is completed. Industry has submitted C2E application for the same. Industry is proposed to install additional boiler of 70TPH and submitted C2E application before Board. Further informed regarding compliant regarding dispersion of fly on nearby farmland.

RO Pune submitted issue regarding tanker movement for treated effluent and spent wash and recommended for third party feasibility report regarding air & water through reputed institution.

Industry representative informed that; they have taken steps towards control of pollution. Stopped tanker movement. Undertaker upgradation of existing dryer for spent wash to convert potash power. Proposed to provide PCP technology for boiler.

In view of above to it was directed to industry that, they shall submit action plan for control of overall pollution of water, upgradation of dyer, storage of molasses, STP and upgradation of existing air pollution control systems on notarise stamp paper within 7 days so as to complete all related work within 3 months along with monthly bar chart progress. SRO Solapur shall submit their recommendation. RO and SRO follow up with industry for obtaining action plan and submit. Further action will be initiated after submission of time bound action plan.

Case will be submitted to authority for further decision.

Dr. V. M. Motghare
Joint Director (Air Pollution Control)

TRUE COPY ADVOCATE

ANNEXURE-R-7

Chairman

(B.Sc. Agri., LL.B.)

Managing Director

(B.Sc. Agri., M.B.A.)

Regd Office :
At. Chelekar Galli, Mangalwedha, Dist. Solapur - 413 305.
Phone : 02188 - 221173, Fax : 02188-220523
E-mail : jakraya@gmail.com / jakrayamd@gmail.com

Factory : At. Watwate, Tal. Mohol, Dist. Solapur - 413 253
Phone : 02189 - 259498, 250499, Fax : 02189-259497

Ref. No. ..... Date: .....

To,
Sub-regional Officer
Maharastra Pollution Control Board,
Sub-regional office Solapur
4/B, Bali Block, Civil Lines,
Opp.Govt. Milk Dairy, Satrasta,
Solapur-413003

Subject :- Undertaking about action plan

Ref.: Personal hearing of M/s. Jakraya Sugar Ltd. on dated 27.04.2023

Dear sir,

With reference to the above as per the directions issued by Joint director APC we have attached herewith undertaking of action plan. We request you to acknowledge the same

Thanking you

Yours Faithfully

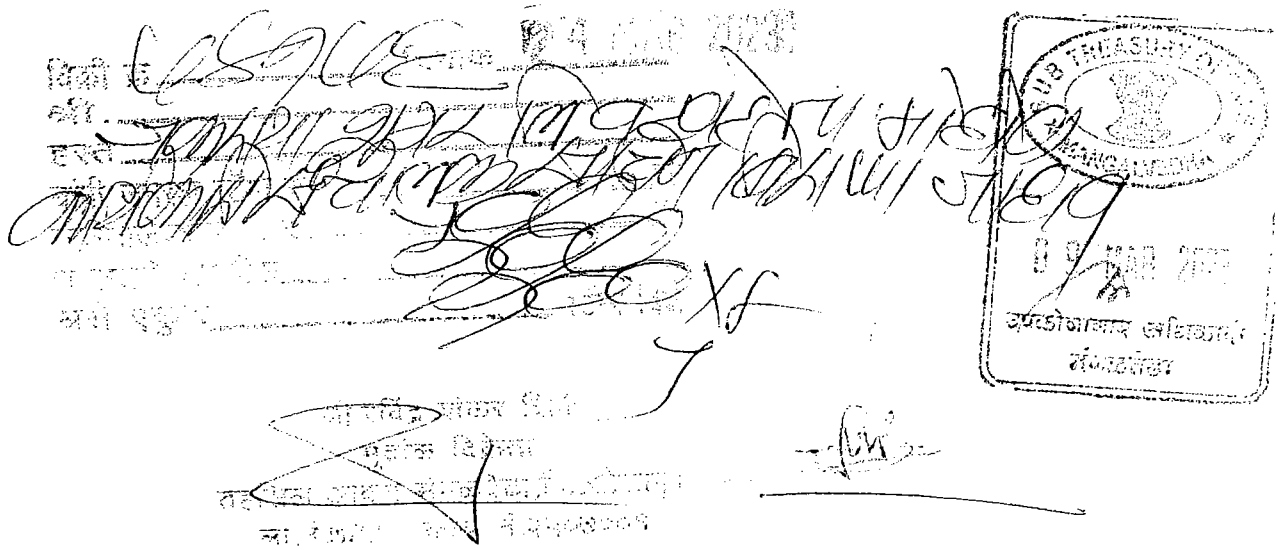
(Sachin B. Jadhav)
Managing Director

Enclosed : As above

CC : RC MPCB Pune

Received
Ekhare
04-05-2023
Jr. Clerk
Sub. Regional Office
M. P. C. Board,
Solapur

महाराष्ट्र MAHARASHTRA © 2022 ©



UNDERTAKING

We **M/s Jakraya Sugar Limited** do hereby solemnly declare and affirm as under:

1. That as per the directions issued honourable **Joint Director (Air Pollution Control)** at the time of personal hearing of M/s. Jakraya Sugar Ltd. Gat no 61/1/A At Post Watwate Tal Mohol Dist. Solapur which was held on 27.04.2023 we M/s. Jakraya Sugar Ltd. hereby undertook that the Company will complete all related work regarding the control of overall pollution of water, upgradation of dryer, storage of molasses, STP and upgradation of existing air pollution control systems within a period of 3 Months as per the action plan given in below table.

Sr. No.	Particulars	Action Plan
1	Control of overall pollution of water	We have improved our total process so that there is no any leakages in this way we have controlled over all pollution of water. Further we assure that we will take care in future regarding the same.
2	Upgradation of dryer	We have existing one dryer having 6/M3 concentrated spent wash drying capacity. Now installation of 2nd dryer having capacity 10/M3 per hour is going on and that will be operational within 90 days.
3	Storage of molasses, STP	We are having CPU of 2MLD capacity. MPCB suggested us to establish 5CMD STP to manage the additional savage. We will treat this savage quantity in already existing CPU of having capacity of 2MLD and the said capacity is sufficient to manage the additional quantity of savage.
4	Upgradation of existing air pollution control system	We have existing 70TPH bagasse fired boiler and it is installed in the year of 2010. At that time we have installed WET SCRUBBER as per CTE of MPCB. Afterwards in further renewal of consent dated 21.10.2020 the WET SCRUBBER is replaced with ESP by typo mistake by MPCB. We have given request letter to MPCB for the correction of the said typo mistake. Furthermore, we are upgrading existing air pollution system by installing RPC (Rotary Particle Collector) and this is the latest American (US) technology. By using this unit we can control the particle size bellow 150mg/NM3 as per the permissible limits of MPCB. However, considering its heavy plant and machinery such upgradation took 6 months period for the erection as per the bar chart separately attached herewith as Annexure I.

2. Above content of this affidavit are true and correct to the best of my knowledge and acceptable to the undersigned.

Authorized Signatory (Sign & stamp)
Name:Sachin Birappa Jadhav
Designation: Managing Director

Date: 03.05.2023
Place: Jakraya Sugar Ltd. Watwate, Solapur

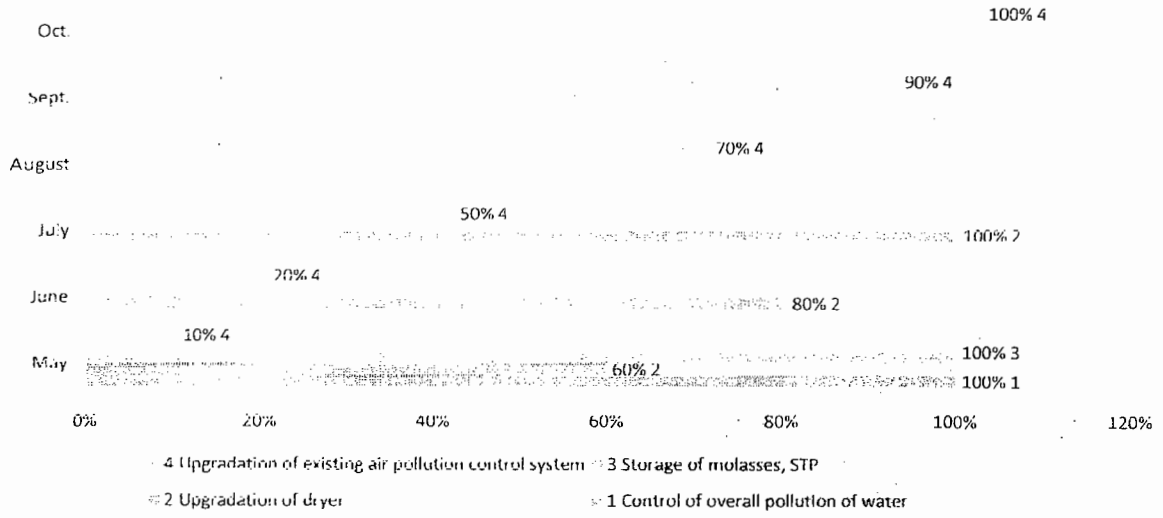
"ANNEXURE I"

JAKRAYA SUGAR LTD.

BAR CHAR FOR ACTION PLAN AS PER DIRECTION OF JOINT DIRECTOR MPCB

Sr. No.	Particulars	May	June	July	August	Sept.	Oct.
1	Control of overall pollution of water	100%					
2	Upgradation of dryer	60%	80%	100%			
3	Storage of molasses, STP	100%					
4	Upgradation of existing air pollution control system	10%	20%	50%	70%	90%	100%

Bar Chart



Managing Director
Jakraya Sugar Ltd

TRUE COPY
ADVOCATE

MAHARASHTRA POLLUTION CONTROL BOARD

REGIONAL OFFICE - PUNE

ANNEXURE-R-8

Phone No. 020-25811694
Fax No. 020-25811701
e-mail : ropune@mpcb.gov.in
visit us : www.mpcb.gov.in

"Your Service is our Duty"

Jog Centre, 3rd Floor,
Wakdewadi,
Old-Pune Mumbai Road,
Pune- 411003

ROP/ MPCB/ID/ 2806060026 Date: 06/06/2023

To,
M/s. Jakraya Sugar Ltd.,
Gat No. 61/1/A, A/p. Watwate,
Taf. Mohol, Dist. Solapur.

Sub: Interim Directions under section 33A of the Water (Prevention & Control of Pollution) Act, 1974 and 31A of Air (Prevention & Control of Pollution) Act,1981.

Ref:
1) Legal Action Proposal Submitted by Sub Regional Officer, Solapur vide MPCB- LEGAL-ACTIONS-190122006.
2) Personal hearing extended at MPCB-HQ, Mumbai on 27/04/2023
3) Minutes of personal hearing received on 27/04/2023.
4) Undertaking submitted by you vide letter Dtd. 03/05/2023.
5) Approval given by Board's Competent Authority on 31/05/2023

With reference to above, the personal hearing extended on 06/04/2023 before Joint Director (APC), Sion, Mumbai and the minutes of personal hearing received on 31/05/2023. Considering your submissions and Report of Sub Regional Officer Solapur it is decided to issue Interim Directions with following conditions;

(1) You shalln install an additional dryer of adequate capacity to treat spent wash for potash power generation within 02 months.
(2) You shall provide sewage treatment plant within 04 months.
(3) You shall provide an adequate and sciebntific network system for treated effluent disposal on land for irrigation to ensure there shall not be any stangnant effluent within and outside factory premises within 02 months.
(4) You shall provide leachate collection sump for collection of drained leachates from drains and compost yard.
(5) You shall upgrade existing air pollution control system provided to 70 TPH boiler to achieve consented standards within 03 months.
(6) You shall stop all tabnker movement to avoid fugive emission.
(7) You shall carry out third party feasibility reports regarding air and water through reputed institution and submit report within 03 months.
(8) You shall not cause any nuisance due to the operation of your unit in the surrounding area.
(9) You shall submit Bank Gurantee of Rs. 10.0 Lakh towards compliance with the above conditions. The Bank guarantee shall submit within 15 days in faver of Regional Officer, MPC Board, Pune.

You shall submit action taken repon on above directions. in case you fail to comply with the above directions the Board will have no option to initiate further legal action as deemed fit. which may please be noted

TRUE COPY ADVOCATE

ANNEXURE-R-9

JAKRAYA SUGAR LTD.

Regd Office :
At. Chelekar Galli, Mangalwedha, Dist. Solapur - 413 305.
Phone : 02188 - 221173, Fax : 02188-220523
E-mail : jakraya@gmail.com / jakrayamd@gmail.com

Factory : At. Watwate, Tal. Mohol, Dist. Solapur - 413 253
Phone : 02189 - 259498, 250499, Fax : 02189-259497

Chairman
Adv. Birappa B. Jadhav (B.Sc. Agri., LL.B.)
Managing Director
Sachin B. Jadhav (B.Sc. Agri., M.B.A.)

Ref. No. JSL/Acc/759/2023-24 Date: 17/06/2023

To,
Regional Officer
Jog Centre, 3rd floor,
Wakadewadi
Old-Pune-Mumbai Road
Pune-411003

Subject:-Regarding Reply of Interim Direction under section 33A of Water (Prevention and control of Pollution) Act 1974, 31A of Air (Prevention and Control of Pollution) Act 1981 and Hazardous and Other wastes (M & TM) Rules 2016.

Ref : Your letter No. ROP/MPCB/ID/2306060006, dated 06/06/2023.

Dear sir,

With reference to above subject, we are submitting compliance report of interim direction as below.

Sr. No.	Interim Directions	Compliances report
01	You shall install an additional dryer of adequate capacity to treat spent wash for potash power generation within 02 months.	The work of erection of dryer is completed and trials are being taken. We have to take trials for the period of one month from today.
02	You shall provide sewage treatment plant within 04 months.	We are having CPU of 2MLD capacity. MPCB suggested us to establish 5CMD STP to manage the additional savage. We will treat this savage quantity in already existing CPU of capacity of 2 MLD and the said capacity is sufficient to manage the additional quantity of savage.
03	You shall provide the adequate and scientific network system for the disposal of treated effluent on land for irrigation to ensure there shall not be any stagnant effluent within 02 months.	We have prepared scientific network system as per your suggestions for the disposal of treated effluent to the of 30 acres where sugarcane is planted. Also we have taken care that there should not be any stagnate effluent in ...

Received 17/06/2023
Sub. Regional Office
M. P. C. Board
4/B, Bali Block, Civil Line,
Seet Rasta, Solapur-413003

04	You shall provide leachate collection sump for collection of drained leachates from drains and compost yard.	We will comply this within a period of 60 days.
05	You shall upgrade existing air pollution control system provided to 70 TPH boiler to achieve consented standards within 03 months.	We have placed purchase order for RPC. The copy of the same is annexed as "I" herewith. We will comply with this direction within a period of 03 months.
06	You shall stop all tanker movement to avoid fugitive emission.	We never made any kind of fugitive emission and will maintain the same in future.
07	You shall carry out third party feasibility reports regarding air and water through reputed institution and submit report within 03 months.	We are in process for appointing reputed third party to carry out feasibility report and we will submit the same within a period of three months.
08	You shall not cause any nuisance due the operation of your unit in the surrounding area.	We never caused any nuisance and will maintain the same in future.
09	You shall submit Bank Guarantee of Rs. 10.00 Lakh towards compliance with the above conditions. The Bank Guarantee shall submit within 15 days in favor of Regional Officer, MPC Board, Pune.	We are arranging BG for Rs. 10.00 Lakh as per your requirement in favor of Regional Officer, MPC Board, Pune and we will submit it before due date.

The above is pointwise reply for your information, please.

Also we have attached bar chart progress report of May 2023 as per direction of Joint Director MPCB.

Thanking you

Yours Faithfully

(Sachin B. Jadhav)
Managing Director

Enclosed : As above

CC: 1. Joint Director (APC), MPCB, Mumbai
2. Law Officer, MPCB Mumbai
3. The Sub-Regional Officer, MPCB Board Solapur

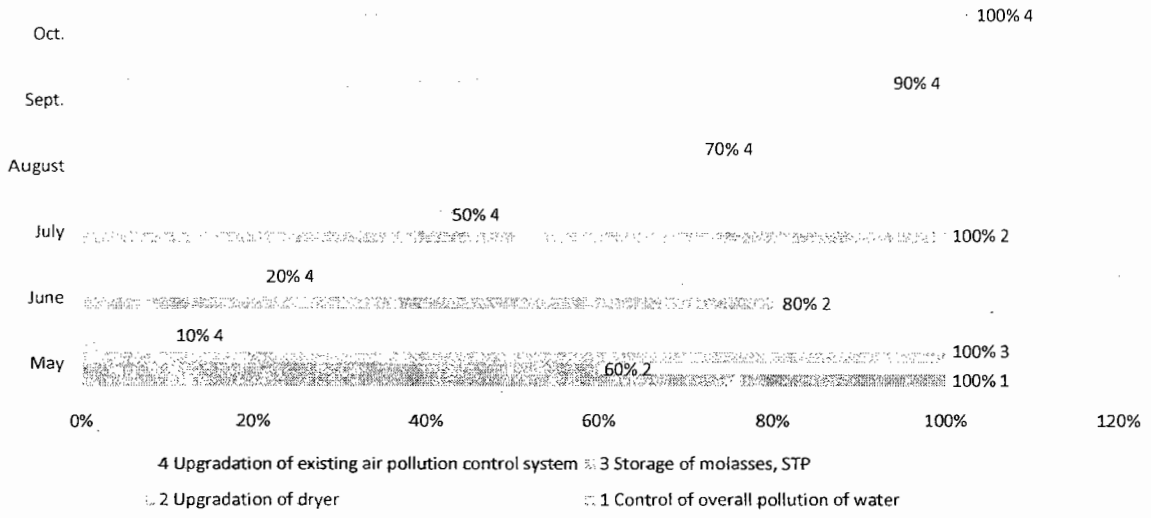
"ANNEXURE II"

JAKRAYA SUGAR LTD.

BAR CHAR FOR ACTION PLAN AS PER DIRECTION OF JOINT DIRECTOR MPCB

Sr. No.	Particulars	May	June	July	August	Sept.	Oct.
1	Control of overall pollution of water	100%					
2	Upgradation of dryer	60%	80%	100%			
3	Storage of molasses, STP	100%					
4	Upgradation of existing air pollution control system	10%	20%	50%	70%	90%	100%

Bar Chart



TRUE COPY
ADVOCATE

APCS & WWTP ADEQUACY REPORT

OF

JAKRAYA
sugar Ltd.

JAKRAYA SUGAR LTD.

A/P - WATWATE, TAL. MOHOL, DIST.: SOLAPUR
STATE: MAHARASHTRA

PREPARED BY

शिवाजी विद्यापीठ कोल्हापूर
ज्ञानमेवामृतम्

Estd. 1962
NAAC 'A++' Grade
With CGPA 3.52

DEPARTMENT OF ENVIRONMENTAL SCIENCE
SHIVAJI UNIVERSITY, KOLHAPUR

JAKRAYA SUGAR LTD. (JSL)

A/P – WATWATE, TAL. MOHOL, DIST.: SOLAPUR

STATE: MAHARASHTRA

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A Jadhav
5109/23

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Kolhapur - 416 004.

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Executive Summary

This executive summary provides a concise overview of the Environmental Adequacy Report conducted for a distillery and sugar plant project. The report evaluated the potential environmental impacts associated with the establishment and operation of the facility.

The proposed distillery and sugar plant project aims to contribute to the local economy by producing distilled beverages and sugar products. The project is anticipated to have positive economic implications, including job creation and revenue generation. However, it is crucial to assess and mitigate any potential adverse environmental effects that might arise from the plant's construction and operation.

The findings of the assessment indicate that the construction phase of the project may result in temporary disturbances to the local environment due to noise, dust, and increased traffic. However, these impacts can be managed through implementing appropriate mitigation measures such as dust control and construction scheduling to minimize disruptions to local communities.

The operational phase of the distillery and sugar plant is anticipated to have ongoing environmental impacts primarily related to water consumption, waste generation, and air emissions. To address these potential concerns, the report recommends the adoption of sustainable practices such as water recycling and treatment, waste segregation and responsible disposal, and the implementation of emission control technologies to minimize air pollutants.

Furthermore, the need of this report emphasizes the importance of integrating biodiversity conservation measures into the project's design and operation. This could involve the creation of green buffers, habitat restoration, and adherence to sustainable agricultural practices to mitigate potential harm to local ecosystems.

In light of above, the report evaluates mainly air quality maintaining devices and wastewater management plants. The findings reveal design adequacy and operational treatability of equipment.

In conclusion, the Environmental Adequacy Report highlights the significance of balancing economic development with environmental preservation. By implementing the recommended mitigation strategies and sustainable practices, the distillery and sugar plant project can contribute positively to the local economy while minimizing its ecological footprint. Ongoing monitoring and adaptive management are crucial to ensure that the project remains environmentally sound throughout its lifecycle. The findings and recommendations of this report provide a foundation for decision-makers, stakeholders, and the project proponents to collaborate effectively in achieving both economic prosperity and environmental sustainability.

1. Background and Objectives Study

Industrialization is backbone for growth of any country. Many industries are running which are responsible for environmental disturbances. The disturbances may be untreated waste which generated from process, production, cleaning or washing purpose. Wastewater generated from distilleries and sugar industries consists of water from chemical processes, process stream wash water, product wash water, spent wash etc. Because of the nature of effluent and their components, wastewater generated from such plant is usually dangerous to environment. Washing and cleaning operations provide the principal sources of wastewater in such industries because these primary sources are associated with cleanup of spills, leaks, area wash down and storm water runoff. The quality of such effluent can be analyzed by their physico-chemical analysis. Monitoring of the environmental parameters of the effluent would allow having, at any time, a precise idea on performance evaluation of ETP and if necessary, appropriate measures may be undertaken to prevent adverse impact on environment. The obtained results are very much useful in identification and rectification of operational and maintenance problems and it can be also utilized to establish methods for improved performance of this industries and plant waste minimization strategies.

The necessity of Effluent Treatment Plant (ETP) adequacy for a distillery arises from the environmental and regulatory concerns associated with the production processes and waste generated in distilleries. Distilleries are industrial facilities which includes processes such as fermentation and distillation. These processes generate significant amounts of wastewater and byproducts that can contain various pollutants, including organic matter, suspended solids, alcohol residues, and potentially harmful chemicals.

Here are some key reasons highlighting the necessity of ETP adequacy for distilleries:

Environmental Regulations: Distillery wastewater can contain high levels of organic compounds, which, if released untreated into water bodies, can lead to oxygen depletion, harming aquatic life and disrupting ecosystems. Regulatory authorities often have strict standards for wastewater discharge to protect the environment and human health. An ETP ensures that the wastewater is treated to meet these regulatory standards before being released.

Water Pollution Prevention: Untreated or inadequately treated distillery wastewater can cause water pollution, impacting not only surface water bodies but also groundwater quality. An ETP helps in removing pollutants and contaminants, preventing their introduction into the environment and reducing the potential for negative impacts.

Community Health and Safety: Inadequately treated distillery effluents can pose health risks to communities living near the distillery. Harmful chemicals and pathogens in wastewater can contaminate local water sources and affect public health. Adequate treatment through an ETP minimizes these risks.

Sustainable Practices: As global awareness of environmental sustainability grows, industries are expected to adopt cleaner production practices. Implementing an effective ETP aligns with sustainable practices by reducing the environmental footprint of the distillery operations.

Brand Reputation: Environmental responsibility and sustainability are important factors in maintaining a positive brand image. Distilleries that invest in ETP adequacy demonstrate their commitment to environmental stewardship, which can enhance their reputation among consumers and stakeholders.

Resource Conservation: Distillery operations require significant amounts of water, energy, and raw materials. An ETP that efficiently treats wastewater can potentially recover resources, such as water, energy, and even certain byproducts, which can contribute to cost savings and sustainability.

Legal Compliance and Fines: Non-compliance with environmental regulations can lead to legal penalties, fines, and even the suspension of operations. An ETP ensures that the distillery remains compliant with relevant laws and regulations.

Long-Term Viability: Ensuring the adequacy of the ETP prepares the distillery for potential changes in production volume, processes, and regulations. It provides flexibility and resilience against future challenges.

In summary, the necessity of ETP adequacy for distilleries is driven by environmental protection, regulatory compliance, public health considerations, and sustainable business practices. An effective ETP is a crucial component in mitigating the environmental impacts associated with distillery operations, ensuring the well-being of surrounding communities, and promoting responsible industrial practices.

2. Process Description of Distillery

2.1. *Process Sugar, Co-Gen & Distillery Flow Chart*

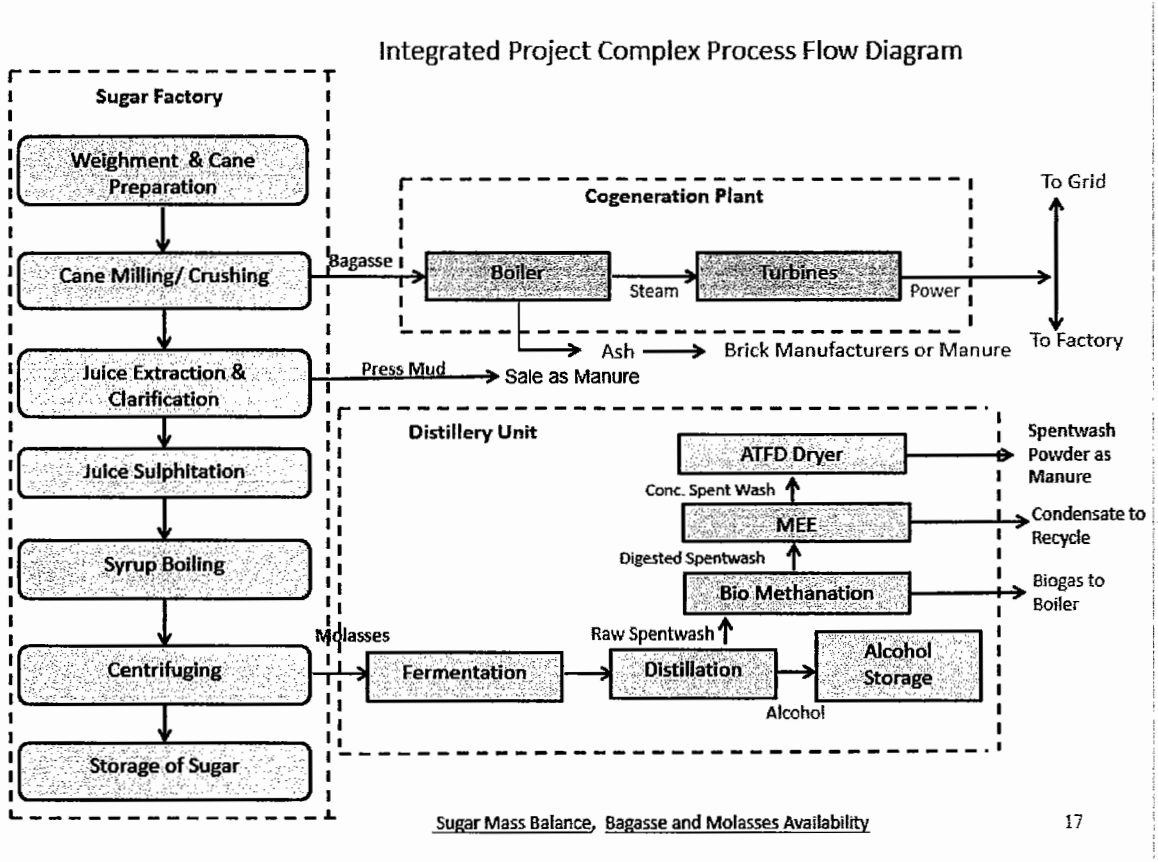

Figure 1: Process Sugar, Co-Gen & Distillery Flow Chart

2.1.1. *General Working principle of ETP*

The acronym "ETP" typically stands for "Effluent Treatment Plant." An Effluent Treatment Plant is a facility used to treat wastewater or effluent generated by industrial processes to remove contaminants and pollutants before releasing it into the environment or discharging it into a municipal sewage system. While sugar mills may have specific requirements and processes, the general working principles of an ETP remain relatively consistent. Here's an overview of how an ETP typically works:

Collection and Inlet:

Wastewater from various sources within the sugar mill, such as wash water, cooling water, and process water, is collected and channeled into the ETP.

Screening and Pre-Treatment:

In the initial stage, the wastewater may undergo screening to remove larger debris, such as sticks, leaves, and other solid materials.

Pre-treatment processes may include the use of grit chambers to settle out heavier solids like sand and gravel.

Primary Treatment:

The pre-treated wastewater enters a primary treatment tank, such as a sedimentation tank or clarifier.

In this tank, suspended solids and heavier contaminants settle to the bottom as sludge, while relatively cleaner water rises to the top.

Secondary Treatment (Biological Treatment):

The clarified wastewater from the primary treatment stage enters a secondary treatment process, which is often a biological treatment unit.

In the biological treatment stage, microorganisms (bacteria and sometimes other microorganisms) break down organic pollutants present in the water. This can involve aerobic or anaerobic processes.

Aerobic processes use oxygen to facilitate the decomposition of organic matter, while anaerobic processes occur in the absence of oxygen.

Tertiary Treatment:

Depending on the specific requirements and regulations, some ETPs may include a tertiary treatment stage to further polish the effluent. This stage may involve additional filtration, chemical treatment, or advanced processes like membrane filtration or activated carbon adsorption.

Effluent Quality Monitoring:

Throughout the treatment process, the quality of the effluent is continuously monitored to ensure it meets regulatory standards and the specific requirements of the sugar mill.

Effluent Discharge:

Once the wastewater has undergone the necessary treatment and meets the required quality standards, it can be safely discharged into the environment or the municipal sewage system, depending on local regulations.

Sludge Handling:

The sludge produced in the primary and secondary treatment stages may require further treatment or disposal, such as dewatering, drying, or disposal in a designated area.

The specific design and components of an ETP can vary depending on the scale of the sugar mill, the characteristics of the wastewater, and regulatory requirements. Effective ETPs are crucial for minimizing the environmental impact of industrial processes and ensuring compliance with environmental regulations.

2.2. *Process Distillery Flowchart*

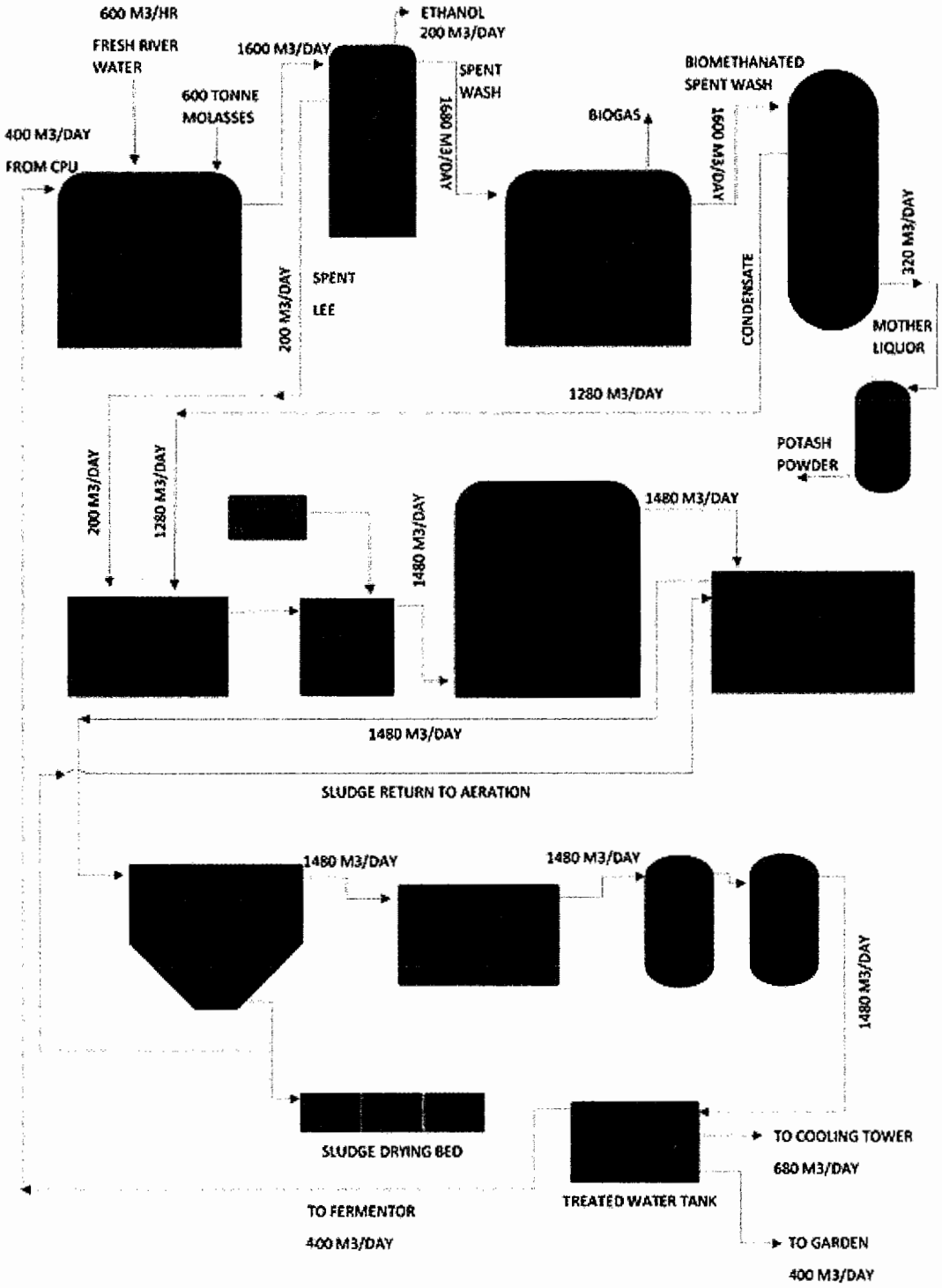

Figure 2 : Water Flowsheet of Distillery

Unit wise working principle

2.2.1. Spent Wash Digestor I & II

Principle of Working

A spent wash digester is a vessel or tank designed to facilitate the anaerobic digestion of spent wash. Anaerobic digestion is a biological process in which microorganisms break down organic matter in the absence of oxygen, leading to the production of biogas and a reduction in the organic content of the waste.

Here's how the process generally works:

Feedstock Preparation: The spent wash is collected from the distillation process and fed into the digester.

Anaerobic Digestion: Inside the digester, anaerobic microorganisms, primarily methane-producing bacteria, break down the organic matter in the spent wash. This process generates biogas, which is primarily composed of methane (CH_4) and carbon dioxide (CO_2).

Biogas Collection: The biogas produced during anaerobic digestion can be collected and used as an energy source. It can be burned to generate heat and electricity, reducing the reliance on external energy sources.

- Benefits of using a spent wash digester include:

Biogas Generation: The production of biogas provides an additional energy source that can be used to offset operational energy requirements.

Waste Reduction: Anaerobic digestion reduces the organic content of the spent wash, mitigating the environmental impact of waste disposal.

Odor Control: The digestion process can help reduce the strong odors associated with untreated spent wash.

Nutrient Recovery: The digested material may contain nutrients that can be used as a fertilizer or soil amendment.

Specifications:

Table 1 - Specification of Digestor I & II

Parameter	Digester I	Digester II
Diameter	28.3 m	36 m
Height	17.047 m	18 m
Capacity	11000 m3	18000 m3
Feed Flow	500 m3/day	720 m3/day
Outlet Flow	500 m3/day	720 m3/day
Biogas Production	21000 m3/day	31000 m3/day
Feed Spent Brix	12 Bx	12 Bx
Outlet Spent Brix	8 Bx	8 Bx
Feed COD	100000	120000
Outlet COD	30000	35000

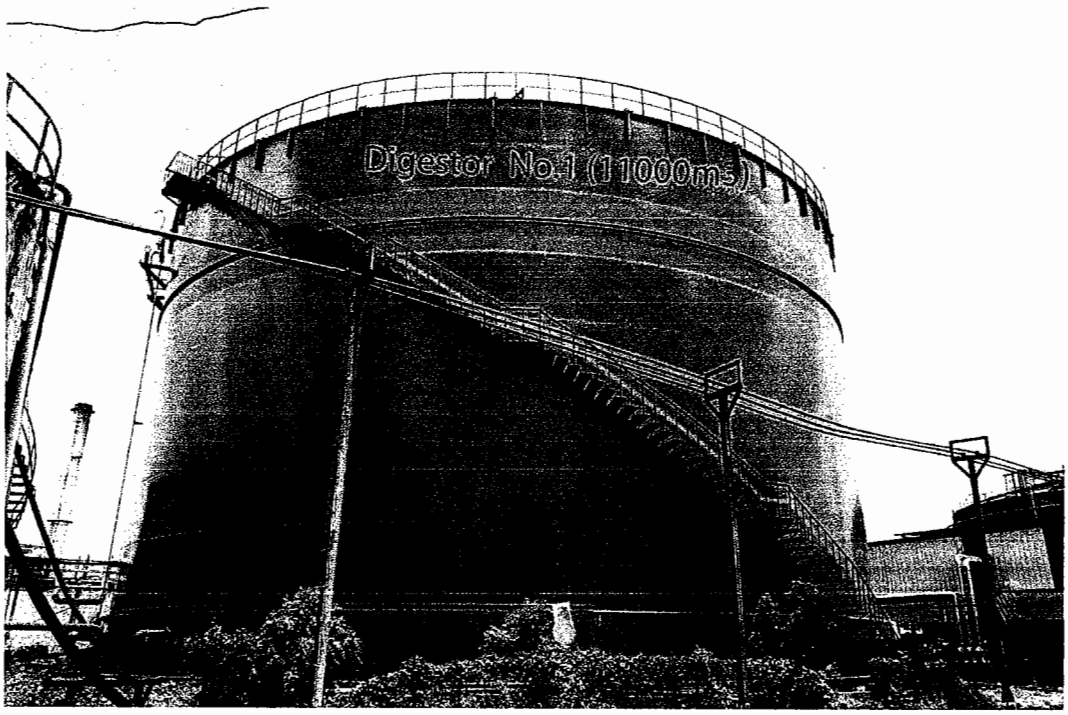

Image 1 : Digestor I – 11000 m3

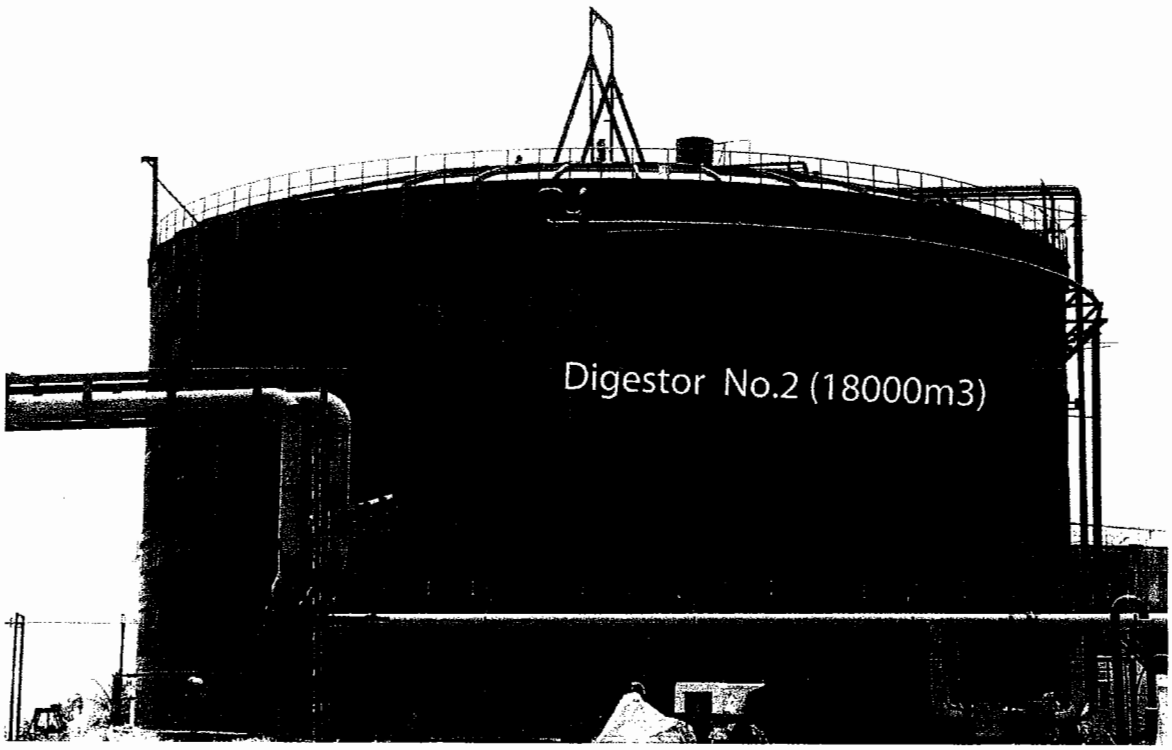

Image 2: Digestor II - 18000 m3

2.2.2. Multi Effect Evaporator

Principle of Working

A multiple-effect evaporator (MEE) is a type of thermal concentration system used to evaporate water from a liquid solution, typically in industrial processes. It's a highly efficient method for concentrating solutions by utilizing the heat from the condensation of vapor generated in one stage to evaporate liquid in the next stage. This multi-stage setup allows for energy savings compared to single-stage evaporation.

Here's how a multiple-effect evaporator generally works:

Basic Principle: A multiple-effect evaporator consists of multiple evaporator vessels (stages) arranged in series. Each stage operates at a lower pressure than the previous stage. As the solution flows from one stage to the next, the pressure difference allows the solution to boil at lower temperatures, saving energy.

Steam Usage: In the first stage, external steam or another heat source is used to provide the necessary heat for evaporation. The vapor generated in this stage flows to the next stage, where it condenses, transferring its latent heat to the solution in the second stage, causing that solution to evaporate.

Cascade Effect: The vapor generated in each stage is condensed in the next stage, releasing its latent heat. This heat is utilized to evaporate the solution in the subsequent stage. This process is repeated through each stage in the evaporator, with the vapor sequentially condensing and releasing heat, leading to water removal and solution concentration.

Energy Efficiency: The condensed vapor from one stage becomes the heating medium for the next stage. This cascade effect significantly reduces the need for external heat sources, making multiple-effect evaporators energy-efficient compared to single-effect systems.

Concentration: As the solution progresses through the stages, water is continually removed through evaporation, leading to concentration of the solute in the remaining liquid.

Specifications:

Table 2 - Specification of Multi Effect Evaporator I & II

Parameter	MEE 1	MEE 2
Feed Flow	25 m^3/hr	20 m^3/hr
Feed Brix	10	10
Outlet Brix	40	40
No. of Surface Condensor	2	1
Surface Condensor height	6m	6m
No. of Effects	7	5
No. of Tubes in Calendria	1100	1424
Calendria Tube Dia	48mm	48mm
Calendria Tube Height	12 m	12 m
Operating Temp	85 C	85 C
Vaccum	650 mm hg	650 mm hg

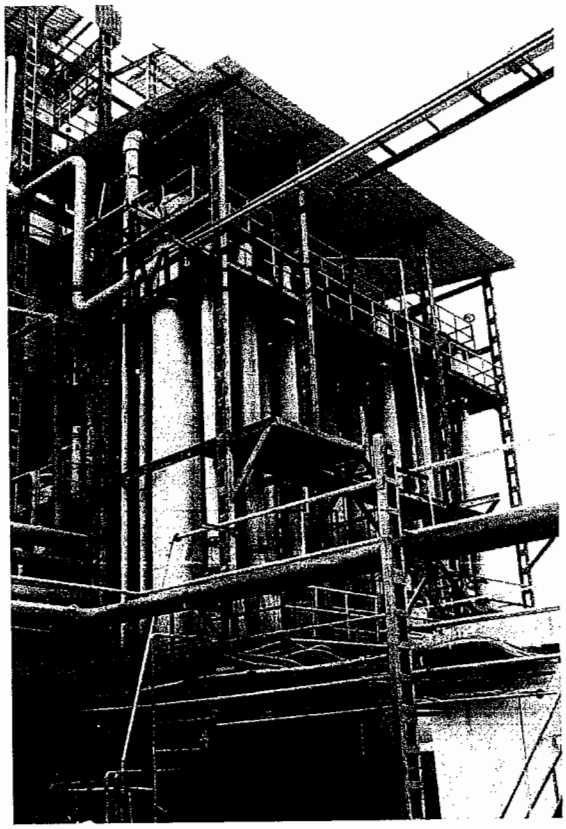

Image 3: MEE I

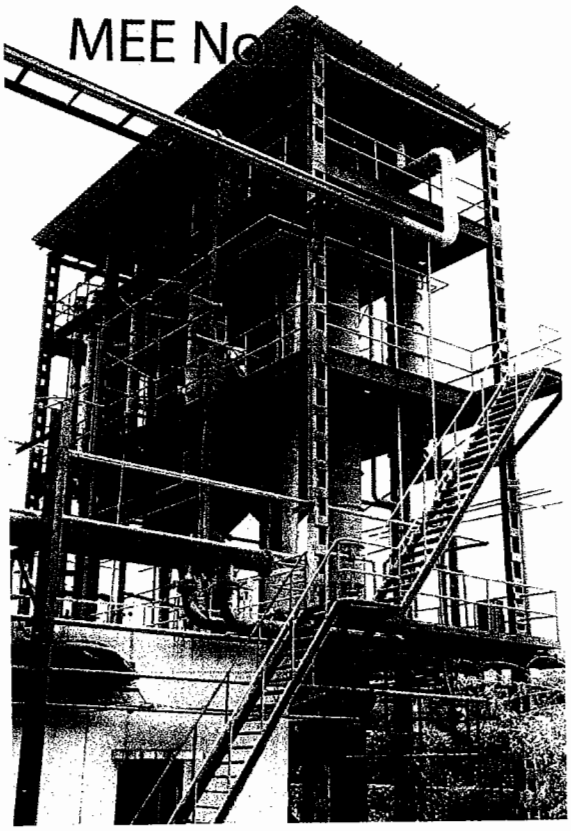

Image 4: MEE II

2.2.3. Dryer – I & II with Hot Air Generator

Dryer – I & II

Principle of Working

The feed from feed tank is fed to the atomization system through a variable speed feed Pump. The atomized particles come in contact with the hot air entering the chamber in a co-current fashion through an air distributor.

The dried product entrained with the exhaust air is separated in a high efficiency cyclone separator and discharged through the rotary air lock valve and the exhaust air is then vented to the atmosphere.

The process air is handled by means of two centrifugal blowers. The entire operation of the plant is through a locally mounted instrument cum motor control panel.

Dryer Specifications

Table 3 - Specification of Dryer I & II

Parameter	**Dryer I**	**Dryer II**
Capacity :	**9 m^3**	**6 m^3**
Feed Rate :	9600 kg/hr	6000 kg/hr
TDS in Feed :	45%	45%
Output from Spray Dryer :	4547 kg/hr at 5% moisture (w/w)	3120 kg/hr at 5% moisture (w/w)
Water Evaporation :	5053 kg/hr by design at 240 °C inlet and 110 °C outlet	2880 kg/hr by design at 240 °C inlet and 110 °C outlet

Diagram

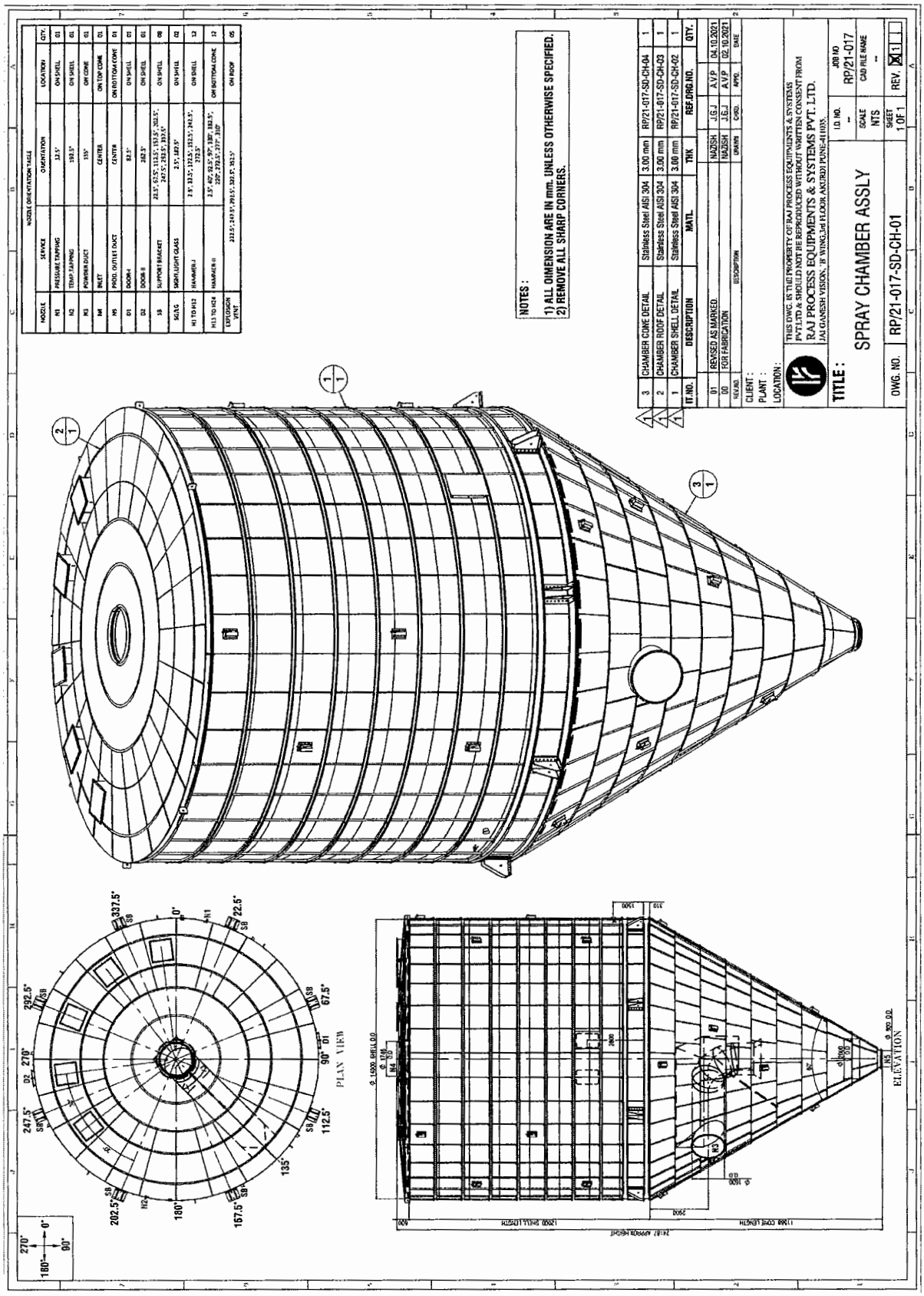

Figure 3 - GA Diagram of Dryer I & II

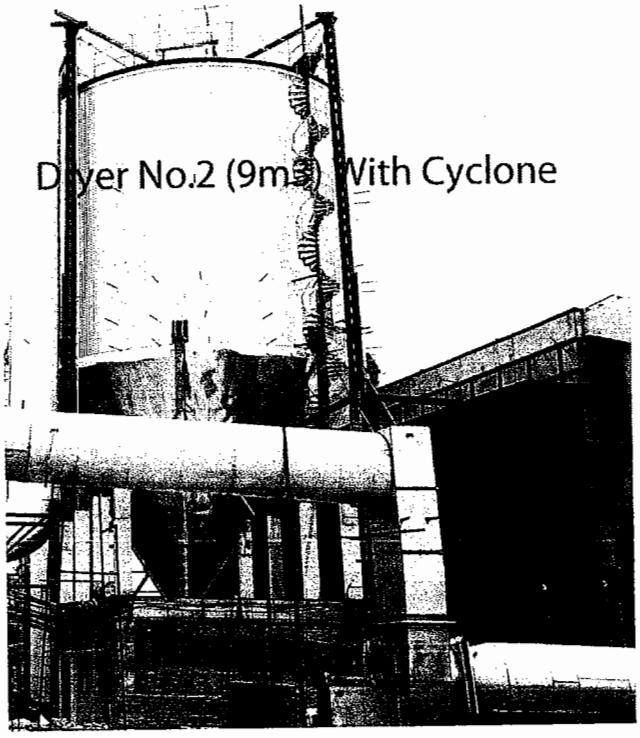

Image 5: Dryer II - 9 m3

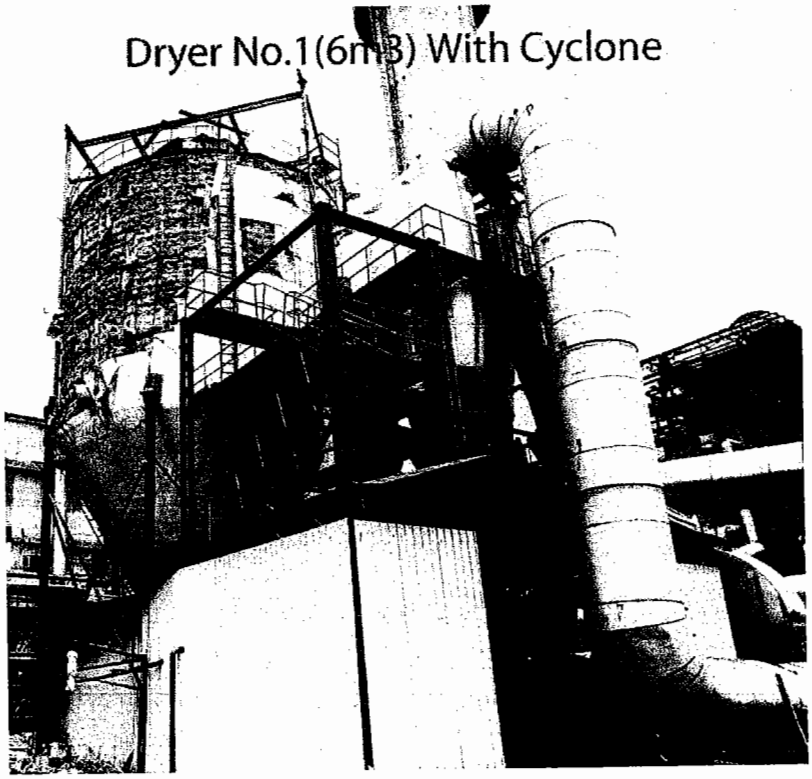

Image 6: Dryer I - 6 m3

Hot Air Generator

Principle of Working

A hot air generator system for a dryer is a mechanism used in appliances like clothes dryers to generate and circulate warm air to efficiently dry clothes and other fabrics.

The feed from feed tank is fed to the atomization system through a variable speed feed Pump. The atomized particles come in contact with the hot air entering the chamber in a co-current fashion through an air distributor

The dried product entrained with the exhaust air is separated in a high efficiency cyclone separator and discharged through the rotary air lock valve and the exhaust air is then vented to the atmosphere.

The process air is handled by means of two centrifugal blowers. The entire operation of the plant is through a locally mounted instrument cum motor control panel.

HAG Specifications:

Table 4 - Specification of Hot Air Generator System

Sr. No.	Description	Capacity
1	Capacity	50,00000 Kcal/hr
2	Temperature	250 C max
3	Fuel Used	Bagasse
4	Side Plate MOC	IS2062
5	ID Motor	250 Hp – 2 qty
6	SA Fan Motor	10 Hp
7	Screw Conveyer	2 Hp

Diagram:

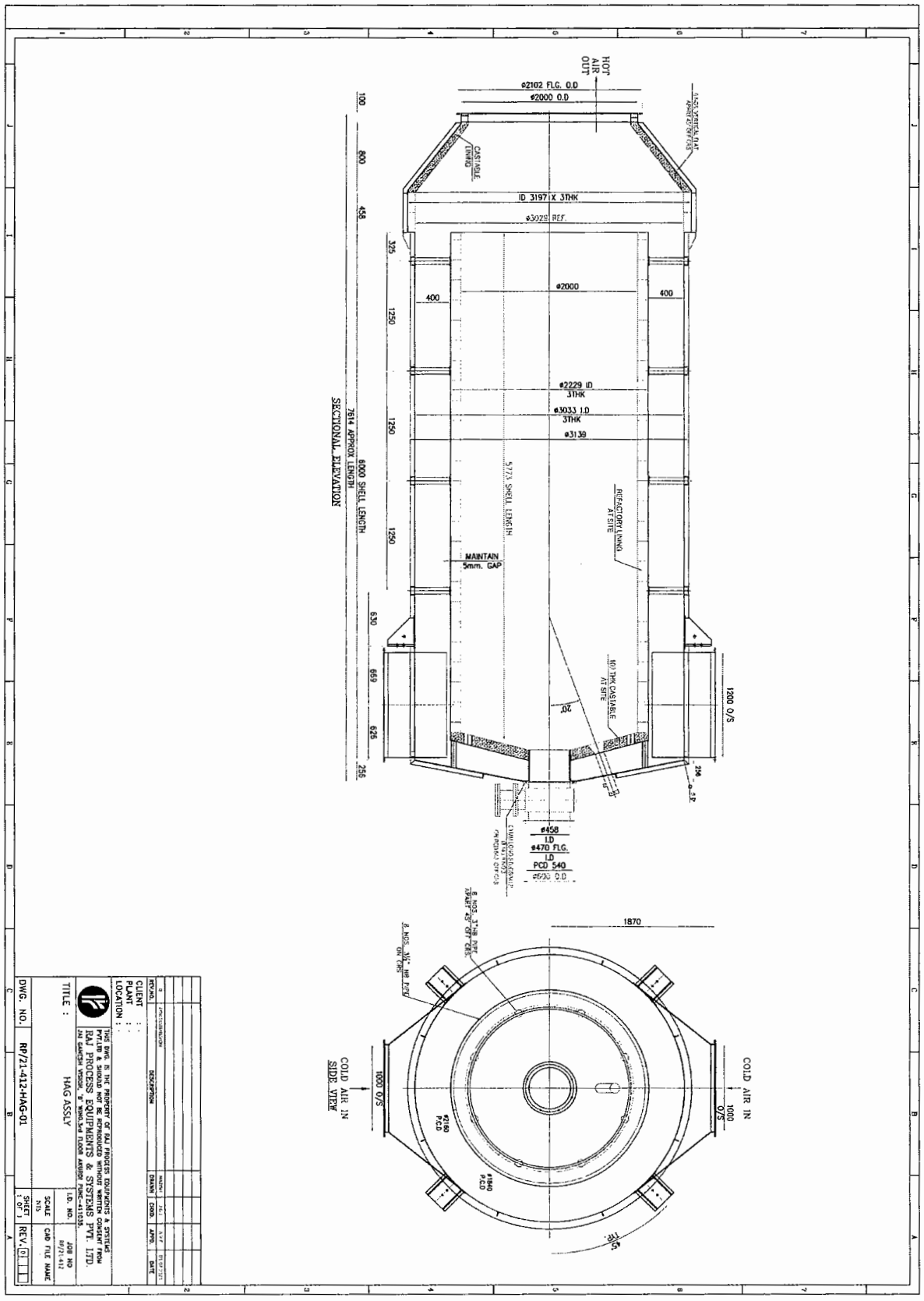

Figure 4 - GA diagram of Hot Air Gas System

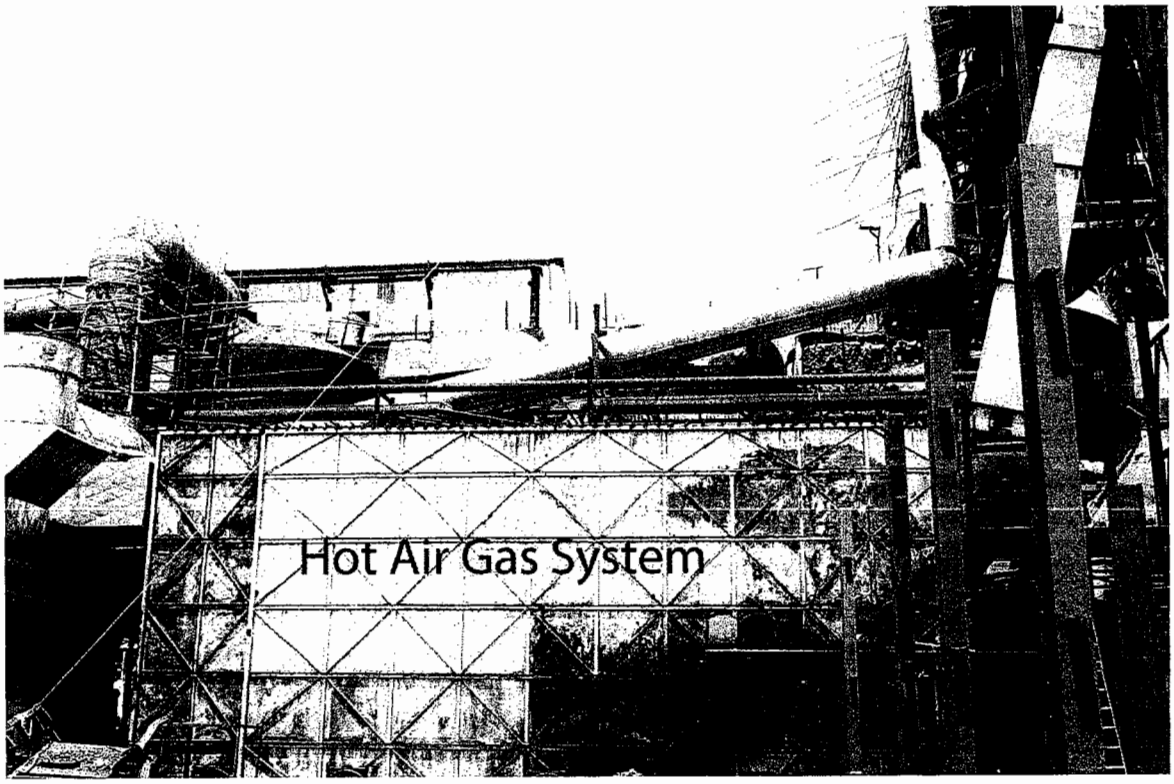

Image 7: Hot Air Gas

2.2.4. Wet Scrubber

Principle of Working

A wet scrubber, also known as a wet scrubber system or wet scrubber technology, is a pollution control device used to remove pollutants from industrial exhaust gases or other gas streams. It works on the principle of using a liquid (usually water) to capture and remove contaminants from the gas stream through a process of absorption or chemical reaction.

The basic working principle of a wet scrubber involves several key steps:

Gas-liquid Contact: The contaminated gas stream is introduced into the scrubber system, where it comes into contact with a liquid solution (often water) that is sprayed or introduced as a mist. This contact can occur in various ways, such as through a packed bed of materials, a spray tower, or a venturi throat.

Pollutant Capture: As the gas and liquid come into contact, pollutants in the gas stream are transferred to the liquid phase. This can happen through various mechanisms, including absorption, adsorption, and chemical reactions.

Chemical Reactions: In some cases, the liquid in the scrubber may contain chemicals that react with specific pollutants to form less harmful compounds. These reactions can neutralize acidic gases, convert harmful compounds into non-toxic substances, or encourage the formation of solid particles that can be captured by the liquid.

Particle Removal: Particulate matter, such as dust and fine particles, can also be captured by the liquid droplets in the scrubber. These particles become suspended in the liquid and are separated from the gas stream.

Liquid-Gas Separation: After the gas stream has passed through the scrubber and pollutants have been captured by the liquid, the gas is discharged from the scrubber system. The captured pollutants remain in the liquid phase.

Treatment and Disposal: The liquid containing the captured pollutants is then treated further, often in settling tanks or additional treatment units, to separate the pollutants from the liquid. Depending on the nature of the pollutants, appropriate disposal or treatment methods are employed to ensure compliance with environmental regulations.

Overall, wet scrubbers are an important technology for mitigating air pollution and maintaining air quality standards in industrial and environmental settings.

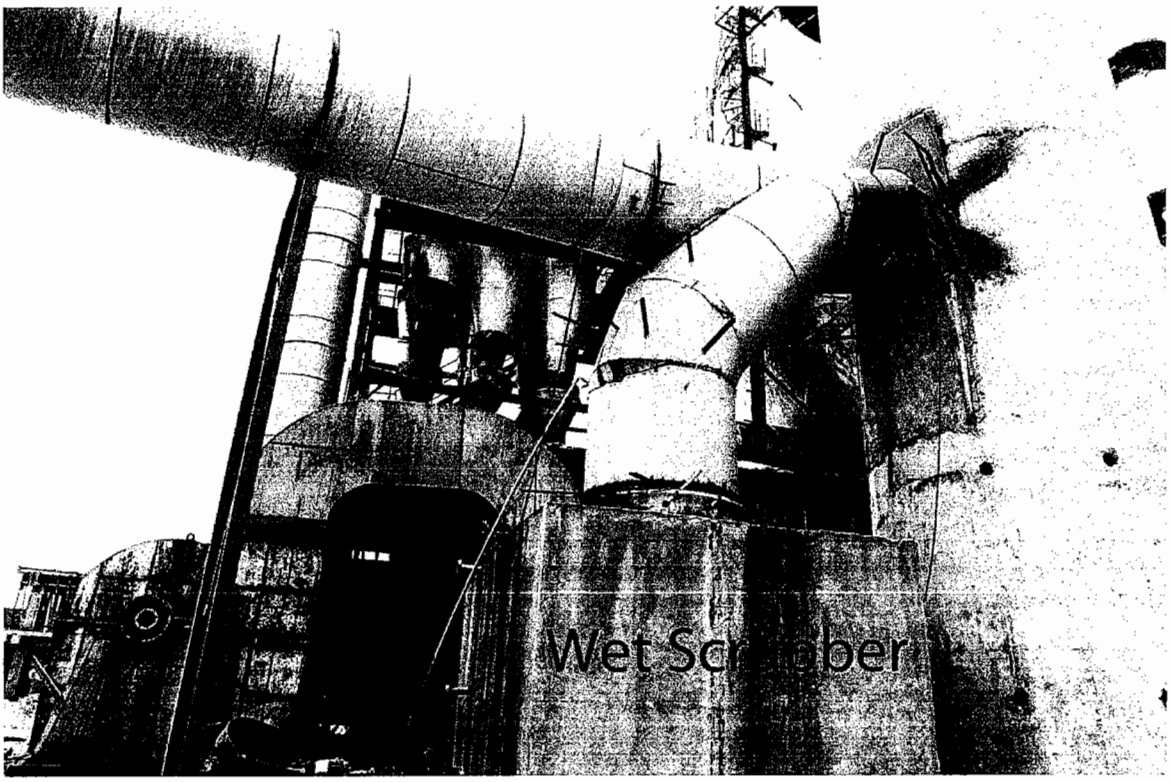

Image 8: Wet Scrubber

Wet Scrubber Specification:

Table 5 - Specification of Wet Scrubber

TECHNICAL DATA	WET SCRUBBER OFFLINE	WET SCRUBBER ONLINE
Flow Volume	133200 m^3/h	122400 m^3/h
Static Pressure I/L	-350 mmWG	-350 mmWG
Static Pressure O/L	10 mmWG	10 mmWG
Gas Temperature	150 ^0C	110 ^0C
Total Power Efficiency	82.3 %	81.7 %
Power Consumption	159.86 kW 150^0C	147.88 kW 110^0C

ID Fan Details:
Fan Speed: 980 ppm
Static Load: 7320 kg-f
Dynamic Load: 4540 kg-f
GD^2 Value: 1500 kgm^2
Application: I.D.FAN
Qty.: 2 NOS.

Scrubber Column Details

Type – Venturi

Gas Flow Direction – Bottom to Up

Diameter - 5651 mm

Diagram

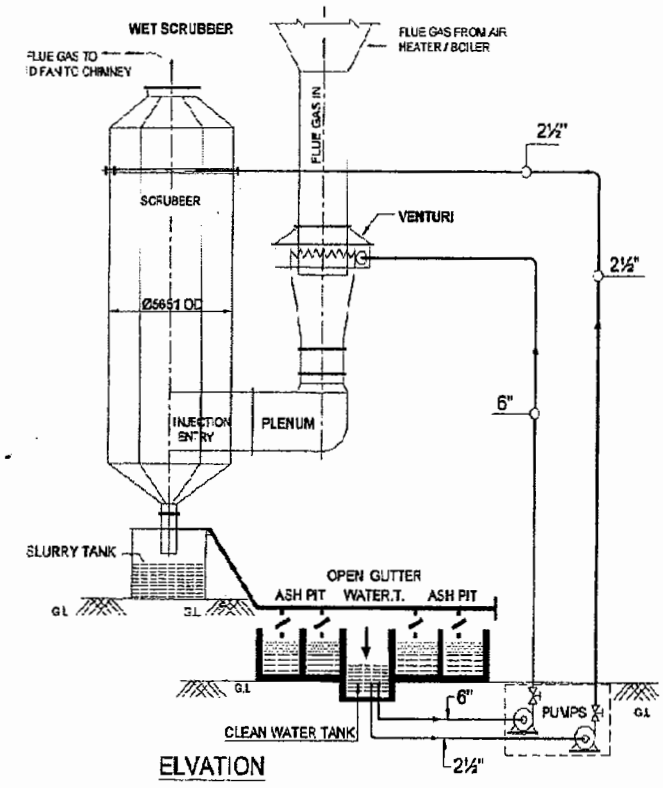

Figure 5 - GA diagram of Wet Scrubber

2.2.5. Cyclone

Principle of Working

An air cyclone, often referred to as a cyclone separator or cyclone dust collector, is a device used to separate particles from a gas or air stream. It operates on the principle of centrifugal force and inertia to separate heavier particles from the lighter gas stream. Here's how it works:

Inlet: The gas or air stream, along with the particles it carries, enters the cyclone through an inlet. This inlet tangentially introduces the gas near the top of the cyclone's cylindrical body. This tangential entry creates a swirling motion inside the cyclone.

Swirling Motion: As the gas enters the cyclone tangentially, it starts to rotate in a spiral pattern due to the cyclone's internal shape. The rotational motion creates a centrifugal force, which pushes the heavier particles towards the outer walls of the cyclone.

Centrifugal Force: The centrifugal force causes the particles to move towards the outer walls of the cyclone. As the gas spirals downward, the particles experience greater centrifugal forces, and they are pushed against the cyclone's walls. This motion separates the particles from the gas stream.

Inertia and Gravitational Settling: As the gas and particles continue to move downward in the cyclone, the gas stream starts to slow down near the bottom due to friction with the walls. The lighter gas is more influenced by the changes in direction and begins to move upward towards the center of the cyclone, forming an inner vortex. The heavier particles, however, have more inertia and are less affected by the changes in direction. This inertia, coupled with the force of gravity, causes the particles to settle downwards and collect at the bottom of the cyclone.

Outlet: The clean gas, having been separated from the particles, continues its upward movement in the center of the cyclone and exits through an outlet located at the top. It's important to note that while some fine particles might still be carried along with the gas stream, the majority of the larger particles have been separated.

Particle Collection: The collected particles at the bottom of the cyclone are periodically removed. This can be done manually or automatically, depending on the design and purpose of the cyclone. These collected particles can range from dust and debris to larger solid particles.

Diagram

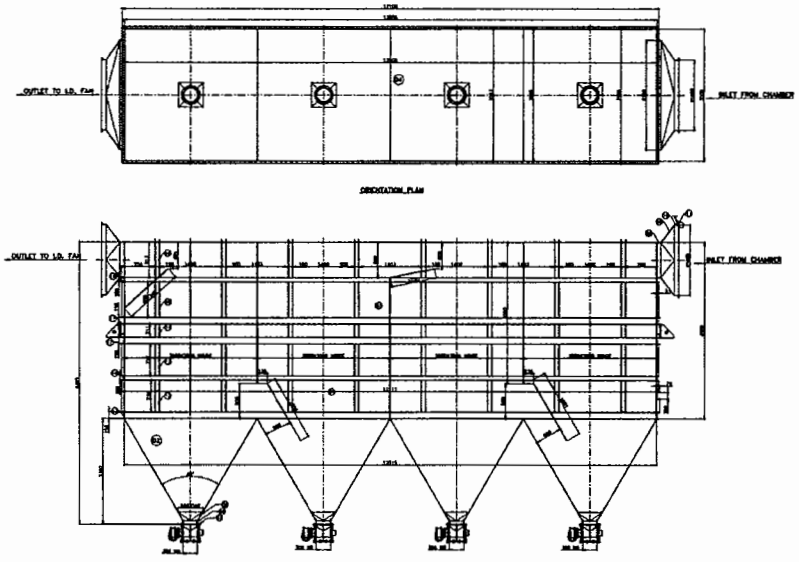

Figure 6 - GA diagram of Wet Scrubber

2.2.6. Condensate Polishing Unit (CPU)

Principle of Working

In a distillery, a condensate polishing unit (CPU) plays a critical role in maintaining the purity of water used in various processes, including steam generation, cooling, and product formulation. Distilleries produce alcoholic beverages through processes like fermentation and distillation, which generate impurities that can affect the quality of the final product. A condensate polishing unit helps remove contaminants from the condensate generated during these processes.

Collection Tank

A collection tank is a key component within an industrial facility's wastewater treatment system. The primary purpose of a CPU collection tank is to receive, store, and provide initial treatment to the wastewater or effluent generated by the industrial processes before it undergoes further treatment in the condensate polishing unit.

Chemical Tank

In CPU chemical tanks play a crucial role in the treatment process by holding various chemicals that are used to treat and condition the incoming wastewater. The chemicals added to the CPU help in neutralizing, precipitating, and coagulating, flocculating, disinfecting, or otherwise altering the characteristics of the wastewater to facilitate its effective treatment.

Reaction Tank

In cases where the incoming wastewater is highly acidic or alkaline, chemicals are added to neutralize the pH. This prevents damage to the treatment infrastructure and ensures that downstream treatment processes are not negatively impacted by extreme pH conditions.

Digestor (UASBR)

An Up flow Anaerobic Sludge Blanket Reactor (UASBR) is a type of anaerobic wastewater treatment system used to treat organic wastewater, generate biogas, and reduce environmental pollution. It's a variant of the more general anaerobic digestion process used for treating various types of wastewaters, particularly those with high organic content.

Aeration Tank

Aeration tanks are more commonly associated with biological wastewater treatment systems, such as activated sludge processes. In this context, an aeration tank is a critical component of the treatment process, where microorganisms (bacteria and other microorganisms) break down organic pollutants in the wastewater. The aeration tank contains a mixture of wastewater and activated sludge (a mixture of microorganisms that consume organic matter). Air or oxygen is introduced into the tank using diffusers, mechanical aerators, or other aeration equipment.

Tube Settler

A tube settler, also known as a lamella settler or inclined plate settler, is a component used in water treatment processes to enhance the settling of suspended solids from water. It utilizes a series of closely spaced inclined plates or tubes to create a large settling area within a compact space. The primary purpose of a tube settler is to increase the efficiency of solid-liquid separation by promoting the gravitational settling of particles.

Filter Feed Tank

A filter feed tank is used to treat wastewater and remove impurities before discharge or reuse. The primary purpose of a filter feed tank is to receive, store, and provide uniform distribution of wastewater to filtration units or processes.

PSF & ACF

A Pressure Sand Filter (PSF) is a type of water treatment filter used to remove suspended solids, turbidity, and particulate matter from water. It consists of a tank filled with specially graded sand as the filtration media. The water is passed through the sand bed under pressure, which facilitates the removal of impurities. PSFs are commonly used in industrial, municipal, and residential water treatment systems for pre-treatment before processes like disinfection, softening, or further treatment. The working principle of a PSF involves the water flowing through the sand bed, where suspended particles get trapped in the void spaces between the sand particles. Over time, the accumulation of particles can clog the sand bed, reducing filtration efficiency. To address this, PSFs require periodic backwashing, during which the water flow is reversed to flush out the accumulated particles and restore the sand's filtration capacity.

An Activated Carbon Filter (ACF) is a filtration system that uses activated carbon as the filtration media. Activated carbon is a highly porous material with a large surface area, making it effective at adsorbing (not absorbing) various impurities from water, such as organic compounds, chlorine, tastes, odors, and some dissolved chemicals. In an ACF, water flows through a bed of activated carbon granules or blocks. As the water passes through the activated carbon, impurities adhere to the carbon's surface through adsorption. ACFs are commonly used in drinking water treatment, wastewater treatment, and industrial processes. They are particularly effective in improving water quality and taste by removing unwanted contaminants.

Treated Water Tank

A Treated water tank is used to store treated water for further reuse and distribution.

Treatment Schematic Flowsheet

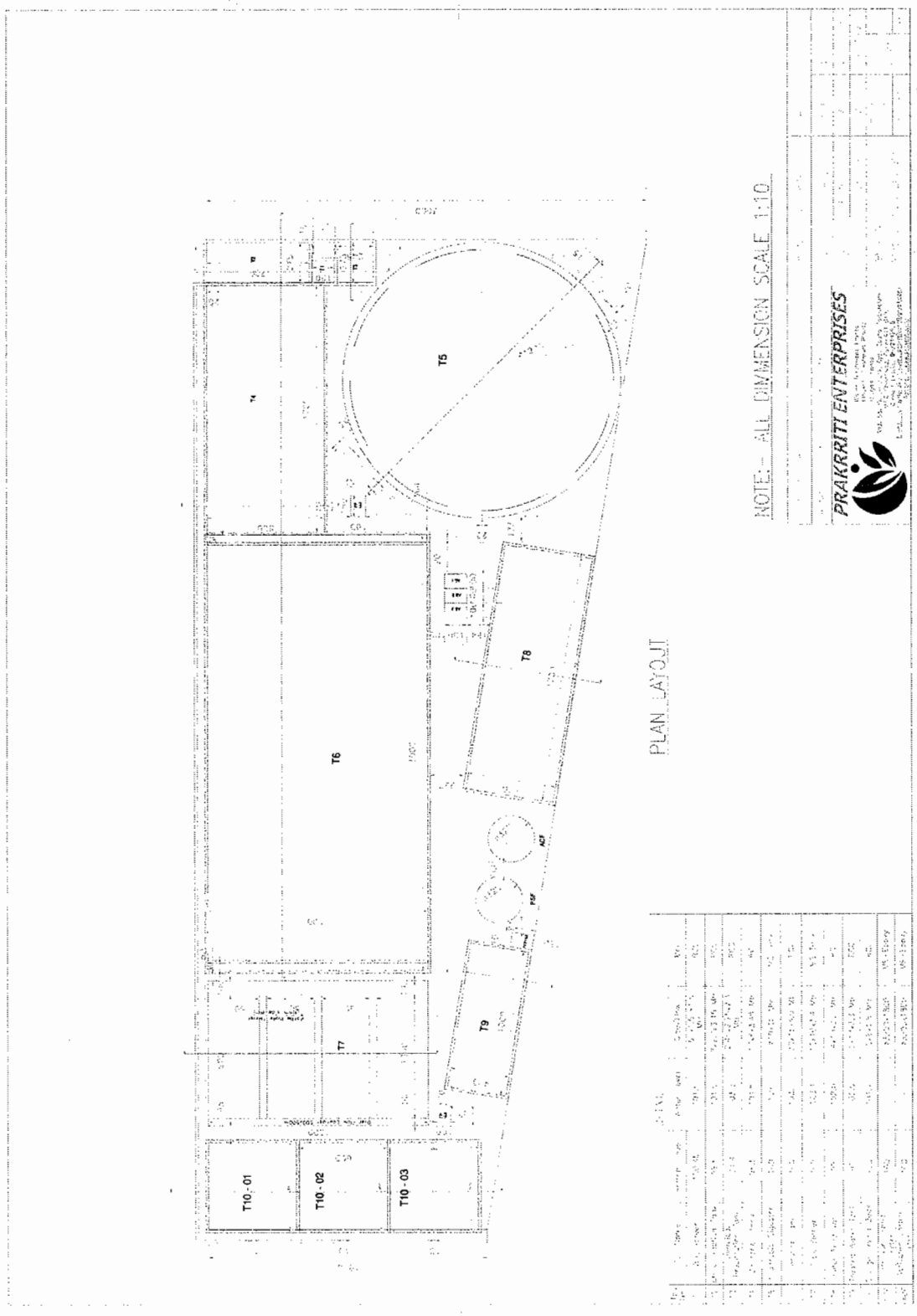

Figure 7 - CPU unit arrangement Layout

Dimensions Table

Table 6 - Dimensions of Condensate Polishing Units (CPU)

Tag. No	Tag Name	Bottom Level	Water Level	Size/Flow	Moc
T1	Bar Screen	100.45	101.5	1.5 × 1.5 × 1.5 Mtr	RCC
T2	pH Correction Tank	98.5	101.5	7 × 2.7 × 3.45 Mtr	RCC
T3	Chemical Preparation Tank	101.4	103.3	2.45 × 2.75 × 2.3 Mtr	RCC
T4	Collection Tank	98.5	101.5	17 × 8 × 3.45 Mtr	RCC
T5	Anaerobic Digester	100	109	Ø 19 × 10 Mtr	MS Tank
T6	Aeration Tank	100	103.7	30 ×15 × 4.0 Mtr	RCC
T7	Tube Settler	100	103.1	15 × 10 × 3.4 Mtr	MS Tank
T8	Filter Feed Tank	99	102.0	4 × 10 × 3.3 Mtr	RCC
T9	Treated Water tank	99	102.0	6 × 17 × 3.3 Mtr	RCC
T10	Sludge Drying Beds	100	101.7	6 × 6 × 1.8 Mtr	RCC
PSF	Pressure Sand Filter	100	-	Ø 3200 × 1800	MS - Epoxy
ACF	Activated Carbon Filter	100	-	Ø 3200 × 1800	MS - Epoxy

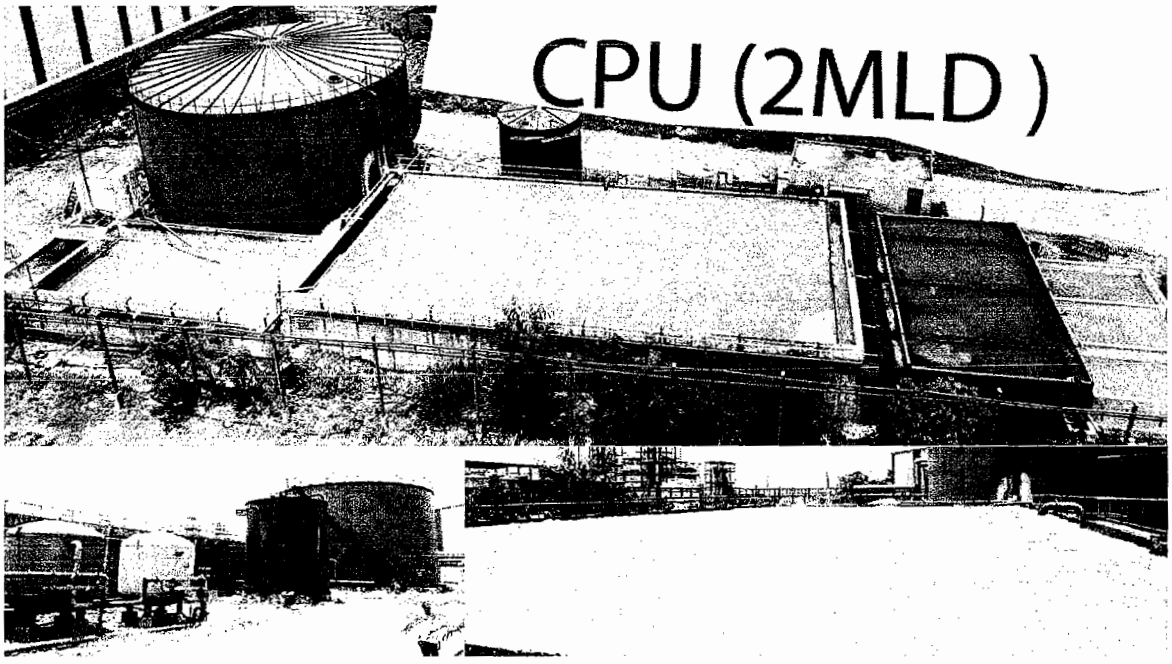

Image 9: CPU - 2 MLD

2.2.7. Effluent Treatment Plant (ETP)

Principle of Working

An Effluent Treatment Plant (ETP) in a sugar industry, often referred to as a Sugar ETP, is a crucial facility designed to treat the wastewater generated during various processes in a sugar mill or refinery. The sugar industry generates significant amounts of wastewater containing organic matter, suspended solids, and other pollutants. A well-designed ETP is essential to manage and treat this wastewater before it is discharged into the environment or reused within the facility.

Collection Tank

An Effluent Treatment Plant (ETP) collection tank is a key component within an ETP system used to treat wastewater generated by industrial processes before discharge or reuse. The primary purpose of an ETP collection tank is to collect, store, and provide initial treatment to the incoming wastewater before it undergoes further treatment processes.

Neutralisation Tank

A neutralization tank is a container or vessel used in water and wastewater treatment processes to adjust the pH of acidic or alkaline water to a neutral or acceptable level. The pH adjustment is achieved by adding appropriate chemicals, called neutralizing agents or pH adjusters, to the water in order to neutralize its acidity or alkalinity. Neutralization tanks are commonly used in various industries and municipal wastewater treatment facilities to ensure compliance with environmental regulations, prevent corrosion, and enable effective downstream treatment processes.

Primary Settling Tank

A primary settling tank, also known as a primary clarifier or sedimentation tank, is a key component in wastewater treatment plants. It's used to remove settle able suspended solids and certain organic matter from wastewater before further treatment processes take place. The primary settling tank works on the principle of gravity settling, allowing heavier particles to settle down to the bottom of the tank while clarified water flows out from the top

Aeration Tank

An aeration tank is a core component of biological wastewater treatment systems, specifically in the activated sludge process. It provides an environment where aerobic microorganisms (bacteria and other microorganisms that require oxygen) can break down organic pollutants present in the wastewater. The aeration process introduces oxygen into the tank to support the growth and activity of these microorganisms.

Secondary Settling Tank

A secondary settling tank, also known as a secondary clarifier or sedimentation basin, is an important component in the biological wastewater treatment process. It follows the aeration tank in activated sludge or other similar biological treatment systems. The primary purpose of a secondary settling tank is to separate the treated wastewater, called mixed liquor, from the biomass (activated sludge) that was used to degrade organic matter in the aeration tank.

A filter feed tank is used to treat wastewater and remove impurities before discharge or reuse. The primary purpose of a filter feed tank is to receive, store, and provide uniform distribution of wastewater to filtration units or processes.

PSF & ACF

A Pressure Sand Filter (PSF) is a type of water treatment filter used to remove suspended solids, turbidity, and particulate matter from water. It consists of a tank filled with specially graded sand as the filtration media. The water is passed through the sand bed under pressure, which facilitates the removal of impurities. The working principle of a PSF involves the water flowing through the sand bed, where suspended particles get trapped in the void spaces between the sand particles. Over time, the accumulation of particles can clog the sand bed, reducing filtration efficiency. To address this, PSFs require periodic backwashing, during which the water flow is reversed to flush out the accumulated particles and restore the sand's filtration capacity.

An Activated Carbon Filter (ACF) is a filtration system that uses activated carbon as the filtration media. Activated carbon is a highly porous material with a large surface area, making it effective at adsorbing (not absorbing) various impurities from water, such as organic compounds, chlorine, tastes, odors, and some dissolved chemicals. In an ACF, water flows through a bed of activated carbon granules or blocks. As the water passes through the activated carbon, impurities adhere to the carbon's surface through adsorption. ACFs are commonly used in drinking water treatment, wastewater treatment, and industrial processes.

Treated Water Tank

A Treated water tank is used to store treated water for further reuse and distribution.

ETP Layout

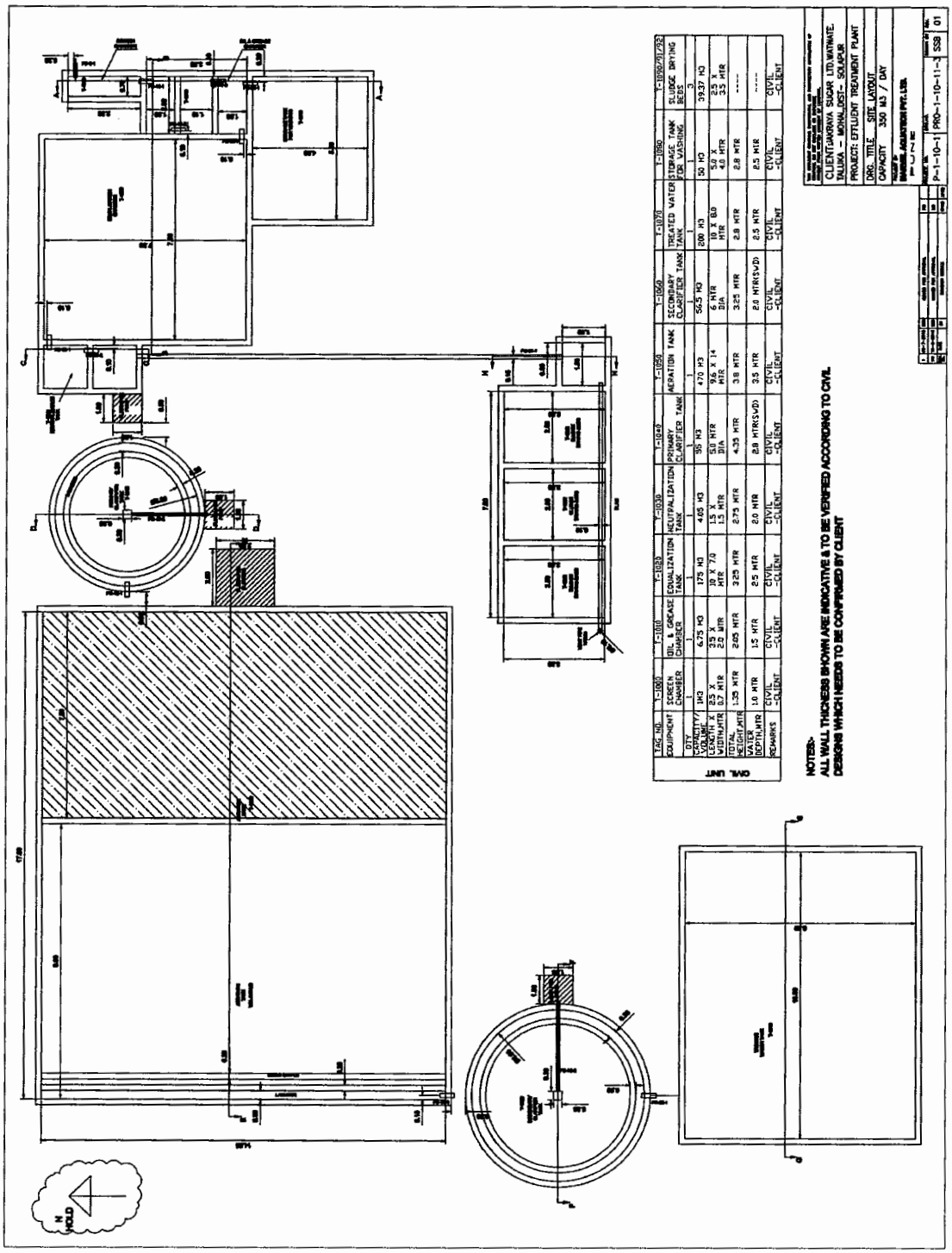

Figure 8 - ETP unit's arrangement layout

Dimensions Table

Table 7 - Dimensions of Effluent Treatment Plant (ETP)

EQUIPMENT	CAPACITY/ VOLUME	LENGTH× WIDTH, MTR	TOTAL HEIGHT, MTR	WATER DEPTH, MTR
SCREEN CHAMBER	$1M^3$	2.5×0.7 MTR	1.35 MTR	1.0 MTR
OIL & GREASE CHAMBER	6.75 M^3	3.5×2.0 MTR	2.05 MTR	1.5 MTR
EQUALIZATION TANK	175 M^3	10×7.0 MTR	3.25 MTR	2.5 MTR
NEUTRALIZATION TANK	4.05 M^3	1.5×1.5 MTR	2.75 MTR	2.0 MTR
PRIMARY CLARIFIER TANK	55 M^3	5.0 MTR DIA	4.35 MTR	2.8 MTR(SWD)
AERATION TANK	$470M^3$	9.6×14 MTR	3.8 MTR	3.5 MTR
SECONDARY CLARIFIER TANK	56.5 MTR	6 MTR DIA	3.25 MTR	2.0 MTR(SWD)
TREATED WATER TANK	200 M^3	10×8.0 MTR	2.8 MTR	2.5 MTR
STORAGE TANK FOR WASHING	50 M^3	5.0×4.0 MTR	2.8 MTR	2.5 MTR
SLUDGE DRYING BED	39.37 M^3	2.5×3.5 MTR	----	----

3. Adequacy Study of Air pollution Control equipment & Wastewater treatment plants

3.1. Unit wise Adequacy

3.1.1. Spent Wash Digester I & II

Digester I

Diameter: 28.3

Height: 17.047m

Feed Flow (Q): 500 m^3/day

Feed COD (So): 100000 ppm

: 100000 X 1000/1000000 = 100 kg COD/m^3

Feed Bx: 12 Bx

COD Loading rate: 10 kg COD/m^3 day

Nominal Effective Liquid volume of UASBR $V_n = \frac{QSo}{Lorg}$

$$= \frac{500\ X\ 100}{10}$$

$$= 5000\ m^3$$

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

With 85% efficiency factor,

Required Liquid hold up volume: 5000/0.85 = 5882 m^3

Cross sectional Area required, considering 1.5 m/hr

A = 500/ (1.5X24) = 13.8m^2

Diameter required $= \sqrt{\frac{13.8 \times 4}{\pi}}$

= 4.19 m

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

Provided reactor dimensions are more than required.

[redacted]

Digester II

Diameter: 36 m

Height: 18 m

Feed Flow (Q): 720 m^3/day

Feed COD (So): 120000 ppm

: 120000 X 1000/1000000 = 120 kg COD/m^3

Feed Bx: 12 Bx

COD Loading rate: 10 kg COD/m^3 day

Nominal Effective Liquid volume of UASBR $V_n = \frac{QSo}{Lorg}$

$= \frac{720\ X\ 120}{10}$

= 8640 m^3

With 85% efficiency factor,

…. *(Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)*

Required Liquid hold up volume: 8640/0.85 = 10164 m^3

Cross sectional Area required, considering 1.5 m/hr

A = 720/ (1.5X24) = 20 m^2

Diameter required $= \sqrt{\frac{20 \times 4}{\pi}}$

= 5 m

Provided reactor dimensions are more than required.

[redacted]

3.1.2. Multiple Effect Evaporator I & II

Multiple Effect Evaporator (MEE) I

Feed Flow: 25 m^3/hr

Feed Bx: 10

Outlet Bx: 40

No. of Calendria Tubes: 1100

Tube Height: 12 m

Tube Diameter: 48 mm

Solids coming to evaporator: 25000 X 10/ 100 = 2500 Kg/hr

i.e water in inlet = 22500 kg/hr

40 Bx Concentrate coming out of Evaporator = 2500/0.4 = 6250 Kg/hr

i.e water in concentrate = 3750 kg/ hr

Therefore water to be evaporated = 18750 kg/hr

Heat required for evaporation = mCpdT + m λ

= (18750 X 4.184 X (85-25)) + (18750 X 2260)

= 4707000 + 42375000 = 47082000 KJ/hr = 13078 KJ/sec

.... *(Ref. Robert Ewald Treybal, Mass-Transfer Operations, McGraw Hill)*

Surface Area of Single Tube = ($\pi \times 0.048 \times 12$) = 1.8 m^2

Total Surface area available for heat exchange = 1.8 X 1100 = 1980 m^2

Considering LMTD for Steam in temp 100 C to out Temp 90 °C and Feed 25 °C to 85 °C

LMTD: 34 °C

For calculating Heating Surface area required: Q = UA LMdT

A = Q/ (U LMdT)

= 13078000/ (200 X 34)

=1923 m^2

.... *(Ref. Robert Ewald Treybal, Mass-Transfer Operations, McGraw Hill)*

[redacted]

Multiple Effect Evaporator (MEE) II

Feed Flow: 20 m^3/hr

Feed Bx: 10

Outlet Bx: 40

No. of Calendria Tubes: 1424

Tube Height: 12 m

Tube Diameter: 48 mm

Solids coming to evaporator: 20000 X 10/ 100 = 2000 Kg/hr

i.e water in inlet = 18000 kg/hr

40 Bx Concentrate coming out of Evaporator = 2000/0.4 = 5000 Kg/hr

i.e water in concentrate = 3000 kg/ hr

Therefore water to be evaporated = 15000 kg/hr

Heat required for evaporation = mCpdT + m λ

= (15000 X 4.184 X (85-25)) + (15000 X 2260)

= 3765600 + 33900000 = 37665600 KJ/hr = 10462 KJ/sec

.... *(Ref. Robert Ewald Treybal, Mass-Transfer Operations, McGraw Hill)*

Surface Area of Single Tube = ($\pi \times 0.048 \times 12$) = 1.8 m^2

Total Surface area available for heat exchange = 1.8 X 1424 = 2563 m^2

Considering LMTD for Steam in temp 100 °C to out Temp 90 °C and Feed 25 °C to 85 °C

LMTD: 34 °C

For calculating Heating Surface area required: Q = UA LMdT

A = Q/ (U LMdT)

= 10462000/ (200 X 34)

=1538 m^2

.... *(Ref. Robert Ewald Treybal, Mass-Transfer Operations, McGraw Hill)*

[redacted]

3.1.3. Dryer I & II

Spray Dryer Performance

Capacity :	**9 m³**	**6 m³**
Feed Rate :	9600 kg/hr	6000 kg/hr
TDS in Feed :	45%	45%
Output from Spray Dryer :	4547 kg/hr at 5% moisture (w/w)	3120 kg/hr at 5% moisture (w/w)
Water Evaporation :	5053 kg/hr by design at 240 °C inlet and 110 °C outlet	2880 kg/hr by design at 240 °C inlet and 110 °C outlet

[redacted]

3.1.4. Wet Scrubber

Consideration:

Flowrate of Water Q_L: 130 m^3/hr *(Calculated on basis of 6" water transfer line, considering velocity of 2m/sec)*

Flowrate of Gas Q_G: 122400 m^3/hr *(Provided by client, ID fan Details)*

$Q_L / Q_G = 130/122400 = 0.001$

Surface Tension of Liquid σ: 72 dyne/cm

Viscosity of Liquid μL:1 cp = 0.01 poise

f = 0.5 *(empirical factor for hydrophilic particles.)*

Velocity of gas, Vg = 485 m/sec = 48500 cm/sec *(Calculated on basis of 300mm line, considering ID fan details)*

Particle removal efficiency adequacy:

Mean droplet diameter d_d: $\left(\frac{58600}{Vg}\right) \times \left(\frac{\sigma}{\rho L}\right)^{0.5} + 597 \left(\frac{\mu L}{(\sigma \rho L)^{0.5}}\right)^{0.45} \times (1000 \frac{QL}{QG})^{1.5}$

…….. *(Ref. Nukiyama-Tansawa relationship (1938)*

$= \left(\frac{58600}{48500}\right) \times \left(\frac{72}{1}\right)^{0.5} + 597 \left(\frac{0.01}{(72 \times 1)^{0.5}}\right)^{0.45} \times (1000 \frac{130}{122400})^{1.5}$

$= 41.68$ μm

Inertial impaction parameter $K_p = \frac{da^2 Vp}{9\mu g dd}$ …… *(Ref. Calvert impaction parameter)*

$= 71.82$

Particle penetration $P_{td} = e^{\left\{\frac{QLVg\rho Ldd}{55Qg\mu g}\left[-0.7 - Kpf + 1.4 \ln\left(\frac{Kpf+0.7}{0.7}\right) + \left(\frac{0.49}{0.7+Kpf}\right)\right]\left(\frac{1}{Kp}\right)\right\}}$ …… *(Ref. Calvert et al. 1972)*

$= 0.00015$

The scrubber will capture (1-0.00015) X 100 = [redacted] of 1 μm particles.

[redacted]

3.1.5. Condensate Polishing Unit (CPU)

Bar Screen

Daily Flow: 1600 m^3/ day

Average Hourly Flow: 1600/24 = 66.66 m^3/hr

Peak hourly flow: 3 X 70 = 200 m^3/hr

=200/3600 m^3/sec

= 0.055 m^3/sec

Design Optimal Velocity Required: 0.3 m/sec

.... (Ref. Seán Moran, an Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

Cross sectional area of screening: 0.055/0.3 = 0.185 m^2

Cross sectional area of bar screen including rods on screen = 0.194 X 2 = 0.370 m^2

Size of Bar Screen req. (minimum dimensions) = 0.7 m X 0.7 m

[redacted]

pH Correction Tank

Volume of tank = 7 X 2.7 X 3.45 m = 65.2 m^3

Retention time of Tank = 65.2/66.66 = 0.97 hr = 58 mins

Standard retention time required for mixing is 30 mins

.... (Ref. Seán Moran, an Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

[redacted]

Collection Tank (17 X 8 X 3.45m)

Collection Tank Volume: 469 m^3

Daily Flow: 1600 m^3/ day

Average Hourly Flow: 1600/24 = 66.66 m^3/hr

Six Hourly Hold up volume = 66.66 X 6 = 400 m^3

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

[redacted]

Anaerobic Digester (Ø 19 X 10 m)

Digester Volume = $((\pi \times 19^2)/4) \times 10 = 2833\ m^3$

Retention time of Digestor = 2833/66.66 = 42.5 hr

Considering Up flow velocity 0.9 m/hr for keeping sludge suspension

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

Area required for UASBR = 66.66/0.9 = 74 m^2

Required Diameter of UASBR = $\sqrt{(74 \times 4/\pi)}$ = 9.7 m

[redacted]

Inlet COD to Digestor = 3000 ppm

Required loading rates of COD = 10 - 95 kg COD/m^3/day

Loading rate of COD = (3000X1000X24)/1000000 = 72 kg COD/m^3/day

Considering 70% reduction in digestor

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

[redacted]

Aerobic Tank (30 m X 15 m X 4 m)

Aeration Tank Volume: 1800 m^3

Daily Flow: 1600 m^3/ day

Average Hourly Flow: 1600/24 = 66.66 m^3/hr

BOD of influent to aeration tank: 800 mg/lit

BOD/day: 800 X 1600000 / 1000000 = 1280 kg/day

MLSS with F/M 0.3: 1280/0.3 = 4266 kg

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

For 3000 ppm MLSS consideration,

Tank volume required: 4266 X 10^6 / 3000 = 1422 m^3

[redacted]

Air Requirement

BOD/day = 1280 kg/day

BOD/ hr = 1280/24 = 53.33 kg/hr

Air Requirement = 53.33 X 60 = 3200 m^3/hr

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

Considering Capacity of air diffuser = 10 m^3/hr

No. Of diffusers required = 3200/10 = 320 qty

[redacted]

Tube Settler Tank (15 m X 10 m X 3.45 m Height)

Tube Settler Tank Volume: 517.5 m^3

Average Hourly Flow: 66.66 m^3/hr

Retention Time: 517.5/66.66 = 7.76 hr

Considering Surface overflow rate (SOR): 2 m/hr

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

Area of tank required: 66.66/2 = 33.33 m^2

Designed available area of tank: 15 X 10 = 150 m^2

Overflow is from two sides,

Designed actual available area of tank for overflow = 150 /2 = 75 m^2

[redacted]

Filter Feed Tank (4 X 10 X 3.3 m)

Volume of Filter Feed Tank: 132 m^3

Retention Time: 132/66.66 = 1.98 Hrs

[redacted]

PRESSURE SAND FILTER

Average Hourly Flowrate: 66.66 m^3/hr

Considering loading rate for filtration: 12 $m^3/hr/m^2$

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

Filtration Vessel Cross sectional area required: 66.66/12 = 5.55 m^2

Filtration Vessel Diameter Required: $\sqrt{(5.55\ X\ 4\ /\pi)}$ = 2.66 m

Designed Vessel Diameter: 2.66 m

Media Depth required: 1.5 m

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

Height of Vessel Designed: 1.8 m

[redacted]

ACTIVATED CARBON FILTER

Average Hourly Flowrate: 66.66 m^3/hr

Considering loading rate for filtration: 12 $m^3/hr/m^2$

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

Filtration Vessel Cross sectional area required: 66.66/12 = 5.55 m^2

Filtration Vessel Diameter Required: $\sqrt{(5.55\ X\ 4\ /\pi)}$ = 2.66 m

Designed Vessel Diameter: 2.66 m

Media Depth required: 1.5 m

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, ISBN 978-0-12-811309-7)

Height of Vessel Designed: 1.8 m

[redacted]

Treated Water Tank (6 X 17 X 3.3 m)

Treated water tank volume: 336.6 m^3

Hold up time: 336.6/66.66 = 5 hrs

[redacted]

3.1.6. Effluent Treatment Plant (ETP)

Bar Screen

Daily Flow: 350 m^3/ day

Average Hourly Flow: 350/24 = 14.58 m^3/hr

Peak hourly flow: 3 X 14.58 = 43.75 m^3/hr

=43.75/3600 m^3/sec = 0.0121 m^3/sec

Design Optimal Velocity Required: 0.3 m/sec

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, 978-0-12-811309-7)

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

Cross sectional area of screening: 0.0121/0.3 = 0.04 m^2

Cross sectional area of bar screen including rods on screen = 0.04 X 2 = 0.08 m^2

Size of Bar Screen req. (minimum dimensions) = 0.3 m X 0.3 m

[redacted]

Oil & Grease Chamber (3.5 X 2 X 1.5m)

Volume of O&G Chamber: 6.75 m^3

Hydraulic Retention time: 6.75/ 14.58 = 0.46 hr

Required HRT for O&G is 30 mins

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, 978-0-12-811309-7)

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

[redacted]

Equalisation Tank (10 X 7 X 2.5m)

Collection Tank Volume: 175 m^3

Daily Flow: 350 m^3/ day

Average Hourly Flow: 350/24 = 14.58 m^3/hr

Six Hourly Hold up volume = 14.58 X 6 = 87.48 m^3

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

[redacted]

Neutralisation Tank

Volume of tank = 1.5 X 1.5 X 2 m = 4.05 m^3

Retention time of Tank = 4.05/14.58 = 0.28 hr = 16 mins

Standard retention time required for mixing is 10 mins

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, 978-0-12-811309-7)

[redacted]

Primary Clarifier Tank (Ø 5 X 2.8 m)

Volume of Clarifier: = ((π X 5^2)/4) X 2.8 = 55 m^3

Average Hourly Flow: 14.58 m^3/hr

Retention Time: 55/14.58 = 3.77 hr

Considering Surface overflow rate (SOR): 2 m/hr

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, 978-0-12-811309-7)

Area of tank required: 14.58/2 = 7.29 m^2

Designed available area of tank: ((π X 5^2)/4) = 19.62 m^2

[redacted]

Aerobic Tank (14 m X 9.6 m X 3.5 m)

Aeration Tank Volume: 470 m^3

Daily Flow: 350 m^3/ day

Average Hourly Flow: 350/24 = 14.58 m^3/hr

BOD of influent: 2500 mg/lit

BOD after Primary clarifier: 1200 mg/lit

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

BOD/day: 1200 X 350000 / 1000000 = 420 kg/day

F/M ratio: 0.3

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

MLSS: 420/0.3 = 1400 kg

For 3000 ppm MLSS consideration,

Tank volume required: 1400 X 10^6 / 3000 = 466 m^3 [redacted]

Air Requirement

BOD/day = 420 kg/day

BOD/ hr = 420/24 = 17.5 kg/hr

Air Requirement = 17.5 X 60 = 1050 m^3/hr

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

Considering Capacity of air diffuser = 10 m^3/hr

No. Of diffusers required = 1050/10 = 105 qty

[redacted]

Secondary Clarifier Tank (Ø 6 X 2.0 m)

Volume of Clarifier: = ((π X 6^2)/4) X 2.0 = 56.5 m^3

Average Hourly Flow: 14.58 m^3/hr

Retention Time: 56.5/14.58 = 3.88 hr

Considering Surface overflow rate (SOR): 2 m/hr

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, 978-0-12-811309-7)

Area of tank required: 14.58/2 = 7.29 m^2

Designed available area of tank: ((π X 6^2)/4) = 28.26 m^2

[redacted]

PRESSURE SAND FILTER

Average Hourly Flowrate: 14.58 m^3/hr

Considering loading rate for filtration: 12 m^3/hr/m^2

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, 978-0-12-811309-7)

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, 4th edition, McGraw Hill Education)

Filtration Vessel Cross sectional area required: 14.58/12 = 1.215 m^2

Filtration Vessel Diameter Required: $\sqrt{(1.215\ X\ 4\ /\pi)}$ = 1.24 m

Media Depth required: 1-1.5 m

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse,4th edition, McGraw Hill Education)

Height of Vessel required: 1.8 m [redacted]

ACTIVATED CARBON FILTER

Average Hourly Flowrate: 14.58 m^3/hr

Considering loading rate for filtration: 12 $m^3/hr/m^2$

.... (Ref. Seán Moran, An Applied Guide to Water and Effluent Treatment Plant Design, Elsevier, 978-0-12-811309-7)

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse,4th edition, McGraw Hill Education)

Filtration Vessel Cross sectional area required: 14.58/12 = 1.215 m^2

Filtration Vessel Diameter Required: $\sqrt{(1.215\ X\ 4\ /\pi)}$ = 1.24 m

Media Depth required: 1-1.5 m

.... (Ref. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse,4th edition, McGraw Hill Education)

Height of Vessel required: 1.8 m

[redacted]

Treated Water Tank (10 X 8 X 2.5 m)

Treated water tank volume: 200 m^3

Hold up time: 200/14.58 = 13.7 hrs

[redacted]

4. Regulatory Compliance Chart

Ambient Air Quality Standards

Table 8 - CPCB Ambient Air Quality Standards 2009.

Sr. No.	Pollutant	Limit	
		Annual	**24 Hours**
1	Sulphur Dioxide (SO_2), µg/m^3	≤ 50	≤ 80
2	Nitrogen Dioxide (NO_2), µg/m^3	≤ 40	≤80
3	Particulate Matter (Size less than 10µm) or PM_{10}, µg/m^3	≤ 60	≤ 100
4	Particulate Matter (Size less than 2.5 µm) or $PM_{2.5}$, µg/m^3	≤ 40	≤ 60
		08 Hours	**01 Hours**
5	Ozone (O_3) µg/m^3	≤ 100	≤180
		08 Hours	**24 Hours**
6	Lead (Pb) µg/m^3	≤ 0.5	≤1.0
		08 Hours	**01 Hours**
7	Carbon Monoxide(CO), mg/m^3	≤ 02	≤ 04
		Annual	**24 Hours**
8	Ammonia (NH_3), µg/m^3	≤ 100	≤400
		Annual	
9	Benzene (C_6H_6), µg/m^3	≤ 05	
10	Benzo(a)Pyrene (BaP) Particulate phase only, ng/m^3	≤ 01	
11	Arsenic (As), ng/m^3	≤ 06	
12	Nickel (Ni), ng/m^3	≤ 20	

Treated Effluent Quality Standards

Table 9 - Treated Effluent Quality Standards as per MPCB Consent

Sr. No.	Pollutant	Limit
1	pH	5.5-9.0
2	Total Dissolved Solids (TDS)	2100
3	Total Suspended Solids (TSS)	100
4	Biological Oxygen Demand (BOD)	100
5	Chemical Oxygen Demand (BOD)	250
6	Chlorides (Cl^-)	600
7	Sulphates (SO_4)	1000
8	Oil and Grease (O & G)	10

Note: All parameters in mg/lit except pH

Stack Emission Standards

Table 10 - Stack Emission Standards.

Sr. No.	Pollutant	Limit
1	Particulate Matter (TPM)	150 mg/Nm^3
2	Sulphur Dioxide (SO_2)	3360 kg/day

5. Conclusion

Below is the Adequacy Chart for each equipment/ Unit across plants

Table 10 - Adequacy Chart

Sr. No.	Equipment	Volumetric Adequacy	Quantitative Treatability	Remark
1	Spent Wash Digestor I	✓	✓	Adequate
2	Spent Wash Digestor II	✓	✓	Adequate
3	Multi Effect Evaporator I	✓	✓	Adequate
4	Multi Effect Evaporator II	✓	✓	Adequate
5	Dryer	✓	✓	Adequate
6	Wet Scrubber I	✓	✓	Adequate
7	Wet Scrubber II	✓	✓	Adequate
8	Cyclone	✓	✓	Adequate
9	CPU	✓	✓	Adequate
10	ETP	✓	✓	Adequate

6. Recommendations:

1. For decentralization of sewage two STPs of capacity 5 KLD each should be installed at industry and residential location.
2. Rotary Particulate Collector (RPC) should be installed before wet scrubber.

GREEN ENVIROSAFE
Engineers & Consultant Pvt Ltd.
A-7/2/C-11, Capital City, Talwade - Chakan Road, Chakan MIDC, PH-IV, Village Nighoje, Tal. Khed,
Dist. Pune-410501. Mob. : 9545084620, 8421365421 CIN No. : U74900PN2013PTC149666
E-mail : environsafeyahoo@gmail.com, gesec12@gmail.com | www.greenenvirosafe.co.in

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and ISO/IEC 17025:2017 (NABL), ISO 9001:2015, ISO 45001 : 2018 and ISO 14001 : 2015 Certified Company

TEST REPORT

Test Report No: GESEC/PRO/WW/2023/24/07/938	**Report Date**	04/08/2023
Sample ID : GESEC/PRO/WW/2023/24/07/938	**Sample Details**	CPU Inlet
Name & Address of the Customer: **M/s. Jakraya Sugar Ltd.,** **A/P-Watwate, Tal-Mohal,** **Dist-Solapur, Maharashtra.**	**Type of Sample**	Waste Water
	Volume Of Sample	1 Lit plastic bottle
	Sample Status	Sealed
	Sample Collected By	GESEC
	Date of Sample Collection	28/07/2023
	Sample Receipt Date	29/07/2023
	Analysis start Date	31/07/2023
	Analysis End Date	04/08/2023

Parameters	Results	Unit	Standard Method
pH	4.52	--	APHA 4500 H+,B 23rd Edition.2017
Suspended Solids (SS)	164.78	mg/lit	APHA 2540 D 23rd ED:2017
Total Dissolved Solids (TDS)	2269.52	mg/lit	APHA 2540,C,23rd Edition, 2017
Chemical Oxygen Demand (COD)	3289.21	mg/lit	IS 3025 (Part 58) , 2019
Biochemical Oxygen Demand (BOD)	1402.95	mg/lit	IS 3025 (Part 44), 2019
Chlorides as Cl^-	562.96	mg/lit	IS 3025 (Part 39), 2019
Sulphates as SO_4^{--}	362.14	mg/lit	APHA 4500 Cl- B,23rd Edition, 2017
Oil & Grease	12.05	mg/lit	APHA 3025 (Part 24) ;2019

GREEN ENVIROSAFE Engineers & Consultant Pvt. Ltd. PUNE

Mr. Vinod Hande
(Technical Manager)
Reviewed & Authorized By

*****END OF REPORT*****

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Engineers & Consultant Pvt Ltd.
A-7/2/C-11, Capital City, Talwade - Chakan Road, Chakan MIDC, PH-IV, Village Nighoje, Tal. Khed, Dist. Pune-410501. Mobile 9545084620, 8421365421 CIN No. : U74900PN2013PTC149666
E-mail : environsafevinod@gmail.com, gesec12@gmail.com | www.greenenvirosafe.co.in

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TEST REPORT

Test Report No: GESEC/PRO/WW/2023/24/07/939	**Report Date**	04/08/2023
Sample ID : GESEC/PRO/WW/2023/24/07/939	**Sample Details**	CPU Outlet
Name & Address of the Customer: **M/s. Jakraya Sugar Ltd.,** **A/P-Watwate, Tal-Mohal,** **Dist-Solapur, Maharashtra.**	**Type of Sample**	Waste Water
	Volume Of Sample	1 Lit plastic bottle
	Sample Status	Sealed
	Sample Collected By	GESEC
	Date of Sample Collection	28/07/2023
	Sample Receipt Date	29/07/2023
	Analysis start Date	31/07/2023
	Analysis End Date	04/08/2023

Parameters	Results	MPCB LIMIT	Unit	Standard Method
pH	7.53	5.5 -9.0	--	APHA 4500 H+,B 23rd Edition.2017
Suspended Solids (SS)	29.84	100	mg/lit	APHA 2540 D 23rd ED:2017
Total Dissolved Solids (TDS)	1285.11	2100	mg/lit	APHA 2540,C,23rd Edition, 2017
Chemical Oxygen Demand (COD)	62.92	250	mg/lit	IS 3025 (Part 58) , 2019
Biochemical Oxygen Demand (BOD)	18.07	100	mg/lit	IS 3025 (Part 44), 2019
Chlorides as Cl^-	164.58	600	mg/lit	IS 3025 (Part 39), 2019
Sulphates as SO_4^{--}	125.06	1000	mg/lit	APHA 4500 Cl- B,23rd Edition, 2017
Oil & Grease	BDL	10	mg/lit	APHA 3025 (Part 24) ;2019

Remark:

- BDL – Below Detectable Limit.

GREEN ENVIROSAFE Engineers & Consultant Pvt. Ltd. PUNE

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(Technical Manager)
Reviewed & Authorized By

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E-mail : environsafe.vinod@gmail.com, gesec12@gmail.com | www.greenenvirosafe.co.in

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TEST REPORT

Test Report No	GESEC/PRO/ST/2023-24/07/940	**Report Date**	04/08/2023
Sample ID -	GESEC/PRO/ST/2023-24/07/940		
Name & Address of the Customer	**M/s. Jakraya Sugar Ltd., A/P-Watwate, Tal-Mohal, Dist-Solapur, Maharashtra.**		

Sample Details

Sample collection Date	Sample receipt Date	Analysis start Date	Analysis complete Date
28/07/2023	29/07/2023	31/07/2023	04/08/2023

Instrument Details

Name Of Instrument	Stack Monitoring Kit	**Date Of Calibration**	17/10/2022
Calibration Certificate No.	SEC/TH/57	**Due Date of Calibration**	16/10/2023

Stack Details

Stack No/ID	Stack Attached to		Sampling done by
01	Boiler Stack (70 TPH)		GESEC
Shape	**Round**	**Fuel Used**	Bagasse
Diameter/ Dimensions (m)	3.50	**Pressure**	3.00
Height (m)	72		
Temperature (^{0}C)	125	**Velocity (m/s)**	6.56
Gas Volume (Nm^3/Hr)	170347.73		

Parameters	Method	Unit	Limit	Result
Total Particulate Matter (TPM)	IS 11255 (Part 1) 2019	mg/Nm^3	150	65.13
Sulphur Dioxide (SO_2)	IS 11255 (Part 2) 2019	mg/Nm^3	-	13.79
		Kg/day	3360	56.38

Remarks-

- Maharashtra Pollution Control Board (MPCB) Limits: SPM: 150 mg/NM^3.
- Maharashtra Pollution Control Board (MPCB) Limits: SO_2: 3360 kg/day as per consent.

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Hande

Mr. Vinod Hande
(Technical Manager)
Reviewed & Authorized By

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6. MoEF approved Lab by Govt. of India. From date. 16/02/2022 to 29/02/2024.

TRUE COPY ADVOCATE

ANNEXURE-R-11

Original for Recipient | Duplicate for Transporter | Triplicate for Supplier

TAX INVOICE

EASE THERMAX

EASE TECHNOLOGY,
250, C-1, E WARD, PANCHARATNA APARTMENT,
NAGALA PARK, KOLHAPUR - 416003
Phone No - 8451848535/ 9673926900
GSTIN - 27AAIFE4427H1ZF
PAN NO. - AAIFE4427H
info@easetechs.com

Date - 02.11.2023
INVOICE NO. - EASE/110/2023-24
REF. ORDER NO. - JSL/Purchase/1548 /2023-24
ORDER DATE. - 21.08.2023

BILL TO

Jakraya Sugar Ltd.
At Post Watwate, Tal - Mohol,
Dist - Solapur, Pin Code - 413253
GST No - 27AABCJ9429L1Z2

DESCRIPTION OF WORK

Design, Supply of 5 KLD Sewage Treatement Plant.

Sr. No.	Description	HSN	Quantity	Rate	Amount	Total (₹)
1	Design, Supply of 5 KLD Sewage Treatement Plant.	8421	2	485000	970000	970000.0

Remarks / Payment Instructions:
30% Advance along with Work Order
50% Against Proforma Invoice.
20% After Commissioning of plant.

SHIPPING/HANDLING		-
SUBTOTAL		970000.0
CGST	9%	87300.0
SGST	9%	87300.0
TOTAL TAX		174600.0
TOTAL (₹)		1,144,600.0

EASE TECHNOLOGY KOLHAPUR

Dhiraj Kekalekar
(For EASE Technology)

Bank Details Name- IDBI Bank
Acc. No.- 0588102000012333
IFSC – IBKL0000588
Branch – Ganesh Nagar, Pune

JAKRAYA SUGAR LTD.
Regd. Office:
Chelekar Galli, Mangalwedha.Dist.-Solapur-413305
Phone: 02188-221173. Fax: 02188-220523
E-mail: jakraya@rediffmail.com; Jakraya@gmail.com
Factory. At. Watwate, Tal-Mohol, Dist.-Solapur-413253
Phone: 02189-259498, 259499, Fax: 02189-259497

Chairman
Adv.Birappa B. Jadhav (B.sc.Agri. LL.b.)
Managing Director
Sachin B. Jadhav (B.sc.Agri. MBA)

Amendment Purchase Order

To,	Order No : JSL /Purchase /1548/2023-24
EASE TECHNOLOGY. (Environment And Servo Engineering Technology)	Date : 21/ 08 /2023
C – 1 , 250/B2 , E WARD , PANCHRATN APARTMENT, NAGALA PARK , KOLHAPUR- 416003.	

Subject: - purchase order for 5 KLPD Sewage Treatment Plant.

Dear Sir

With reference to your Quotation no ease/083/2023-24-R1 on dated 11/08/2023 we are pleased to place **purchase order for 5 KLPD Sewage Treatment Plant.** As per following terms and conditions. Please return a copy of this order signed as an acceptance of this order.

Sr. no.	Description	Qty	Rate	Amount
1	Design, Supply of 5 KLPD Sewage Treatment Plant as **per technical sheet**	02 NOS	485000.00	970000.00
2	Erection & Commissioning of 5 KLPD Sewage Treatment Plant			Included
			Total amount-	**970000.00**

Billed To: Jakraya sugar Ltd
Plant Address: A/P Watwate, Tal- Mohol,
Dist- Solapur Pin- 413253
Phone-7774090551,
GST NO -27AABCJ9429L1Z2

Terms and Conditions As Follows.

1) Delivery F.O.R. at Jakraya Sugar.
2) Delivery Period within five Weeks
3) GST Extra as applicable.
4) Payment Advance with Order 30%
5) Payment against Proforma Invoice 50%
6) Balance after Commissioning plant 20%.
7) Packing and Forwarding Charges Inclusive In above prices
8) Transportation charges inclusive in above prices.
9) You have to give acceptance for this purchase order within two days. If not received any acceptance within two days it will be assumed as purchase order accepted with condition.

Thanking you,

Purchase Officer

Managing Director

564

Lagoon Demolished Area

Multi Effect Evaporation Plant

Bio Digester

Spent Wash Spray Dryer

Spent Wash Powder bagging

ANNEXURE-R-12

MAHARASHTRA POLLUTION CONTROL BOARD
SUB - REGIONAL OFFICE , SOLAPUR

Phone No. 0217-2319850
Visit us at :http://mpcb.gov.in
Email : srosolapur@mpcb.gov.in

4/B, Bali Block, Civil Lines ,
Opp. Govt. Milk Diary,
Saat Rast, Solapur-413003

"Your Service is our Duty"

Inspection Report

1. Name & Address of the Industry : M/s. Jakraya Sugar Ltd Gut No 61/1/A, Wadwate Tal- Mohol, Dist- Solapur
2. Ind. Category : Red/LSI
3. Date of Visit : 8/4/2022
4. Industry Representative : Mr. Awatade Chief chemist 7774070511
5. Visited by : Sanjay Nanawar F.O. Solapur
6. Consent Status : Valid upto 31/08/2023 (S 4900TCD (11 MW)
7. Product Details : As per consent

Observations: During visit sugar unit found i operation. About 125 M3/day effluent is generated out of which 60 m3/day recycled & remaining use on land for irrigation. 50 Acre land own. During visit ETP found in operation and comprises of collection, search tank, equilization manual lime dosing. primary clasifier. Thick sludge ... in clasifier water going for

... it goes to ... (aeration) system, surface aeration not provided secondary clarifier holding tank and sand & carbon filter, treated water tank. TVS of treated & untreated water collected. Closing visit. As per CPCB norms online monitoring system installed for water & air and server connected MPCB & CPCB. 15 days storage tank is provided. Boiler installed 70 TPH (67 kg/cm²) with stack of height 72 Mtrs. Wet scrubber is provided to limit the emissions.

Unit has installed CPU of capacity 85 m³/hr (2 MLD) at present not in operation. It comprises screen chamber, equilization & anaerobic diagester, aeration tank, tube settler filter feed tank, sand & carbon filter, UF filer. In the CPU sugar condensate condensate from MEE, distillation.

Distillery consent is valid upto 31/08/2022. For 200 KLPD but actual 170 KLPD. Unit has provided 1600 m³ spentwash/trade effluent generated. For that MEE 7 stage, biodigester, dryer and composting. 100 MT/day powder. Unit has scrapped Kachha lagoons. At present No any Kachha lagoon. 20 days one Pacca lagoons & 5 day two Pacca lagoons provided. Composting area is concrete & provided leachate collection system. B.G. submitted as per restart directions.

As per complaints received going to visit the well water with villagers.

Sd/-
8/4/2022

Sanjay Namanzure
F.O.

Sd/- Chief Chemist

TRUE COPY ADVOCATE