Additional District Magistrate (City) Ghaziabad

Ref. No 2895/NGT-164/OA No. 814/2022/2023 Dated 17/03/2023

To,

The Registrar,
The National Green Tribunal,
Principal Bench,
New Delhi
E-mail- judicial-ngt@gov.in & ngt.filling@gmail.com

Sub: Report of the Joint Committee submitted in compliance of Hon'ble National Green Tribunal, New Delhi Order dated 06.01.2023 in OA No-814/2022 Pradeep Sharma Versus State of Uttar Pradesh.

Respected Sir,

With reference to the above subject mentioned above the Joint Committee inspected the site in compliance of Hon'ble National Green Tribunal order dated 06.01.2023 in OA No-814/2022 Pradeep Sharma Versus State of Uttar Pradesh. Factual report is hereby submitted for kind perusal and necessary action please.

Enclosure: Joint report.

Yours Sincerely

17.3.23

(Bipin Kumar)
Additional District Magistrate (City)
Ghaziabad

Copy to:

1- Member Secretary, Central Pollution Control Board, New Delhi.
2- District Magistrate, Ghaziabad for information.
3- Regional Officer, U.P. Pollution Control Board, Ghaziabad for necessary action.

Additional District Magistrate (City)
Ghaziabad

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION NO. 814 OF 2022

IN THE MATTER OF:

Pradeep Sharma ...Applicant

Versus

State of U.P. ...Respondent(s)

INDEX

10	**ANNEXURE IX**: Copy of Adequacy Report of ETP installed at M/s Al-Nasir Export	127 – 155
11	**ANNEXURE X**: Copy of Irrigation Management Plan for Utilization of treated Water by M/s Al-Nasir Export	156 – 228

FILED BY

17.3.23

(Bipin Kumar)
ADM (City)
Ghaziabad

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 814/2022

In the matter of:

Pradeep Sharma ...Applicant

Versus

State of U.P. ...Respondent(s)

STATUS REPORT ON BEHALF OF THE JOINT COMMITTEE OF DISTRICT ADMINISTRATION GHAZIABAD, CENTRAL POLLUTION CONTROL BOARD, NEW DELHI AND UTTAR PRADESH POLLUTION CONTROL BOARD WITH RESPECT TO ORDER DATED 06-01-2023

Ref :

1. O.A.No. 814/2022 in the matter of Pradeep Sharma Vs. State of U.P..
2. Hon'ble NGT order dated 06.01.2023

Background

In compliance to the Hon'ble NGT (PB) order dated 06.01.2023 in O.A.No. 814/2022 in the matter of Pradeep Sharma Vs State of U.P. A joint inspection of M/s International Agro Foods, 2764, 2765, 2766, Bhoorgarhi, Dasna, Ghaziabad and Al-Nasir Export Pvt. Ltd. Bhoorgarhi, Dasna, Ghaziabad (**referred as 'the Unit'**) was carried out on 16.02.2023 by the officials of District Administration Ghaziabad, Central Pollution Control Board, New Delhi and Uttar Pradesh Pollution Control Board. Following officers participated in the inspection:

1. Shri Bipin Kumar, ADM (City), Ghaziabad
2. Shri Utsav Sharma, Regional Officer, UPPCB, Ghaziabad
3. Shri Abdul Muteen, Scientist 'B', CPCB, Delhi

4. Shri Kishan Singh, A.E.E., UPPCB, Ghaziabad.

1. Details about the Unit i.e. M/s. International Agro Foods, 2764, 2765, 2766, Bhoorgarhi, Dasna, Ghaziabad.

The unit has infrastructure for production of frozen boneless buffalo meat, poultry feed supplement (PFS), tallow and blood meal. UPPCB has granted Consent for slaughtering of 750 big animals (buffalos) per day and frozen meat production of 98 MT/day. All the processes were found in operation. The details of the unit are as follow:

General Information		
1.	Raw material	Live Buffaloes
2.	Consented production capacity for Products/By-products	Frozen meat – 98 MT/Day Bone meal- 29.4 MT/day Tallow- 9.8 MT/day Blood Meal- 1.125 MT/day
3.	Consented/present slaughtering	Consented slaughtering capacity – 750 buffaloes/day. However, on the day of inspection, slaughtering of about 330 buffaloes were going on.
Information pertaining to water consumption and wastewater generation		
4.	Freshwater source & consumption (kl/day)	02 nos. of bore wells provided with Electromagnetic flow meters of capacity 15 HP, and 1.5 HP As per records maintained by the Unit , the raw water consumption details are as follow : Average groundwater extraction in the month of January 2023 has been recorded as 344 KL/day which

		includes water for domestic purposes (around 15 KL/day).
5.	Type of flow meter(s)	Electromagnetic flow meters installed on both bore wells.
6.	Flow meter Reading (s)	Bore well 1- Total flow - 504730 m^3 (Totalizer reading) Bore well 2 – Total Flow - 58408 m^3 (Totalizer reading)
7.	Status of NOC from CGWA for ground water extraction	NOC granted from UPGWD up to 18.06.2026 for 2,32.200 m3/year for abstraction of ground water. *Annexure-I*
8.	Consented wastewater discharge (KLD)	Industrial – 500 KLD Domestic – 12 KLD As per industry representative and record submitted by the industry treated effluent is not being discharged in any drain. The treated effluent generated by the industry is being used in gardening, washing, cooling towers, sprinkling on Highway/ Road and used for irrigation.
9.	Consent Status under the Water Act, 1974	The Unit has consent with validity up to 31.12.2024. *Annexure II.*
10.	Status of OCEMS	The unit has installed OCEMS for all the requisite parameters i.e. pH, TSS, BOD, COD and Flow and connected to CPCB server. On the day of inspection, the OCEMS was found in operation and parameters were found within the prescribed norms.
11.	ETP details	The Unit has installed ETP with hydraulic treatment capacity of 750 KLD based on two stages Activated Sludge Process.

		ETP is comprised of primary treatment and secondary treatment followed by tertiary treatment. The unit comprises Oil & Grease tank, Holding tank, Solid Separator, Equalization tank, Reaction tank, DAF system, Primary Clarifier, UASB (Digester), Aeration Tank-1, Secondary Clarifier-1, Aeration Tank-2, Secondary Clarifier-II, Disinfection tank, Pressure Sand filter, Activated carbon filter, filter tank, Digital Flow meter, OCEMS, Treated water storage tank(2300KL), Karnal technology supply pump, Sludge drying beds, Sludge Dewatering System (Decanter) etc. The unit has installed Blood Meal Plant with blood pump, screw pump and agitator (Blood coagulator).
12.	Quantification of effluent generation	As per record of ETP logbook provided by the unit, the average quantity of treated wastewater in the month of January & February is 364 KLD. *Annexure III.*
13.	Mode of Effluent disposal	Treated effluent is conveyed through underground pipeline to irrigate their own developed plantation (Eucalyptus) using karnal technology over an area of 70976 sq meter. Treated effluent is also being used in floor washing, cooling towers and water sprinkling on roads. The effluent is not being discharged in to the drain.
14.	Odour Control	The Unit has provided bio-filters to suppress the odour from rendering

<table>
<tr><td></td><td></td><td>plant additional high presser misting system with 12 fan.</td></tr>
<tr><td></td><td colspan="2">Information pertaining to Air Pollution</td></tr>
<tr><td>15.</td><td>Source of Air Pollution, details of fuel and status of APCDs</td><td>The Unit has one boiler of capacity 4 T/hr.
Bio Mass is used as fuel in the boiler.
Multi-cyclone dust collector and wet scrubber system is installed with boiler as Air Pollution Control Devices (APCDs).
Flue gases are discharged into the ambient air through a stack of 30 meters height.
OCEMS has been installed on the stack for monitoring of emissions which was found operational during inspection and showed the parameters within the prescribed norms
The Unit has provided 03 DG Sets with following details:
<table>
<tr><td>DG sets Capacity (KVA)</td><td>Acoustic Enclosures (Y/N)</td></tr>
<tr><td>600 (KVA) X 1</td><td>Yes</td></tr>
<tr><td>1000 (KVA) X 1</td><td>Yes</td></tr>
<tr><td>500 (KVA) X 1</td><td>Yes</td></tr>
</table></td></tr>
<tr><td>16.</td><td>Consent status under the Air Act, 1981</td><td>The Unit has consent with validity up to 31.12.2024. Annexure II.</td></tr>
<tr><td></td><td colspan="2">Information pertaining to ETP sludge and other solid waste</td></tr>
<tr><td>17.</td><td>Quantity of ETP sludge</td><td>As per records provided by the unit, average sludge generation was 1.4 MTD.</td></tr>
<tr><td>18.</td><td>Nature of waste</td><td>Organic</td></tr>
<tr><td>19.</td><td>Facility for storage/ disposal /treatment</td><td>Storage area has been provided for ETP sludge and other wastes. The Unit</td></tr>
</table>

		informed that the ETP sludge is sold as manure

Observation:

i. During inspection, the Unit was found in operation. Slaughtering of about 330 buffaloes were in process as against the consented slaughtering of 750 animals/day. The requirement of fresh water was met through Bore wells.

ii. The Unit has provided one treated effluent storage tank and sludge drying beds (6 nos.) for drying the sludge generated from primary and secondary treatment.

iii. The Unit has provided OCEMS for the parameters, namely, pH, TSS, BOD & COD at final outlet of ETP and it was found operational during the visit and parameters were found within the prescribed limit (values of OCEMS pH (7.32), TSS(22.91mg/l), BOD(18.73mg/l), COD(131mg/l).

iv. The Unit has provided septic tank followed by soak-pit for treating domestic effluent. Adequate space (room) for storage & preservation of hides has been provided.

v. The Unit has provided underground piping network for conveyance / discharge of treated effluents for utilization of their own premises (approx. 70976 sq meter) for plant-irrigation. During inspection, no effluent was observed being discharged from the unit.

vi. The unit has valid consent under the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution), Act, 1981 till 31.12.2024.

vii. Both the equalization tanks, are equipped with mixing arrangement through diffused aeration system.

viii. The Unit uses food grade coagulant and poly electrolyte for treatment of effluent before subjecting the effluent to biological treatment through activated sludge process.

ix. Aeration tanks used for biological treatment are provided with diffused aeration system. Air is supplied with help of four blowers (04 blowers of 30 HP). Adequacy report of the treatment plant is annexed as *Annexure IV.*

x. The unit has submitted irrigation management plan for utilization of treated effluent from Chandra Shekhar Azad University of Agriculture & Technology, Kanpur. *Annexure V.*

xi. The unit has installed Rendering Plant of capacity 18 Ton/batch (dry process) which is operated for 6 - 8 batches every day.

xii. Unit has installed bio filter for treatment of fumes generated from cookers used in rendering plant. Arrangements are made for collection of fumes generated from cookers and their channelization through bio-filter. Additionally, spray towers have been installed for controlling issues of odour.

xiii. Dedicated hides storage area is provided.

xiv. DG sets were provided with stacks as well acoustic enclosure. Stack height of each DG set has been found to be 2.5 meter above Roof Level.

xv. Ammonia Plant is equipped with water sprinkling and alarm system to control the leakage for safety purpose.

Water Pollution:

During inspection, all ETP units were found in operation. In order to monitor the compliance status of treated waste water, grab samples were collected from inlet, Equalization Tank, Aeration Tanks and outlet of ETP. The analysis results are presented below:

Sampling Locations	Parameters					
	pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	O&G (mg/l)	MLSS (mg/l)
ETP inlet	7.06	2429.00	2874.00	8840.00	-	-
Aeration Tank-1	-	-	-	-	-	2800
Aeration Tank-2	-	-	-	-	-	2000
ETP Final outlet	7.48	38.00	26.00	134.00	6.0	-
Notified Standard	**6.5-8.5**	**50**	**30**	**250**	**10**	-

The monitored values at the ETP outlet are complying with the notified/prescribed standards.

To investigate the ground water quality around the unit, samples of ground water from the industry and around the industrial unit were collected for analysis. The analysis results are presented below:

S. No.	Name of the source & address	Date of collection	Colour	Odour	pH	Condμmhos /cm	T.D.S mg/l	Hard mg/l	Ca. Hard mg/l	Mg. Hard mg/l	Chloride mg/l
1.	Borewell-15, (IAF, within premises of the unit)	16.02.23	Colorless	Odour less	7.30	725.0	435.0	270.0	145.0	125.0	-
2.	Handpump labour colony IAF	16.02.23	Colorless	Odour less	7.34	620.0	372.0	192.0	144.0	48.0	-
	Standards BIS-10500	—	Colorless	**Odour less**	6.5-8.5	-	300-500	-300-600	75-200	30-100	-

The monitored values of groundwater are complying with the notified/prescribed standards.

Air Pollution :

One boiler of 4 TPH is installed. During inspection the boiler was in operation and emissions are channelized through stack of height 30 mts. Portholes and sampling platforms are provided.

Conclusion:

- The Unit should ensure that the treated waste water is discharged as per prescribed standards on continuous basis.
- The monitored values of groundwater are complying with the notified/prescribed standards.
- Unit should install mechanical screens at inlet.
- The unit shall carry out the calibration of OCEMS on regular basis.

- The unit shall follow the Guidelines for Utilization of Treated Effluent in Irrigation, which are available on the website of CPCB at the web-link https://cpcb.nic.in/NGT/Guidelines-UTE-Irrigation.pdf
- The unit shall own up the responsibility of regular cleaning of Dasna drain adjacent to the unit.

2. Details about the Unit i.e. M/s. Al-Nasir Export, Khasra No. 2761, 2762, Bhoorgarhi, Dasna, Ghaziabad.

The unit has infrastructure for production of frozen boneless buffalo meat, poultry feed supplement (PFS), tallow and blood meal. UPPCB has granted Consent for slaughtering of 200 big animals (buffalos) and Goats -100per day and frozen meat production of 50 MT/day. All the processes were found in operation. The details of the unit are as follow:

General Information		
1.	Raw material	Live Buffaloes
2.	Consented production capacity for Products/By-products	Frozen meat – 50 MT/Day MBM- 11 MT/day Tallow- 4 MT/day
3.	Consented/present slaughtering	Consented slaughtering capacity – 200 buffaloes/day and 100 Goats/day. On the day of inspection, slaughtering of about 200 buffaloes were going on.
Information pertaining to water consumption and wastewater generation		
4.	Freshwater source & consumption (kl/day)	02 nos. of bore wells provided with Electromagnet flow meters of capacity 7.5 HP, and 2 HP As per records maintained by the Unit, the raw water consumption details are as follow : Average groundwater extraction in the month of January 2023 has been recorded as 224 KL/day which includes water for domestic purposes.
5.	Type of flow meter(s)	Electromagnet flow meters installed on both bore wells.

6.	Flow meter Reading (s)	Bore well 1- Total flow - 48011 m^3 (Totalizer reading) Bore well 2 – Total Flow - 5030 m^3 (Totalizer reading)
7.	Status of NOC from CGWA for ground water extraction	NOC granted from UPGWD. Borewel-1 (2 HP) up to 10.11.2023 and Borewell-2 (7.5HP) up to 31.11.2026 for 1,32,000 m3/year abstraction of ground water. *Annexure -VI*
8.	Consented wastewater discharge (KLD)	Industrial – 200 KLD Domestic – 4 KLD As per industry representative and record submitted by the industry treated effluent is not being discharged in any drain. The treated effluent generated by the industry is being used in gardening, washing, cooling towers, sprinkling on Road and used for irrigation as per CPCB guidelines.
9.	Consent Status under the Water Act, 1974	The Unit has consent with validity up to 31.12.2024. *Annexure VII*
10.	Status of OCEMS	The unit has installed OCEMS for all the requisite parameters i.e. pH, TSS, BOD, COD and Flow and connected to CPCB and UPPCB server. On the day of inspection the OCEMS was found in operation and parameters were found within the prescribed norms.
11.	ETP details	The Unit has installed ETP with hydraulic treatment capacity of 1000 KLD based on two stages Activated Sludge Process. ETP is comprised of primary treatment and secondary treatment followed by tertiary treatment. The unit comprises Receiving Tank, Rotary Fiber Screen, Equalization Tank-1, DAF system, Equalization Tank-2, Flash Mixing Tank, Primary Clarifier, Aeration Tank-1, Secondary Clarifier-1, Aeration Tank-2, Secondary Clarifier-II, Polishing

		Tank, MGF, Activated Carbon Filter, Digital Flow meter, OCEMS, Treated water storage tank(900kl), Karnal techonolgy supply pump, Filter Press & Sludge drying beds, Volute Sludge Dewatering System etc., etc. The unit has installed Blood Meal Plant with blood pump, screw pump and agitator (Blood coagulator).
12.	Quantification of effluent generation	As per record of ETP logbook provided by the unit, the average quantity of treated wastewater in the month of January & February is 169 KLD. *Annexure-VII*
13.	Mode of Effluent disposal	Treated effluent is conveyed through underground pipeline to irrigate their own developed plantation (Eucalyptus) using karnal technology over an area of 8840 sq meter. Treated effluent is also being used in washing, cooling towers and water sprinkling on roads. The effluent is not being discharged in to the drain.
14.	Odour Control	The Unit has provided bio-filters to suppress the odour from rendering plant, additional high presser misting system with 5 fan.
Information pertaining to Air Pollution		
15.	Source of Air Pollution, details of fuel and status of APCDs	The Unit has Two boiler of capacity 6 T/hr, One Boiler standby. Bio Mass are used as fuels in the boiler. Multi-cyclone dust collector and wet scrubber system is installed with boiler as Air Pollution Control Devices (APCDs). Flue gases are discharged into the ambient air through a common stack of 30 meters height. OCEMS has been installed on the stack for monitoring of emissions which was found operational during inspection and showed the parameters within the prescribed norms

		The Unit has provided 03 DG Sets with following details:	
		DG sets Capacity (KVA)	**Acoustic Enclosures (Y/N)**
		1010 (KVA) X 2	Yes
		500 (KVA) X 1	Yes
16.	Consent status under the Air Act, 1981	The Unit has consent with validity up to 31.12.2024.	
Information pertaining to ETP sludge and other solid waste			
17.	Quantity of ETP sludge	As per records provided by the unit, average sludge generation was 0.08 MTD.	
18.	Nature of waste	Organic	
19.	Facility for storage/ disposal /treatment	Storage area has been provided for ETP sludge and other wastes. The Unit informed that the ETP sludge is sold as manure	

Observation:

i. During inspection, the Unit was found in operation. Slaughtering of about 200 buffaloes were in process as against the consented slaughtering of 200 big animals (buffalos) and Goats -100per day. The requirement of fresh water was met through Bore wells.

ii. The Unit has provided one treated effluent storage tank and sludge drying beds (6 nos.) for drying the sludge generated from primary and secondary treatment.

iii. The Unit has provided OCEMS for the parameters, namely, pH, TSS, BOD & COD at final outlet of ETP and it was found operational during the visit and parameters were found within the prescribed limit (values of OCEMS pH (7.30), TSS(24.3mg/l), BOD(16.4mg/l), COD(154.4mg/l).

iv. The Unit has provided septic tank followed by soak-pit for treating domestic effluent. Adequate space (room) for storage & preservation of hides has been provided.

v. The Unit has provided underground piping network for conveyance / discharge of treated effluents for utilization of their own premises (approx. 8840 sq meter) for plant-irrigation. During inspection, no effluent was observed being discharged from the unit.

vi. The unit is having a valid consent under the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution), Act, 1981 till 31.12.2024.

vii. Both the equalization tanks, are equipped with mixing arrangement through diffused aeration system.

viii. The Unit uses food grade coagulant and poly electrolyte for treatment of effluent before subjecting the effluent to biological treatment through activated sludge process.

ix. Aeration tanks used for biological treatment are provided with diffused aeration system. Air is supplied with help of two blowers (01 blowers of 40 HP and 01 blowers of 25 HP). Copy of adequacy report of treatment plant is annexed as *Annexure IX*.

x. The unit has submitted irrigation management plan for utilization of treated effluent from Chandra Shekhar Azad University of Agriculture & Technology, Kanpur. *Annexure X*

xi. The unit has installed Rendering Plant of capacity 16 Ton/batch (dry process) which is operated for 3 - 4 batches every day.

xii. Unit has installed bio filter for treatment of fumes generated from cookers used in rendering plant. Arrangements are made for collection of fumes generated from cookers and their channelization through bio-filter.

xiii. Dedicated hides storage area is provided.

xiv. DG sets were provided with stacks as well acoustic enclosure. Stack height of each DG set has been found to be 5 meter above Roof Level.

xv. Ammonia Plant is equipped with water sprinkling and alarm system to control the leakage for safety purpose.

Water Pollution:

During inspection, all ETP units were found in operation. In order to monitor the compliance status of treated waste water, grab samples were collected from inlet, Equalization Tank, Aeration Tanks and outlet of ETP. The analysis results are presented below:

Sampling Locations	Parameters					
	pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	O&G (mg/l)	MLSS (mg/l)
ETP inlet	7.0	3382	2346	3144	-	-
Aeration Tank-1	-	-	-	-	-	2300
Aeration Tank-2	-	-	-	-	-	2200
ETP Final outlet	7.4	42.0	24.0	80.0	6.8	-
Notified Standard	6.5-8.5	50	30	250	10	-

The monitored values at the ETP outlet are complying with the notified/prescribed standards.

To investigate the ground water quality around the unit, samples of ground water from the industry and around the industrial unit were collected for analysis. The analysis results are presented below:

S. No	Name of the source & address	Date of collection	Colour	Odour	pH	Condμ mhos /cm	T.D.S mg/l	Hard mg/l	Ca. Hard mg/l	Mg. Hard mg/l	Chloride mg/l	Alkalinity mg/l
1.	Borewell,-7.5 HP, within premises of the unit	16.02.2023	Colorless	odourless	7.40	861.0	516.0	374.4	153.2	221.2	-	-
2.	Hand Pump of labour colony,	16.02.2023	Colorless	odourless	7.50	1022.0	613.2	361.6	197.0	164.6	-	-
	Standards BIS-10500	**----**	**Colourless**	**Odourless**	6.5-8.5	-	500-2000	-200-600	75-200	30-100	-	-

The monitored values of groundwater are complying with the notified/prescribed standards.

Air Pollution:

Two boiler of 6 TPH is installed (One Boiler Standby). During inspection the boiler was in operation and emissions are channelized through stacks of height 30 mts. Portholes and sampling platforms are provided.

During the inspection, samples of up-stream and down-stream of Bhurgarhi drain located near the said industries were collected. Bhoorghari drain analysis results are presented below:-

S. No.	Collection Point	Date of collection	Colour	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)
1.	Up Stream bhoorghari drain	16.02.2023	Greyish	7.2	70.0	132.0	116.0
2.	Down Stream bhoorghari drain	16.02.2023	Brownish	7.1	52.0	140.0	123.0

Conclusion:

a. The Unit should ensure that the treated waste water is discharged as per prescribed standards on continuous basis.

b. The monitored values of groundwater are complying with the notified/prescribed standards

c. Unit should install mechanical screens at inlet.

d. The unit shall carry out the calibration of OCEMS on regular basis.

e. The unit shall follow the Guidelines for Utilization of Treated Effluent in Irrigation, which are available on the website of CPCB at the web-link https://cpcb.nic.in/NGT/Guidelines-UTE-Irrigation.pdf

(Kishan Singh)	(Abdul Muteen)	(Utsav Sharma)	(Bipin Kumar)
Asst. Env.Engineer	Scientist 'B'	Regional Officer	ADM (City)
UPPCB, Ghaziabad	CPCB, Delhi	UPPCB, Ghaziabad	Ghaziabad

Annexure - I

GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

Form 8 (C)

AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC018494

VALID FROM 19/06/2021 TO 18/06/2026

Name of the Applicant	RAVEED AHAMED QURESHI		
Address of the Applicant:	14/322, SECTOR-14, VASUNDHARA, GHAZIABAD, UP -		
Company Name:	INTERNATIONAL AGRO FOODS	**Company Address**	2764, 2765, 2766, BHOOR GARHI, DASNA, GHAZIABAD
Serial No. of Application Form	GZBD0221NIN0080	**Date of Submission**	11/02/2021
Specimen Signature of the User:			
Location particulars:			
District	Ghaziabad	**Block**	RAJAPUR
Plot No.	2764, 2765, 2766		
Municipality/Corporation	BHOOR GARHI, DASNA GHAZIABAD	**Ward No.**	201015
Holding No.			201015
Rate of Withdrawal (m^3/hr.)	96.00	**Date of Energization (In Case of Electric Pump)**	20/01/2015
Particular of the Existing Well and Pumping Device			
Type of the Well	Tube Well/Boring	**Purpose of the Well**	Industrial
Assembly Size (For Tube Well)	0.00	**Approx. Strainer Length (For Tube Well)**	0.00
Diameter (For Dug Well)	0.00	**Type of Pump to be Used:**	Submersible
H.P. of the Pump:	15.00	**Operational Device**	Electric Motor
Maximum Allowable Rate of Withdrawal (m^3/hr.):	96.00	**Maximum Allowable Running Hours Per Day:**	8.00
Maximum Allowable Annual Extraction of Ground Water:			230400

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.

- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

  Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

  - The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
  - The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
  - No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

S.No	Quantum of Ground water withdrawal (cum/day)	No.of piezometers required	Monitiring Mechanism	
			Manual	DWLR with Telemetry
1	< 10	0	0	0
2	11 - 50	1	1	0
3	50- 500	1	0	1
4	> 500	2	0	2

  - The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
  - For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
  - The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
  - All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
  - The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
  - A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
  - Any other site specific requirement regarding safety and access for measurement may be taken care of.
- Any other condition(s) that may be imposed by the concerned Authority.
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
-

SPECIFIC CONDITIONS:

- **(A) For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.

17

- iii) All industries abstracting ground water in excess of 100 m^3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m^3 /day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
-
- **(B) Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m^3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date :**02/03/2022**

Place:**Ghaziabad**

This certificate is electronically generated and does not require digital signature

GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

Form 8 (C)

AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF NEW / EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER

[Under Section 14 of the Uttar Pradesh Ground Water Management and Regulation Act, 2019.]

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: NOC037723

VALID FROM 19/06/2021 TO 18/06/2026

Name of the Applicant	RAVEED AHAMED QURESHI		
Address of the Applicant:	14/322, SECTOR-14, VASUNDHARA, GHAZIABAD, UP -		
Company Name:	INTERNATIONAL AGRO FOODS	**Company Address**	2764, 2765, 2766, BHOOR GARHI, DASNA, GHAZIABAD
Serial No. of Application Form	GZBD0221NIN0081	**Date of Submission**	11/02/2021
Specimen Signature of the User:			

Location particulars:

District	Ghaziabad	**Block**	RAJAPUR
Plot No.	2764, 2765, 2766		
Municipality/Corporation	BHOOR GARHI, DASNA GHAZIABAD	**Ward No.**	201015
Holding No.			201015
Rate of Withdrawal (m^3/hr.)	6.00	**Date of Energization (In Case of Electric Pump)**	24/01/2015

Particular of the Existing Well and Pumping Device

Type of the Well	Tube Well/Boring	**Purpose of the Well**	Industrial
Assembly Size (For Tube Well)	0.00	**Approx. Strainer Length (For Tube Well)**	0.00
Diameter (For Dug Well)	0.00	**Type of Pump to be Used:**	Submersible
H.P. of the Pump:	1.50	**Operational Device**	Electric Motor
Maximum Allowable Rate of Withdrawal (m^3/hr.):	6.00	**Maximum Allowable Running Hours Per Day:**	1.00
Maximum Allowable Annual Extraction of Ground Water:			1800

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

GENERAL CONDITIONS:

- In case of any change of ownership of the proposed well, fresh authorization has to be obtained.

- No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization
- For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters (conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands
- In case of any change of ownership of the existing well, fresh registration has to be obtained.
- No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage , this registration is liable for cancellation.
- The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis
- **Guidelines for Installation of Piezometers and their Monitoring**

  Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing when ever needed. General guidelines for installation of piezometers are as follows:

  - The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
  - The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
  - No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

S.No	Quantum of Ground water withdrawal (cum/day)	No.of piezometers required	Monitiring Mechanism	
			Manual	DWLR with Telemetry
1	< 10	0	0	0
2	11 - 50	1	1	0
3	50- 500	1	0	1
4	> 500	2	0	2

  - The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
  - For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
  - The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
  - All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
  - The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
  - A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
  - Any other site specific requirement regarding safety and access for measurement may be taken care of.
- Any other condition(s) that may be imposed by the concerned Authority.
- In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.

SPECIFIC CONDITIONS:

- **(A) For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.

20

- iii) All industries abstracting ground water in excess of 100 m^3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m^3 /day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
-
- **(B) Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m^3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc

Date :**17/02/2022**

Place:**Ghaziabad**

This certificate is electronically generated and does not require digital signature

Annexure – II

U.P. Pollution Control Board

CONSENT ORDER

Ref No. -
73099/UPPCB/Ghaziabad(UPPCBRO)/CTO/water/GHAZIABAD/2019

Dated : 31/03/2020

To ,

Shri JAVED YASIN QURESHI
M/s INTERNATIONAL AGRO FOODS
Khasra No. 2764, 2765, 2766, Village-Bhoor Garhi, Dasna, Ghaziabad.,GHAZIABAD,201015
GHAZIABAD

Sub : Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974 (as amended) for discharge of effluent to M/s. INTERNATIONAL AGRO FOODS

Reference Application No :6481187 **Dated :31/03/2020**

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act,1974 as amended (here in after referred as the act) M/s. INTERNATIONAL AGRO FOODS is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tant/soak pit subject to general and special conditions mentioned in the annexure ,in refrence to their foresaid application .
2. This consent is valid for the period from 01/01/2020 to 31/12/2024 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Previntion and Controt of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

Ashok Kumar Tiwari Digitally signed by Ashok Kumar Tiwari Date: 2020.03.31 17:01:32 +05'30'

For and on behalf of U.P. Pollution Control Board

C.E.O
C-1.

Enclosed : As above
(condition of consent):

Copy to: 1- G.M ,Agricultural & Processed Food Products Export Development Authority(APEDA)(Ministry of Commerce & Industry, Govt. of India) 3rd Floor, NCUI Building, 3 Siri Institutional Area,August Kranti Marg, (Opp. Asiad Village), New Delhi - 110 016
2-District Magistrate, Ghaziabad.
3-Regional Officer ,U.P.Pollution Control Board, Ghaziabad.

Ashok Kumar Tiwari Digitally signed by Ashok Kumar Tiwari Date: 2020.03.31 17:02:55 +05'30'

C.E.O
C-1.

U.P. POLLUTION CONTROL BOARD, LUCKNOW

Annexure to Consent issued to M/s.INTERNATIONAL AGRO FOODS vide

Consent Order No. 6481187/ Water Dated : 31/03/2020

CONDITIONS OF CONSENT

1. This consent is valid for the approved maximum slaughtering capacity Slaughtering of 750 buffaloes per day and producing Frozen Meat-98 MT/Day, MBM-29.4 MT/Day, Tallow-9.8 MT/Day, Blood Meal-1.125 MT/Day per day.
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
3. The unit should follow the various provisions of "REVISED COMPREHENSIVE INDUSTRY DOCUMENT ON SLAUGHTER HOUSES" issued by Central pollution Control Board in October 2017.
4. The slaughter house will follow the various provisions of rules and regulations as mentioned in the " Compendium of Indian Standards on Slaughter House".
5. The slaughtering of the cow & its progeny is not permitted under any circumstances.
6. The industry should strictly follow the various Acts & guidelines mentioned in the compendium compiled in compliance of the Hon'ble Supreme Court order dated 17-02-2017 in the matter of W.P.(Civil) No. 330/2001, Common Cause V/s Govt. of India, W.P. No. 44/2004, contempt petition 124/2015 annexed with W.P. (Civil) No. 309/2003 Laxmi Narayan Modi V/s Govt. of India and ors.
7. The industry should provide the linkage of the CCTV cameras installed at the entry points, lairage and meat processing unit to the DM office and on the public portal. It will be the responsibility of the industry to comply with the various conditions of the permission taken from local administration or any other government department.
8. The quantity of maximum daily effluent discharge should not be more than the following :

Effluent Discharge Details			
S.No	**Kind of Effulant**	**Maximum daily discharge,KL/day**	**Treatment facility and discharge point**
1	Domestic	12 KLD	Septic Tank
2	Industrial	500 KLD	ETP

9. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. The treated domestic and industrial effluent if discharged outside the premises, if meets at the end of final discharge point, arrangement should be made for measurement of effluent and for collecting its sample. Except the effluent informed in the application for consent no other effluent should enter in the said arrangements for collection of effluent. It should also be ensured that domestic effluent should not be discharged in storm water drain.

9(a) The domestic effluent should be treated in treatment plant so that the should be in conformity with the following norms dated treated effluent .

Domestic Effulant		
S.No	**Parameter**	**Standard**
1	Quantity of Discharge	12 KLD
2	Total Suspended Solids	As per E.P Rules 1986
3	BOD	As per E.P Rules 1986
4	COD	As per E.P Rules 1986
5	Oil & Grease	As per E.P Rules 1986

9(b) The industrial effluent should be treated in treatment plant so that the treated effluent should be in conformity with the following norms. .

Industrial Effulant		
S.No	**Parameter**	**Standard**
1	Total Suspended Solids	As per E.P Rules 1986
2	BOD	As per E.P Rules 1986
3	COD	As per E.P Rules 1986
4	Oil & Grease	As per E.P Rules 1986
5	Quantity of Discharge	500 KLD

10. Effluent generated in all the processes, bleed water, cooling effluent and the effluent generated from washing of floor and equipments etc should be treated before its disposal with treated industrial effluent so that it should be according to the norms prescribed under The Environment (Protection) Rules, 1986 or otherwise mandatory.
11. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/ standards prescribed under the Environment (Protection) Act, 1986.
12. The industry will have to ensure compliance of the permission from the CGWA before ground water extraction and it will be the responsibility of the industry to comply with the various conditions of the permission taken.
13. The industry shall submit Environmental Statement in prescribed form V rule no.14 of E.P Rules 1986.
14. The industry shall comply with various provisions of Air (Prevention and Control of Pollution) Act 1981 as amended, Water (Prevention and Control of Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act 1986.
15. Minimum 33% of the land on which unit is established will be covered and properly maintained by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/02/2018. The copy of this guideline is available at URL http://www.uppcb.com/pdf/Green-Belt-Guidle_160218.pdf.
16. The industry will ensure the continuous and uninterrupted data supply from the OCEEMS to the CPCB and SPCB.
17. Flow meter to be installed in all water abstraction points and usage of fresh water to be minimized. The unit will ensure facility to transmit data to CPCB server and submit a regular calibration certificate of Electro Magnetic Flow meter to the Board.
18. If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective with additional conditions mentioned in the closure revocation order.
19. Industry shall abide by the directions given by Hon'ble Court, Central Pollution Control Board and UPPCB for protection and safe guard of environment from time to time.

Specific Conditions:

1- This consent is subject to the orders given by the Hon'ble NGT in O.A. No-467/2019 (in caveat no-06/2019) Asim Vs M/s International Agro Foods & Ors.
2- All the slaughtered meat produced by slaughter house shall be supplied to its integrated frozen meat unit i.e. M/s International Agro Foods, Khasra No-2764, 2765, 2766, Vill-Bhoorgarhi, Dasna, Ghaziabad. The prior permission from U.P. Pollution Control Board is required if the slaughtered meat is to be given to other frozen meat unit for processing.
3- The industry shall submit quarterly monitoring reports of treated effluent from a certified / approved laboratory under E.P. Act 1986.
4- The industry shall ensure deployment of qualified to step up self monitoring mechanism on 24 ×7 hours basis.
5- The industry shall implement treated effluent flow distribution measurement for irrigation purposes completely in accordance with irrigation plan & its impact.
6- The impact of treated effluent application on land is to be included further in E.I.A. studies involving ground water monitoring point identified in close proximity to the unit.
7- E.I.A. studies shall include comprehensive study of water & waste water balance in addition to the adequacy studies of E.T.P. relating to pollution load reduction impacts after implementation of treatment technology & discharge of treated effluent completely for irrigation purposes in place of discharge on surface water body.
8- The industry shall deploy self monitoring task force to strictly observe & monitor treated effluent discharge restriction on surface water body located in its proximity.
9- The industry shall also explore treated effluent Re-cycle mechanism in furtherance to the application of treated effluent on land as a significant alternative mode of re-cycle. This step shall in turn reduce hydraulic loading of effluent discharge as well as shall eliminate extraneous treated effluent discharge possibility elsewhere.
10- The industry shall use the brine solution or de-freezing in the place of salt to preserve the raw hides to reduce the TDS in the effluent.
11- The industry shall obtain prior consents in the event of any addition or alteration of existing effluent treatment or discharge mode or any addition or alteration of new emission generation sources such as - Boiler/Furnace/Heaters/D.G. Sets in accordance with section- 25/26 of water act 1974 & section 21/22 of air Act 1981 (as amended respectively)
12- The solid waste generated from the industry should be disposed in such a manner that it does not pollute ground water, river or any other surface water body source.
13- The E.T.P. installed in the factory should be maintained and operated in such a manner that treated effluent always conforms to the standard laid down by the board.
14- The industry should appoint skilled and qualified persons to operate the ETP.
15- The flow meter should be installed
16- The ground water samples of the hand pumps near the industry should be got tested on a quarterly basis and the report of the same should be submitted to the board.
17- The industry should follow the Karnal Technology for the disposal of treated effluent and under no circumstance the water waste of the industry should reach any surface water body.
18- The industry should submit the EIA study report in triplicate after the compilation of the same.
19- The industry shall submit the point wise compliance report of the conditions imposed in the CTO issued by the Board for year 2019 and audited balance sheet for the current year and the details of fees deposited during last three years within a month otherwise this CTO may be revoked.
20- If the CPCB or UPPCB issues the Closure order against the industry this consent order stands automatically suspended for that period.
21- This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/process/fuel/Plant machinery failing which consent would be deemed void.
22- The solid waste generated from the industry should be disposed in such a manner that it does not pollute ground water, river or any other surface water body source.
23- The E.T.P. installed in the factory should be maintained and operated in such a manner that treated effluent always conforms to the standard laid down under the E.P Act 1986 as amended.
24- The industry shall maintain strict supervision upon fluctuations in operating parameters with respect to each treatment unit and shall ensure deployment of qualified to step up self-monitoring mechanism on 24 ×7 Hours basis.
25- The ground water samples of the hand pumps near the industry should be got tested on a quarterly basis and the report of the same should be submitted to the Board.
26- The industry shall use the brine solution or de freezing in the place of salt to preserve the raw hides to reduce the TDS in the effluent.
27- The flow meter should be installed at inlet of Kernel Technology and log book should be maintained.
28- The industry shall follow the guidelines for the utilization of treated effluent in irrigation, which

are available on the website of CPCB at the web link http://cpcb.nic.in/NGT/Guidelines-UTE-irrigation.pdf

29- The industry shall install DAF (Dissolved air flotation) system in addition with the existing E.T.P within a month.

30- The industry shall modify anaerobic digester and install burners for burning waste gasses.

31- The industry shall comply with the affidavit dt. 18-01-2020 regarding zero effluent discharge into Dasna drain.

32- The industry should submit the irrigation plan approved or authenticated by the reputed Agricultural University.

Ashok Kumar Tiwari Digitally signed by Ashok Kumar Tiwari Date: 2020.03.31 17:03:49 +05'30'

Issued with the permission of competent authority .

For and on behalf of U.P. Pollution Control Board .

C.E.O

C-1.

U.P. Pollution Control Board

CONSENT ORDER

Ref No. -
72863/UPPCB/Ghaziabad(UPPCBRO)/CTO/air/GHAZIABAD/2019

Dated : 31/03/2020

To ,

Shri JAVED YASIN QURESHI
M/s INTERNATIONAL AGRO FOODS
Khasra No. 2764, 2765, 2766, Village-Bhoor Garhi, Dasna, Ghaziabad.,GHAZIABAD,201015
GHAZIABAD

Sub : Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. INTERNATIONAL AGRO FOODS

Reference Application No. 6467826 Dated : 31/03/2020

1. With reference to the application for consent for emission of air pollutants from the plant of M/s INTERNATIONAL AGRO FOODS. under Air Act 1981. It is being authorised for said emissions, as per the standards, in environment, by the Board as per enclosed conditions .
2. This consent is valid for the period from 01/01/2020 to 31/12/2024 .
3. Inspite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 21 (6) of the Air (Previntion and Controt of Pollution) Act, 1981 as amended.

This consent is being issued with the permission of competent authority .

Ashok Kumar Tiwari
Digitally signed by Ashok Kumar Tiwari
Date: 2020.03.31 17:09:26 +05'30'

For and on behalf of U.P. Pollution Control Board

CEO
C-1.

Enclosed : As above
(condition of consent):

Copy to: 1- G.M ,Agricultural & Processed Food Products Export Development Authority(APEDA)(Ministry of Commerce & Industry, Govt. of India) 3rd Floor, NCUI Building, 3 Siri Institutional Area,August Kranti Marg, (Opp. Asiad Village), New Delhi - 110 016
2-District Magistrate, Ghaziabad.
3-Regional Officer ,U.P.Pollution Control Board, Ghaziabad.

Ashok Kumar Tiwari
Digitally signed by Ashok Kumar Tiwari
Date: 2020.03.31 17:10:53 +05'30'

CEO
C-1.

27

U.P. Pollution Control Board

Dated : 31/03/2020

CONDITIONS OF CONSENT

1. This consent is valid for the approved maximum slaughtering capacity Slaughtering of 750 buffaloes per day and Frozen Meat-98 MT/Day, MBM-29.4 MT/Day, Tallow-9.8 MT/Day, Blood Meal-1.125 MT/Day Buffalos per day.
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
3. The unit should follow the various provisions of "REVISED COMPREHENSIVE INDUSTRY DOCUMENT ON SLAUGHTER HOUSES" issued by Central pollution Control Board in October 2017.
4. The slaughtering of the cow & its progeny is not permitted under any circumstances.
5. The slaughter house will follow the various provisions of rules and regulations as mentioned in the "Compendium of Indian Standards on Slaughter House".

6(a) The maximum rate of emission of flue gas should not be more than the emission norms for the stacks.

6(b) Air Pollution Source Details.

Air Pollution Source Details					
S.No	**Air Polution Source**	**Type of Fuel**	**Stack No.**	**Parameters**	**Height**
1	4 TPH Boiler	Wood	1	Particulate Matter	30 mt.stack from G.L
2	D.G Set 600 KVA	H.S.D	2	Sulphur Dioxide	minimum 5 mt . from the nearest roof
3	D.G Set 500 KVA	H.S.D	3	Sulphur Dioxide	minimum 4.5 mt . from the nearest roof
4	D.G Set 1000 KVA	H.S.D	4	Sulphur Dioxide	minimum 6.5 mt . from the nearest roof

6(c) The emissions by various stacks into the environment should be as per the norms of the Board .

Emission Quality Details Detail			
S.No	**Stack No**	**Parameter**	**Standard**
1	1	Particulate Matter	As per E.P Rules 1986
2	2	Sulphur Dioxide	As per E.P Rules 1986
3	3	Sulphur Dioxide	As per E.P Rules 1986
4	4	Sulphur Dioxide	As per E.P Rules 1986

7. The industry should be operated in such a manner that it does not adversely affect the environment and the solid waste generated such as ash etc. is disposed in eco friendly manner .
8. Any source of emission other than that mentioned in the Air consent seeking application will not be permitted by the Board .
9. The industry should ensure the operation of the air pollution control system (APCS) in such a manner that the air emission confirms with the standards prescribed under the E.P Act 1986 as amended.

10. The industry shall submit Environmental Statement in prescribed format as per rule no.14 as per E.P Rules 1986 .
11. The industry shall abide by orders / directions issued by Hon'ble Supreme court Hon'ble High Court, Hon'ble National Green tribunal, Central Pollution Control Board and U.P Pollution Control Board for protection and safe guard of environment from time to time .
12. Industry shall submit monthly monitoring reports of all stacks and ambient air quality from a certified / approved laboratory under E.P. Act 1986 .
13. The industry shall comply with various provisions of Air (Prevention and Control of Pollution) Act 1981 as amended, Water (Prevention and Control of Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act 1986.
14. The industry will ensure the continuous and uninterrupted data supply from the OCEEMS to the CPCB and SPCB .
15. The unit shall submit audited balance sheet for the current year and the details of fees deposited during last three years within a month failing which consent would be deemed void.
16. The use of Pet coke and Furnace oil as a fuel in the factory is restricted in compliance of the Hon'ble Supreme court order .
17. The Industry will use minimum 20% Bio Briquette as fuel in the Boiler depending upon its availability .
18. The industry shall obtain prior consents in the event of any addition of new emission generation sources such as- Boiler/ Furnace/ Heaters/ D.G. Sets or alteration of existing emission sources in accordance with section- 21/22 of air Act 1981 (as amended respectively).
19. Minimum 33% of the land on which industry is established will be covered and properly maintained by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/02/2018. The copy of this guideline is available at URL http://www. uppcb. com /pdf/Green-Belt-Guidle_160218.pdf .
20. If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective with additional conditions mentioned in the closure revocation order .
21. Industry shall abide by the directions given by Hon'ble Court, Central Pollution Control Board and UPPCB for protection and safe guard of environment from time to time .

Specific Conditions:

1- This consent is subject to the orders given by the Hon'ble NGT in O.A. No-467/2019 (in caveat no-06/2019) Asim Vs M/s International Agro Foods & Ors.
2- All the slaughtered meat produced by slaughter house shall be supplied to its integrated frozen meat unit i.e. M/s International Agro Foods, Khasra No-2764, 2765, 2766, Vill-Bhoorgarhi, Dasna, Ghaziabad. The prior permission from U.P. Pollution Control Board is required if the slaughtered meat is to be given to other frozen meat unit for processing.
3- The industry shall submit the point wise compliance report of the conditions imposed in the CTO issued by the Board for year 2019 and audited balance sheet for the current year and the details of fees deposited during last three years within a month otherwise this CTO may be revoked.
4- The industry should follow the directions issued by the Chief Secretary vide letter no.760/Nau-8-2017-29J/2017 dated 22/03/2017 and the direction issued by the Principal Secretary, Nagar Vikas vide letter No. 3710/Nau-8-2017-2 CS/12 TS dated 07 July, 2017.
5- The industry should strictly follow the various Acts & guidelines mentioned in the compendium compiled in compliance of the Hon'ble Supreme Court order dated 17-02-2017 in the matter of W.P.(Civil) No. 330/2001, Common Cause V/s Govt. of India, W.P. No. 44/2004, contempt petition 124/2015 annexed with W.P. (Civil) No. 309/2003 Laxmi Narayan Modi V/s Govt. of India and ors.
6- No change in capacity or new source of emission will be added by the company without the prior permission of the board.
7- The industry should provide the linkage of the CCTV cameras installed at the entry points, lairage, and meat processing unit to the DM office and on the public portal..
8- The solid waste generated from the industry should be disposed in such a manner that it does not pollute ground water, river or any other surface water body source.
9- The ground water samples of the hand pumps near the industry should be got tested on a quarterly basis and the report of the same should be submitted to the Board.
10- This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/process/fuel/Plant machinery failing which consent would be deemed void.
11- The solid waste generated from the industry should be disposed in such a manner that it does not pollute ground water, river or any other surface water body source.

Ashok Kumar Tiwari
Digitally signed by Ashok Kumar Tiwari
Date: 2020.03.31 17:12:05 +05'30'

Issued with the permission of competent authority .

For and on behalf of U.P. Pollution Control Board .

CEO
C-1.

Annexure – III

INTERNATIONAL AGRO FOODS

DASNA ,GHAZIABAD(U.P.)

TREATED WATER RECORD OUT LET

MONTH: February -> 2023

S. No.	Date	Time	Initial Reading	Final Reading	Discharge (m³)/day	Discharge in (Ltr.)/day
01	01/02/2023	10:00Am	710365.35	710775.28	410	4,10,000
02	02/02/2023	10:00 Am	710775.28	711245.42	470	4,70,000
03	03/02/2023	10:00Am	–	–	–	–
04	04/02/2023	10:00Am	711245.42	711710.63	465	4,65,000
05	05/02/2023	10:00 Am	711710.63	712136.82	426	4,26,000
06	06/02/2023	10:00 Am	712136.82	712526.34	390	3,90,000
07	07/02/2023	10:00 Am	712526.34	712941.52	412	4,12,000
8	08/02/2023	10:00 Am	712941.52	713345.41	404	4,04,000
09	09/02/2023	10:00 Am	713345.41	713816.64	471	4,71,000
10	10/02/2023	10:00 Am	–	–	–	–
11	11/02/2023	10:00 Am	713816.64	714272.38	456	4,56,000
12	12/02/2023	10:00Am	714272.38	714695.55	423	4,23,000
13	13/02/2023	10:00Am	714695.55	715100.26	405	4,05,000
14	14/02/2023	10:00 Am	715100.26	715512.43	412	4,12,000
15	15/02/2023	10:00Am	715512.43	715910.38	398	3,98,000
16	16/02/2023	10:00 Am	715910.38			
G. Total						

INTERNATIONAL AGRO FOODS

DASNA ,GHAZIABAD(U.P.)

TREATED WATER RECORD

MONTH: January -> 2023

S. No.	Date	Time	Initial Reading	Final Reading	Discharge (m^3)/day	Discharge in (Ltr.)/day
01	01/01/2023	10:00 AM	699192.52	699617.26	425	4,25,000
02	02/01/2023	10:00 AM	699617.26	700024.45	407	4,07,000
03	03/01/2023	10:00 AM	700024.45	700455.38	431	4,31,000
04	04/01/2023	10:00 AM	700455.38	700852.62	397	3,97,000
05	05/01/2023	10:00 AM	700852.62	701303.25	478	4,78,000
06	06/01/2023	10:00 AM	—	—	—	—
07	07/01/2023	10:00 AM	701303.25	701770.34	467	4,67,000
08	08/01/2023	10:00 AM	701770.34	702198.51	428	4,28,000
09	09/01/2023	10:00 AM	702198.51	702600.44	402	4,02,000
10	10/01/2023	10:00AM	702600.44	703032.96	432	4,32,000
11	11/01/2023	10:00 AM	703032.96	703441.73	409	4,09,000
12	12/01/2023	10:00 AM	703441.73	703902.35	461	4,61,000
13	13/01/2023	10:00AM	—	—	—	—
14	14/01/2023	10:00AM	703902.35	704375.62	473	4,73,000
15	15/01/2023	10:00AM	704375.62	704808.29	433	4,33,000
16	16/01/2023	10:00 AM	704808.29	705204.86	396	3,96,000
17	17/01/2023	10:00 AM	705204.86	705627.29	423	4,23,000
18	18/01/2023	10:00AM	705827.29	706035.42	408	4,08,000
19	19/01/2023	10:00 AM	706035.42	706515.62	470	4,70,000
20	20/01/2023	10:00 AM	—	—	—	—
21	21/01/2023	10:00 AM	706515.62	706972.39	467	4,67,000
22	22/01/2023	10:00 AM	706972.39	707402.45	430	4,30,000
23	23/01/2023	10:00 PM	707402.45	707805.27	403	4,03,000
24	24/01/2023	10:00 AM	707805.27	708231.64	426	4,26,000
25	25/01/2023	10:00AM	708231.64	708631.35	400	4,00,000
26	26/01/2023	10:00 AM	Republic	day	—	—
27	27/01/2023	10:00 AM	—	—	—	—
28	28/01/2023	10:00 AM	708631.35	709106.53	475	4,75,000
29	29/01/2023	10:00 AM	709106.53	709535.48	429	4,29,000
30	30/01/2023	10:00 AM	709535.48	709942.96	407	4,07,000
31	31/01/2023	10:00 AM	709942.96	710365.35	423	4,23,000
G. Total					11173	11173000

For International agro foods

Etp. Incharge

Annexure - IV

ADEQUACY REPORT OF 750 KLD ETP, INTERNATIONAL AGRO FOODS, DASNA, GHAZIABAD U.P.

SUBMITTED TO

INTERNATIONAL AGRO FOODS,
DASNA, UTTAR PRADESH

FEBRUARY 2023

DEPARTMENT OF CIVIL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
ROORKEE

EXECUTIVE SUMMARY

The performance assessment and adequacy of process units of 750 KLD ETP of International Agro Foods was conducted based on grab sampling on 19th February 2020. The analysis results show that the treated effluent pH (7), BOD (15 mg/L, 99.3 % removal), TSS (15 mg/L, 99.0 % removal), COD (46 mg/L, 98.7% removal) satisfy the CPCB standards for the discharge of effluent from the slaughterhouse.

Although, slaughtering of animals is almost 100% during the visit but ETP received only 432 KLD of wastewater i.e. 57.6 % of total capacity (750 KLD) due to low consumption of water during slaughtering process. The adequacy of the size and performance of each unit process is assessed by design criteria and water quality analysis. It was observed that unit sizing of equalization tank, DAF unit, pre-settler, two-stage aeration and secondary settling tanks, pressure sand, and activated carbon filters was adequate.

Aeration tanks are operating at MLSS, i.e., 3250 mg/L (Tank-1) and 3025 (Tank-2), which results in effluent BOD of 15 mg/L. The operating DO 4.6 and 9.2 mg/L in tanks 1 and 2, respectively indicating the adequate blower capacity.

Even though the effluent is satisfying the CPCB effluent standards, additional measures are recommended for better functioning and improved effluent quality.

- **Monthly Monitoring of STP influent and effluent quality needs to be conducted.**
- **Logbook of DO, MLSS, SVI of aeration tanks need to be maintained.**
- **Frequent replacement (3-6 months) of the media of PSF and ACF is suggested for better polishing of secondary treated effluent.**

A. A. Kazmi
Professor

Ankur Rajpal
Project Scientist

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 BACKGROUND

International Agro Foods slaughter house is located at Bhoor Garhi, Dasna, district Ghaziabad, U.P (Figure 1). It is spread in an area of 36126 m^2 with Effluent Treatment Plant sitted in 1900 m^2 area. It has an infrastructure for a maximum slaughtering capacity of 750 buffalo/day. The plant has a processing capacity of Frozen meat 142 MT/per and by-product Meat Bone 29.4MT/day, Tallow 9.8 MT/day, and Blood meal 1.125 MT/day.

The general slaughtering process is as follows:

1. Anti-mortem
2. Lairage
3. Slaughtering and Bleeding
4. Dressing
5. Evisceration
6. Carcass splitting

Figure 1. Google Earth Image of International Agro Foods.

Wastewater is produced during slaughtering processing such as tray washing, debarking, rendering, machine room washing, floor washing, and cleaning of the abattoir facilities. It is treated in 750 KLD ETP. Blood from the slaughterhouse is pumped to a blood coagulator, where it is dewatered by passing through steam. Dried blood is used as poultry food, and contaminated water from the coagulator is then transferred to the ETP for the treatment. The

waste from Lairage is pre-treated in an anaerobic digester. The pre-treated anaerobic effluent is sent to ETP for further treatment. Domestic wastewater is being treated through a septic tank, and the effluent is sent for irrigation. The total water balance and is given in Figure 2.

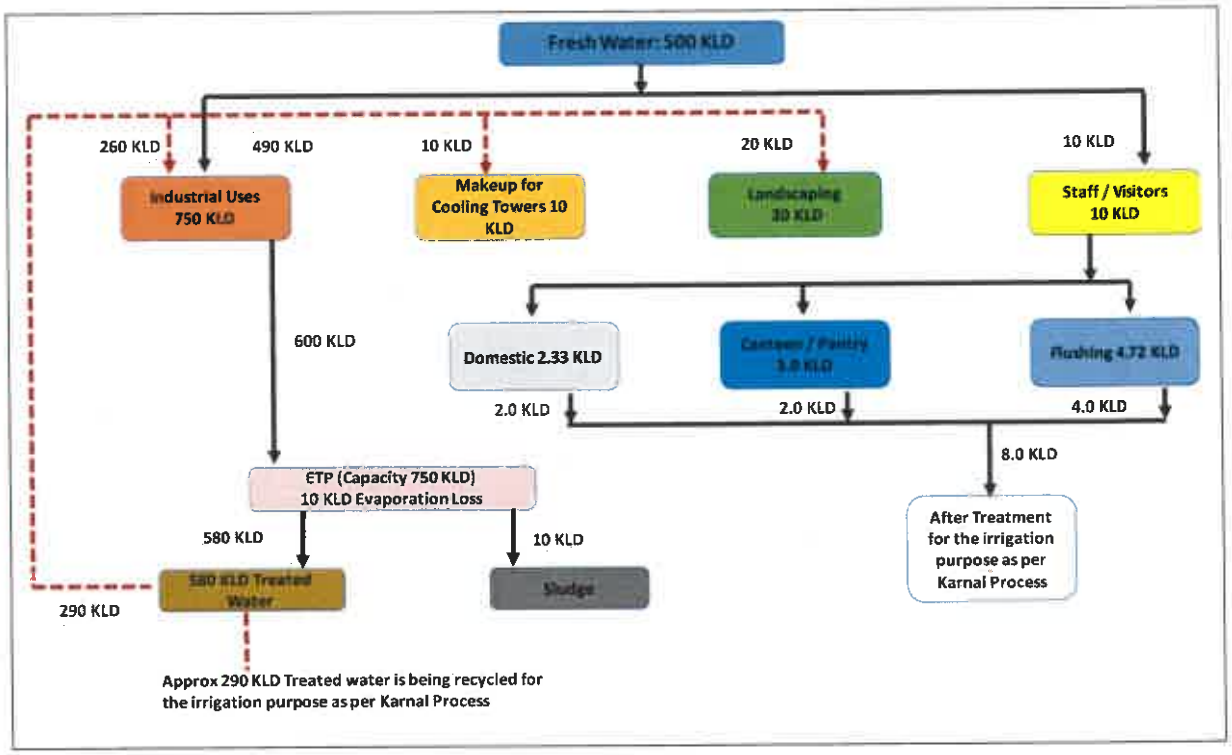


Figure 2. Water balance of International Agro Foods

To check the performance and efficacy of different process units of ETP, International Agro Foods had requested IIT Roorkee to conduct the technical audit of ETP.

2.0 INTRODUCTION

The ETP comprises of primary, secondary, and tertiary treatment. Primary treatment includes four Oil & Grease traps, three holding tanks, two Equalization tanks, two chemical dosing tanks, Dissolved air floatation unit and a Primary settling tank. Secondary treatment includes two-stage activated sludge-based biological treatment and two settling tanks. Tertiary treatment includes Sand filtration (SF) and Activated carbon filtration (ACF).

Treated effluent is recycled for irrigation purposes in Karnal technology, Gardening purpose in the factory premises washing, Boiler & Cooling Towers. Sludge is dewatered in a sludge six drying bed, which is further reused as organic manure.

3.0 OBJECTIVES OF THE REPORT

The key objectives of the report are:

1. Performance evaluation of the ETP to confirm whether ETP effluent quality fulfills the CPCB discharge standards.
2. Evaluation of the design capacity of each process unit of ETP w.r.t. Hydraulic and organic loading.
3. Recommendations for the improvement of ETP performance.

4.0 METHODOLOGY

The following approach was adopted for the study:

i) **Desk inventory**: The dry inventory was conducted based on background information available with International Agro Foods. It includes the study of flowsheet, layout, design, unit, and equipment sizes.

ii) **Wet Inventory:** The inspection was planned on 19th February 2023. IIT Roorkee team collected wastewater samples from different treatment stages of ETP.

Grab samples were collected from various stages of ETP, preserved in an icebox at 4°C before the analysis, and transported to the laboratory at IIT Roorkee within 24 h of sample collection. Samples collected from the ETP site were analyzed for Physico-chemical characteristics as per Standard Methods (APHA, 2012), and the data are summarized in Table 3.

The biota is analyzed by taking samples of mixed liquor from the aeration basin. 25µl sub-samples of mixed liquor were made with an automatic micropipette, and a minimum of four replicates of this volume was counted under phase-contrast illumination (100X magnifications). The sludge was kept constantly homogenized and aerated for the entire duration of analysis, to keep all of the solids in suspension.

5.0 TECHNICAL DETAILS OF ETP

5.1 PROCESS DESCRIPTION

The ETP scheme comprises of primary treatment includes Oil & Grease trap-4, Holding tanks-3, chemical dosing tanks-2, Equalization tanks-2, Dissolved air floatation unit and Primary Settling Tank-1. Secondary treatment includes biological treatment based on two-stage activated sludge process Aeration Tanks-2 and Secondary Clarifiers-2 in series. Tertiary treatment includes Sand Filtration (SF) and Activated Carbon Filtration (ACF). The system is designed to treat the BOD and COD with a range of 2000-3000 mg/L and 5000– 7000 mg/L, respectively.

The Influent and Effluent design parameters are summarized in Table 1.0 and treatment flowsheet is provided in Figure 3.0

Table 1. Influent and Effluent Design parameter of ETP

S. No.	Parameters	Units	Inlet	Outlet
1	pH	-	5.0 - 7.0	7.0 – 8.0
2	BOD	mg/L	2000 -3000	<30
3	COD	mg/L	5000- 7000	<250
4	TSS	mg/L	4000 - 6000	<100
5	O&G	mg/L	200 - 250	<10
6	E. Coli	-	Present	Absent

5.1.1. Oil and Grease Removal Tank:

Effluent from various meat process units is drained into the Oil and grease removal tank. Here Oil and Grease or fatty material is skimmed manually.

5.1.2. Equalization Tank:

Effluent from various meat process units is drained into holding tanks, thereafter to the equalization tank after passing through an Oil & Grease trap tanks and screens (Solid Separator). The objective of the equalization tank is to minimize and control fluctuations in wastewater characteristics to provide optimum conditions for subsequent treatment processes. A diffused aeration system provides the mixing in an equalization tank.

5.1.3. DAF (Dissolved Air Flotation) Unit:

After adding the chemicals (Alum + Caustic Crystal) in the chemical dosing tank, the homogenized wastewater is pumped to DAF unit in which effluent is mixed with coagulants and compressed air to reduce the density. It causes Suspended solids, Oil & grease to rise to the surface of the DAF unit which are skimmed by skimmer. The treated/underflow of the DAF transferred to tube settler tank, where further settling of suspended solids takes place.

5.1.4. Primary Clarifier:

After DAF unit, the wastewater is transferred to the primary clarifier, further settling of suspended solids takes place. Treated effluent from the clarifier is transferred to two-stage aeration tanks for BOD & COD removal. Settled sludge is transferred to sludge drying beds.

5.1.5. Aeration tank and secondary clarifier

The treated effluent from primary clarifier flows to two stages activated sludge process, i.e., Aeration Tank-1 and secondary clarifier-1 and Aeration Tank-2 and secondary clarifier 2. In aeration tank, Mixed Liquor Suspended Solids degrade the organic matter in the presence of air. Atmospheric air is introduced to aeration tank by diffusers. Microorganisms utilize oxygen and convert the organic matter to carbon dioxide and new biological flocs known as mixed liquor suspended solids (MLSS).The MLSS is separated from treated water in the secondary clarifier. A return activated sludge (RAS) equipment to transfer settled activated sludge from the clarifier to the aeration tanks.

The treated effluent is collected in a clear water tank from where it is pumped to PSF and ACF. The clear water after PSF and ACF utilized for horticulture and discharged to storm water drain outside the slaughterhouse premises.

Excess sludge from the both secondary settling tanks is transferred to the sludge holding tank for further dewatering purpose. Thereafter, decanter centrifuge use for the dewatering of sludge than finally dumped in to the sludge drying beds and disposed nearby for composting, and sometimes burned in the boiler.

5.1.6 UNIT SIZING AND PROCESS EQUIPMENTS OF ETP

The unit size of different units, including volume, surface areas and process equipment are provided in Tables 2 & 3.

Table 2. Unit Sizes of 750 KLD, ETP

S. No	UNIT	NUMBERS	SIZE	VOLUME (m^3)
1	Oil & Grease Trap Tank	4	3.0m x 1.9m x 3.0m	17.1
			3.0m x 1.9m x 3.0m	17.1

			3.0m x 1.9m x 3.0m	17.1
			3.0m x 1.9m x 3.0m	17.1
2	Holdings tank	3	10.82m x 4.06m x 3.0m	131.78
			6.17m x 3.88m x 3.0m	71.81
			4.42m x 4.13m x 3.0m	54.76
3	Equalization tank	2	3.0m x 3.0m x 2.5m	22.5
			3.0m x 3.0m x 2.5m	22.5
4	Solid Separators/Screen	2	Dia. 0.94 m Length 2.03 m	1.41
			Dia. 0.94 m Length 2.03 m	1.41
5	Chemical Dosing Tank	2	8.3 m x 4.1 m x 1.15 m	39.13
			8.3 m x 4.1 m x 1.15 m	39.13
6	Dissolved Air Floatation System	1	4.5 m dia x 3.0 m	13.5
7	Aeration tank -1	2	14.71 m x 9.6 m x 5.18 m	731.14
8	Aeration tank -2		15.16 m x 9.6 m x 4.62 m	672.37
9	PST Tank	1	Dia. 7.31 m Depth 4.01 m	168.19
10	Secondary clarifier -1	1	Dia. 7.31 m Depth 4.01 m	168.19
11	Secondary clarifier -2	1	Dia. 7.31 m Depth 4.01 m	168.19
12	Disinfection tank	1	3.96 m x 3.04 m x 4.57 m	55.01
13	Treated water tank	1	11.5 m x 9.5 m x 3.5 m	382.37
14	Sand Filter	1	Dia. 1.62 m x 2.69 m	5.54
15	Activated Carbon Filter	1	Dia. 1.62 m x 2.69 m	5.54
16	Sludge Holding Tank	1	6.70 m x 7.16 m x 4.46 m	53.4
17	Sludge Drying Bed	4	3.0 m x 3.0 m x 3.5 m	31.5
			3.0 m x 3.0 m x 3.5 m	31.5
			3.0 m x 3.0 m x 3.5 m	31.5
			3.0 m x 3.0 m x 3.5 m	31.5

Table 3. Mechanical Equipment of ETP

1.	Influent Transfer Pumps	4	7.5 H.P. Discharge 75 KLPH	-
2.	Air Blowers	4	30.0 H.P.of capacity 701 m3/h	-
3.	EQT to Biogas digester	2	5.0 H.P. Discharge 50 KLPH	-
4.	Sludge Transfer Pumps	6	5.0 H.P. Discharge 50 KLPH	-
5.	Decanter Centrifuge	1	20 HP 1440 RPM (NFP)	-
6.	Feed to PSF and ACF	2	55.0 H.P. Discharge 55 KLPH	-
7.	Final outlet pump to garden	2	7.5 H.P. Discharge 75 KLHP	-

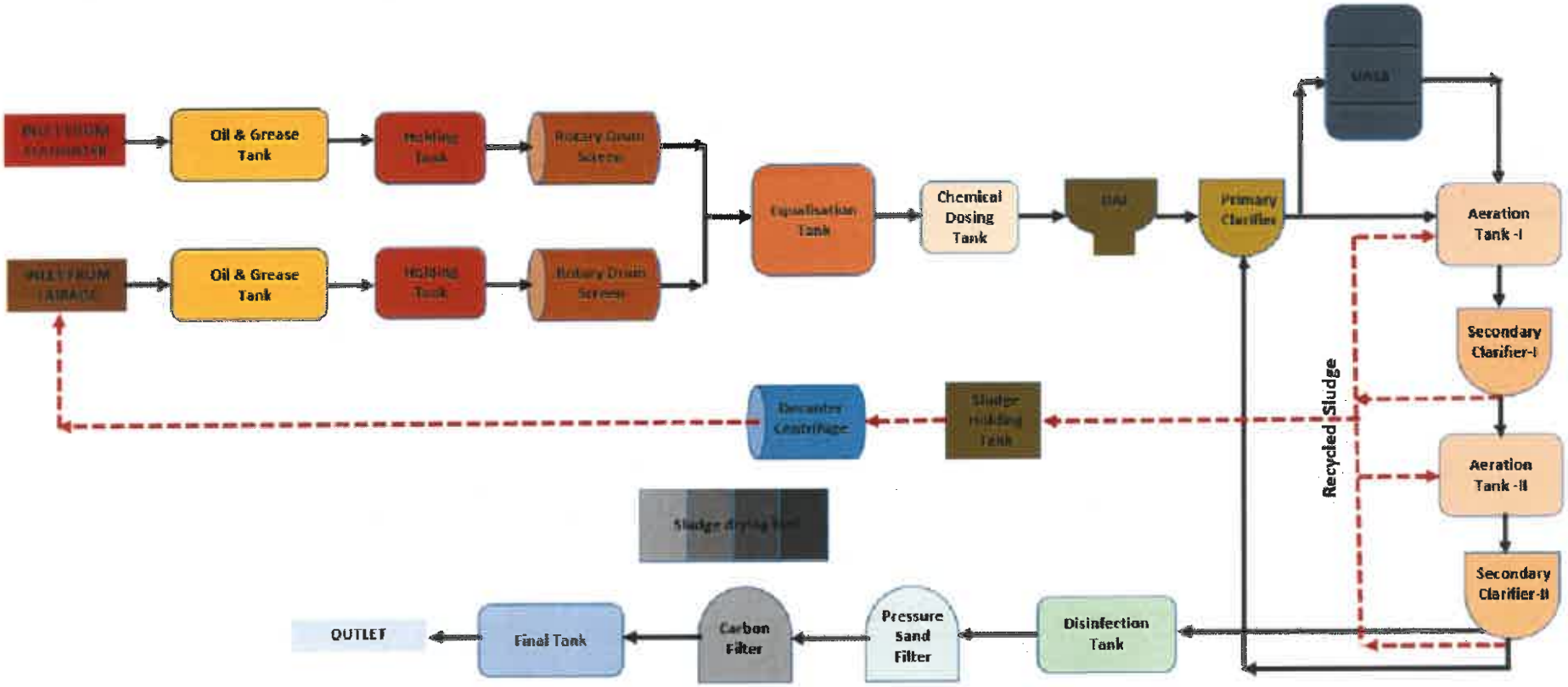


Figure 3. Flow scheme of ETP

6.0 PERFORMANCE EVALUATION OF ETP

6.1 FLOW AND WATER QUALITY

The wastewater inflow was 432 KLD during the site visit on dated 19.02.2023. Hence, the ETP is operating at 57.6 % of treatment capacity. Daily discharge data of ETP for February 2023 is shown in Figure 4. The ETP was designed to treat the wastewater BOD and COD of 2000-3000 and 5000-7000 mg/L, respectively. The results obtained from the analysis of wastewater samples after each unit process of ETP are summarized in Table 4. Visual comparison of influent and effluent is also shown in Figure 5. The figure shows that even though the effluent satisfies the discharge standards, but clarity can be improved by standard operation practice of sand and activated carbon filters. The water quality of different unit processes summarized in Table 4.0.

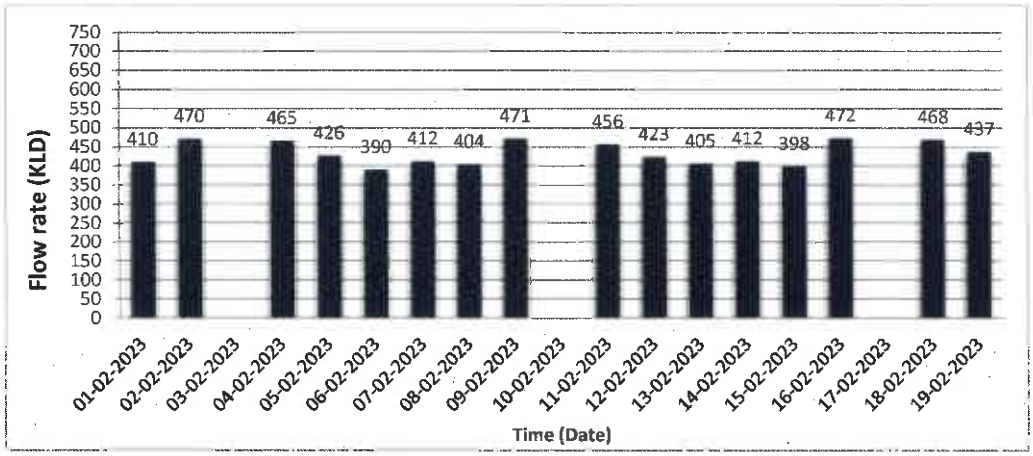


Figure 4. Treated water flow rate in KLD to the ETP during February 2022

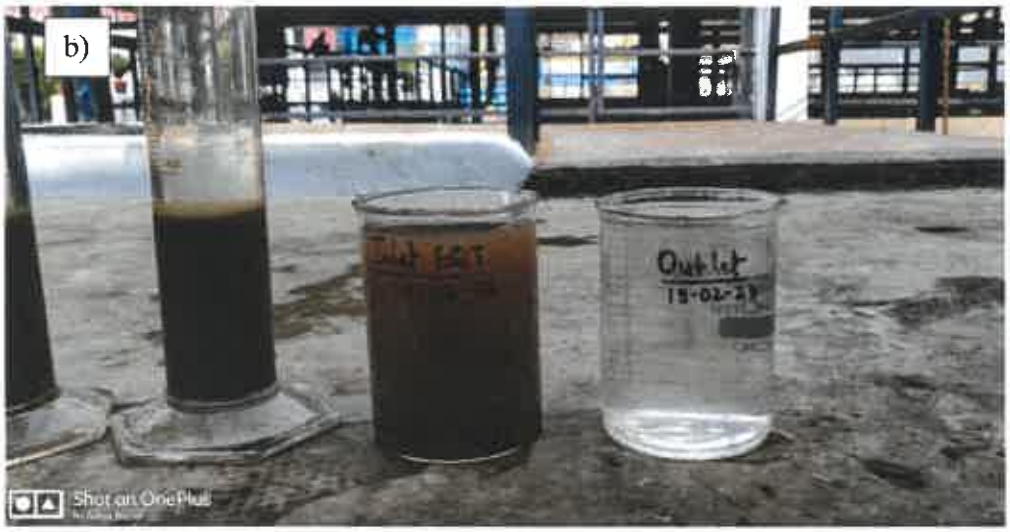


Figure. 5. Samples of ETP's a) unit wise samples b) Inlet (Left) and treated effluent (Right)

Table 4. Summary of monitoring results obtained from different location of ETP

Parameters	Unit	Equalization Tank	DAF Outlet	Primary Clarifier Outlet	Anaerobic Digester Outlet	Secondary Clarifier-1 Outlet	Secondary Clarifier-2 Outlet	Final Outlet (Sand Filter +ACF)	Removal (%)	CPCB Standards
pH	-	6.8	7,5	7.5	7.8	7.4	7	7	-	6.5-8.5
Turbidity	NTU	301	253	98	126	8.9	5.3	3.8	-	-
Alkalinity	mg/L	800	540	530	310	200	90	80	90.0	-
Oil and Grease	mg/L	150	20	20	25	10	8	3	98.0	10
BOD	mg/L	2155	1264	325	128	35	20	15	99.3	30
COD	mg/L	3568	1935	614	215	95	58	46	98.7	250
TSS	mg/L	1555	552	310	157	26	20	15	99.0	50
NH_4-N	mg/L	322	310	326	148	21.7	8.5	4.5	98.6	-
NO_3-N	mg/L	5.0	5.1	2.2	1.3	16.5	17.0	20.0	-	-
TKN	mg/L	335	-	-	-	-	-	25	92.5	-
TN	mg/L	340	-	-	-	-	-	45	86.8	-
PO_4-P	mg/L	4.0	0.3	0.4	2.4	2.4	2.1	2	50.0	-
TP	mg/L	7.0	-	-	-	-	-	2.5	64.3	-

* ***CPCB Standards for the discharge of effluent from the slaughterhouse,*** *Revised Comprehensive Industry Document on Slaughterhouses, CPCB, 2017.*

6.2. ORGANIC MATTER (BOD & COD) REMOVAL

Analysis of the collected samples during the ETP visit showed BOD concentration in the final effluent is 15 mg/L, and the overall BOD removal efficiency of the ETP is 99.3 %. Hence, BOD

removal efficiency is high. Similarly, effluent COD value is 46 mg/L (98.7 %), thus, final effluent satisfies CPCB effluent discharge standards. Aeration tanks for BOD and TSS removal and PSF and ACF for polishing secondary treated wastewater.

6.3. TOTAL SUSPENDED SOLIDS (TSS) REMOVAL

TSS in the effluent is 15 mg/L (99% Removal), thus satisfies the CPCB effluent discharge standards.

6.4 NITROGEN AND PHOSPHORUS

Nitrogen - NH_4-N concentration reduced from 322 mg/L to 4.5 mg/L in final outlet indicating nitrification (>99%). The total nitrogen removal in the system was almost around >86.8% (Effluent, 45 mg/L).

Phosphorus - PO_4-P concentration reduced due to chemical dosing (Alum) from 4.0 mg/L (average in influent) to 2.0 mg/L (64.3 % removal). No enhanced biological phosphorus removal was observed in the system.

6.5 KEY PROCESS CONTROL PARAMETERS

For proper operation and maintenance of the plant, it is necessary to evaluate the reactor MLSS, MLVSS together with OUR, SOUR and settling properties (Table 5).

6.5.1 SLUDGE VOLUME INDEX (SVI) TESTS

The sludge volume index (SVI) is a measure of the settleability of the activated sludge in a secondary or final clarifier. Lower values of the SVI indicate better sludge settleability. It is the volume in mL occupied by one gram of MLSS after 30 minutes of settling in a 1,000 mL graduated cylinder and have units of mL/g. The SVI test is shown in figure 6.

Figure 6. Sludge settling after 30 min I) in aeration tank-1 II) aeration tank-2

It can be interpreted that excellent interface or zone settling is observed in SVI cylinders with values of SV30 330 mL/L and 340 mL/L in tank-1 and tank-2, respectively, and SVI values observed of 102 mL/g and 112 mL/g in tank-1 and tank-2, respectively. It shows that the sludge is non-bulking in nature.

6.5.2 SPECIFIC OXYGEN UPTAKE RATE (SOUR)

The specific oxygen uptake rate (SOUR) is a measure of the amount of oxygen used by microorganisms to consume one gram of food. It is reported as mg/l of oxygen used per gram of the volatile suspended solids in the activated sludge. It is a relative measure of the rate of biological activity. As microorganisms become more active, the SOUR increases and vice versa. For analysing OUR, the sample of mixed liquor was filled into a 1000 mL capacity flask containing a magnetic stirring device (Figure 7). The sample was aerated for several minutes to reach the saturation DO concentration in the order of 9 mg/L. Then immediately, a DO probe was inserted into the flask. Enough sample was displaced with the probe containing the electrode to fill the flared top of the bottle to isolate its contents from the atmosphere. The example was then stirred to provide adequate mixing, and the DO was monitored for 10

minutes at a 1-minute interval. Based on the above graph, the specific oxygen uptake rate (SOUR) was calculated as 19.0 and 17.7 $mgO_2\ g^{-1}VSS.h$ in tank-1 and tank-2, respectively, which represents very good activity of microorganisms for the degradation of organic matter.

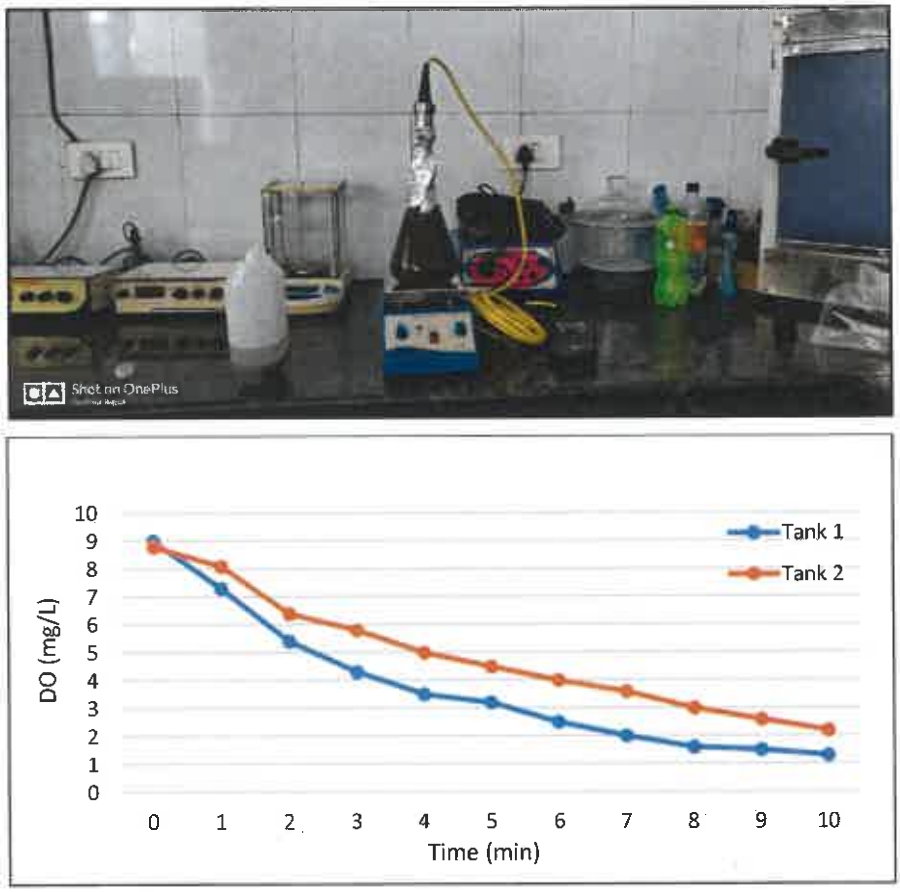


Figure 7. a) Oxygen uptake rate demonstration, b) Graph showing DO reduction with time

Figure 8. Onsite Dissolved Oxygen a) Tank - 1, b) Tank - 2

Table 5. Process operational parameter of Aeration basin

Parameters	Unit	Tank -1	Tank - 2
Influent Flow	KLD	432	
SV_{30}	mL/L	330	340
SVI	mL/gm	102	112
MLSS	mg/L	3250	3025
MLVSS	mg/L	2435	2240
OUR	mg/L.h	46.2	39.6
SOUR	$mgO_2\ g^{-1}VSS.h$	19.0	17.7

As shown in Table 5, the Aeration tanks are operating at MLSS, i.e., 3250 mg/L (Tank-1) and 3025 (Tank-2). Also, SVI value was observed 102 mL/gm (Tank-1) and 112 mL/gm (Tank-2) and SOUR value was 19 and 17.7 $mgO_2\ g^{-1}VSS.h$ in Tank-1 and Tank-2 respectively, which results in effluent BOD of 15 mg/L.

7.0 MICROBIOTA STUDY

7.1 Introduction:

Protozoa are single-celled organisms ranging in size from 10 microns to over 300 microns. They are easily visible under the microscope at 40 X and 100X magnification. Their primary function is the treatment process is to remove non-flocculent bacteria and very small floc that would not settle. Protozoans are responsible for the flocculation process, which results in the

biosorption phenomenon of organic particles. These processes are essential in the treatment of conventional pollutants and micro-contaminant degradation. Hence, the presence or absence of protozoa is an indicator of the number of bacteria in the sludge and the degree of treatment.

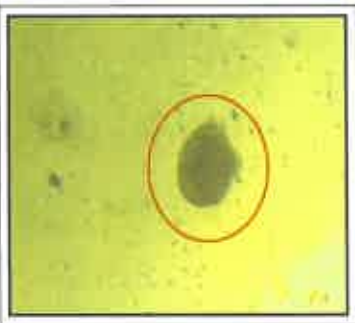
7.2 Methodology:

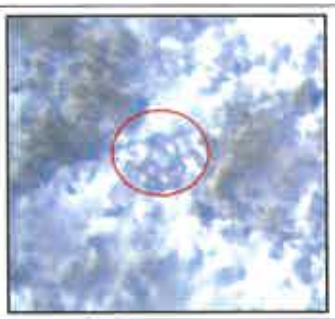
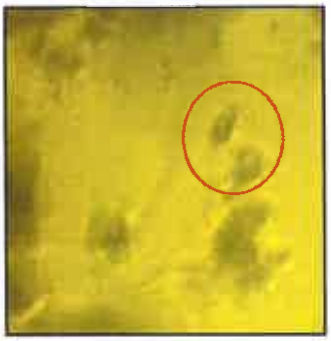
Qualitative microscopic observations were carried out in mixed liquor sample of aeration tank. 25 µL sub-samples of sludge were examined under phase contrast (Optica SN462763) illumination at 20X and 40X magnifications. Four replicates of final volume 1 mL were tested. Enumeration of microbiota was done according to scale where, (+) = 5-10 protozoans/mL; (++) = 10-100 protozoans/mL; (+++) = 100-1000 protozoans/mL; (++++) = >1000 protozoans/mL.

7.3 Results:

Counting of microbiota includes protozoa, metazoa, and filamentous organisms carried under a phase-contrast microscope at 20 X, and 40 X magnifications are shown in Table 6.

Table 6: Microbiota profile and the sludge conditions in Aeration Tank-1

S.No.	Microbiota	Enumeration		Microscopic Images	Remarks
Amoeba					
1.	Arcella	+++	+++		*Occurs under High organic Load or high F/M ratio*
Flagellates					

2.	Peranema	++	++		*The indicator of satisfactory effluent quality appears when the sludge is in the recovering state.*
Free Swimming Ciliates					
3.	Aspidisca	+++	+++		*Indicator of good effluent quality, Good DO, and oxidation condition.*
4.	Litonotus	+++	+++		*Treatment is satisfactory, and F/M is low*
Rotifers/Rotaria					
5.	*Worms (Juvenile)*	+	++		*Indicator of good quality effluent when finding in abundant.*
Filamentous organisms					

6.	*Filaments*	+++	+++		*Multiplies in the aerobic system leading to sludge bulking*

7.4 Conclusion:

An adequate microbiota in indicating a well working condition of aeration tanks of ETP.

8.0 SLUDGE PRODUCTIONAND SLUDGE CHARACTERISTICS

Excess sludge from Primary settling tank, both secondary settling tanks and from the digester is transferred to the sludge holding tank for further dewatering purpose. Thereafter, decanter centrifuge use for the dewatering of sludge than finally dumped in to the sludge drying beds (Figure 9). On an average, 8 -10 KLD sludge produce from the clarifier is pumped to the sludge drying beds. Four nos. of the bed are arranged for drying purposes (Figure 10). Approx. One trolley (10000 kg) sludge cakes are formed and disposed nearby for composting, and sometimes burned in the boiler.

Figure 9. Decanter Centrifuge for sludge dewatering

Figure 10. Sludge drying bed at site

Table 7. Dewatered Sludge Characteristics

Parameters	Units	Value	Organic Compost (FCO 2009)
pH	-	7.5	6.5-7.5
Moisture content	(%)	59	15-25
Organic matter	(%)	61	-
Total Organic Carbon, percent by weight	(%)	35.3	12
Total Nitrogen (as N), percent by weight	(%)	7.2	0.8
Total Phosphate (as P_2O_5), percent by weight	(%)	4.0	0.4
Carbon Nitrogen Ratio (C/N)	-	4.9	<20

The dewatered sludge samples were taken from the drying bed and analysed for TOC, TN, TP (Table 7). All parameter was within the standard of Organic Compost (FCO 2009) and sludge is rich in nutrient and can be used as high-quality organic fertilizer after composting.

9.0 DESIGN EVALUATION

Equalization tank

Equalization Tank: To homogenize the effluent generated from various process units. Compressed Air is provided for uniform mixing.

Size:3.0m x 3.0m x 2.5m each

Number: 2

Volume: 45.0 m^3

Mixing: Compressed Air

Parameter	Value	Remarks
Average Flow (KLD)	432	-
Average Flow (m^3/h)	18	-
The volume of equalization tank required (m^3)	67.5	1.5 h detention at Peak Flow
Equalizations Tank total volume available (m^3)	45.0	-
Additional Holding Tanks volume	258.75	
Total Equalization + Hold Tank Volume	303.75	

IIT Comment: The cumulative size of holding and equalization tanks is adequate

Chemical Dosing Tank	
	**Chemical Dosing Tanks:** To remove TSS from influent coming from the equalization tank. In these tanks, effluent is mixed with chemicals (Caustic Crystal and Alum) to maintain pH for effective coagulation and flocculation. The suspended solid trapped flocs easily settle in a primary settling tank. **Number:** 2 **Size:** 8.3 m x 4.1 m x 1.15 m **Volume:** 78.26 m^3 **MOC:** MS-2062 epoxy coated.
Average flow (m^3/d)	432
Average Flow (m^3/h)	18
Alum dose (PPM)	800
Caustic Crystal (PPM)	200
IIT Comment: Homogenized outlet send to DAF system for TSS and Oil and grease removal. The system is working properly as the TSS removal efficiency in primary clarifier after DAF is very high.	

Dissolved Air Floatation (DAF)	
 	**Dissolved Air Floatation (DAF):** To remove TSS and O&G from influent coming from Equalization tank after chemical dosing. In DAF effluent is mixed with coagulants and compressed air to reduce the density. It causes Suspended solids, Oil & grease to rise to the surface of the DAF unit which are skimmed by skimmer. This air-solid mixture rises to the surface of the DAF. **Number: 1** **Size:** 4.4 m dia x 3.0 m, flow capacity 800 KLD **Surface Area :** 15.2 m^2 **MOC:** MS-2062 epoxy coated **Coagulant (Polyelectrolyte):** 5 - 6 kg/ day (~2ppm)
Average flow (m^3/d)	432
Average Flow (m^3/h)	18
Inlet O&G and TSS (mg/L)	180 + 1555 = 1705
DAF Surface area (m^2)	15.2
Solids Loading (kg/m^2.h)	(18 x 1705)/ (1000 x 15.2) = 2.0 kg/m^2.h
IIT Comment: Solids Loading required for TSS and O&G removal is 2.0 kg/m^2.h < 10 m^3/hr/m^2. Hence the design is found to be adequate. The TSS and O & G removal efficiencies are 99% & 98%, respectively, which is significantly high and acceptable with well operated DAF unit.	

Primary Clarifier	
 	**Primary Clarifier:** After adding the chemicals (Alum + Caustic Crystal), the treated/underflow transferred to the primary clarifier tank, where further settling of suspended solids takes place. Treated effluent from the clarifier is transferred to the aeration tanks for BOD and TSS removal. Settled sludge is transferred to Sludge Drying beds. **Number: 1** **Size:** Dia. 7.31 m Depth 4.01 m **Surface Area :** 41.94 m^2 **Volume :** 168.2 m^3
Average flow (m^3/d)	432
Average Flow (m^3/h)	17.4
Surface Area of clarifier (m^2)	41.9
Overflow rate for clarifier (m^3/m^2.d)	10.3 (25-30 m^3/m^2.d) - CPHEEO Manual
IIT Comment: Dimensions are adequate and system is operating properly. TSS removal efficiency is >99%, which is excellent and acceptable.	

Aeration tanks	
 	**Aeration tank:** To remove organic matter in an aeration basin in which microorganisms metabolize the suspended and soluble organic matter. Part of organic matter synthesized into new cells (MLSS), and the portion is oxidized to CO_2. The detail of the process is provided in the process description. **Numbers:** 2 in series **Size:** 14.71 m x 9.6 m x 5.18 m 15.16 m x 9.6 m x 4.62 m **Volume:** AT –731.14 m^3, AT- 672.37 m^3 **MOC:** RCC-M25 **Aeration:** Fine bubble diffused aeration
Average flow (m^3/d)	432
Operating flow (m^3/hr)	18
Volume of aeration tank -1 (m^3)	731.14 m^3
HRT for Tank -1 (hours)	40.0
Influent BOD for aeration Tank-1 (mg/L)	325
Food (F) (kg BOD per day) for Tank -1	432 m^3/d x 325mg/L /1000 L/m^3 = 140.4 kg BOD/day
MLSS (mg/L) or (g/m3) in Tank -1	3250
Microorganism (kg) in Tank -1	3250 mg/L x (731.14 m3) x 1/1000 = 2376.2 kg
F/M for Tank-1	140.4 kg/day/ 2376.2 kg = 0.06 day^{-1}
HRT for Tank -2 (hours)	37.3
Influent BOD for aeration Tank-2 (mg/L)	35
Volume of aeration tank -2 (m^3)	672.37 m^3
Food (F) (kg BOD per day) for Tank -2	432 m3/d x 35 mg/L /1000 L/m^3 = 15.12 kg BOD/day
MLSS (mg/L) or (g/m3) in Tank -2	3025
Microorganism (kg) for Tank -2	3025 mg/L x (672.37 m^3) x 1/1000 = 2033.9 kg
F/M for Tank-2	15.12 kg/day/ 2033.9 kg = 0.007 day^{-1}
IIT Comment: The system is operating at F/M ratio in aeration Tank -1 is 0.06 day^{-1} and aeration Tank -2 is 0.007. The size of aeration tank is found to be adequate. However, there is an addition of anaerobic digester outlet but it is irregular and contribute very low BOD load to the aeration Tank - 1. DFA and PST reduced the high load to aeration Tank -1. Hence, it was observed that Tank – 1 and Tank -2 is operating at optimum F/M ratio for better treatment.	

Air requirement for aeration basins	
	**Air Blower:** To provide air for biological oxidation of organic matter in aeration tanks **Number:** 4 **Type:** UGRK-220 **Capacity:** 701 m3/h each
Flow (KLD)	432
Influent BOD (mg/L)	325
Effluent BOD standard (mg/L)	20
BOD to be removed (mg/L)	305
Total BOD to be removed (in Kg/d)	127.1
Oxygen required per Kg of BOD removal (kg O_2/kg BOD)	1.2 (CPHEEO Manual)
Total oxygen required (kg/d)	152.5
Total oxygen required (kg/hr)	6.35
Considering AOR/SOR= 0.4, oxygen transfer efficiency as 12%, 21% oxygen content from atmospheric air & 1.18 is density of air.	
The total air requirement (m^3/hr)	6.35/0.12*0.21*1.18/0.4 = 535 m3/h
The capacity of air blowers provided (m^3/hr)	701 x 4 = 2804 m^3/h
IIT Comment: Blower Capacity is found to be adequate	

Secondary Clarifiers

Secondary clarifier: To separate suspended biomass through gravity settling from the effluent, coming from aeration basins. The fraction of this biomass is also recirculated in aeration basis to maintain optimum MLSS concentration.

Number: 2

Size: Dia. 7.31 m Depth 4.01 m
Dia. 7.31 m Depth 4.01 m

Surface Area: 41.9 m^2

Volume: 168.2 m^3 + 168.2 m^3
Total **Volume=** 336.4 m^3

Operating flow (m^3/d)	432
Surface Area of clarifier -1 (m^2)	41.9
Overflow rate for clarifier -1 (m^3/m^2.d)	10.0 (<15 m^3/m^2.d) - CPHEEO Manual
MLSS concentration clarifier -1 (mg/L)	3250
Solid loading rate clarifier -1 (kg/m^2.d)	419 x 3250/1000/41.9 = 32.5 kg/m^2.day (25-120 kg/m^2.d) - CPHEEO Manual
Surface Area of clarifier -2 (m^2)	41.9
Overflow rate clarifier -2 (m^3/m^2.d)	10.0 (<15 m^3/m^2.d) - CPHEEO Manual
MLSS concentration clarifier -2 (mg/L)	3025
Solid loading rate clarifier -2 (kg/m^2.d)	419 x 3025/1000/41.9 = 30.25 kg/m^2.day (25-120 kg/m^2.d) - CPHEEO Manual

IIT Comment: The size of secondary clarifier to be adequate as per current operating conditions.

61

SAND FILTER	
	**Pressure Sand Filter:** To remove residual suspended solids **Number:** 1 **Size:** Dia. 1.62 m x 2.69 m **Surface Area:** 2.06 m^2 **Volume:** 5.19m^3, MS-2062 epoxy coated
Operating flow (m^3/hr)	17.4
Surface Area of filter (m^2)	2.06
Rate of Filtration ($m^3/m^2.h$)	8.74 (5 - 7.5 $m^3/m^2.h$ - US EPA)
IIT Comment: The size of the pressure sand filter is little bit lessor as per current operating conditions.	

ACTIVATED CARBON FILTER	
	**Activated Carbon Filter (ACF):** To remove suspended matters up to 30 microns size, to remove organics contributing to COD and specific color causing molecules. **Number: 1** **Size:** Dia. 1.62 m x 2.69 m **Surface Area:** 2.06 m^2 **Volume:** 5.19 m^3, **MOC:** MS-2062 epoxy coated
Operating flow (m^3/hr)	18
Surface Area of filter (m^2)	2.06
Rate of Filtration ($m^3/m^2.h$)	8.74 (should be< 15 $m^3/m^2.h$)

IIT Comment: The size of the Activated Carbon filter is found to be adequate as per current operating conditions. BOD, COD, and TSS removal efficiencies of combined Pressure sand and activated carbon filter is significant. Hence, frequent replacement (3-6 months) of the media of PSF and ACF is required for better polishing of effluent.

10.0 CONCLUSION

- The performance assessment and adequacy of units of 750 KLD ETP of International Agro-Food was conducted based on grab sampling, dated 19th February 2023. DAF unit was working efficiently and significantly reduced the oil and grease and suspended solid load. Overall, the result shows that effluent pH (7), BOD (15 mg/L, 99.3 % removal), TSS (15 mg/L, 99.0 % removal), COD (46 mg/L, 98.7% removal) satisfies the CPCB standards for discharge of effluent from slaughterhouse.

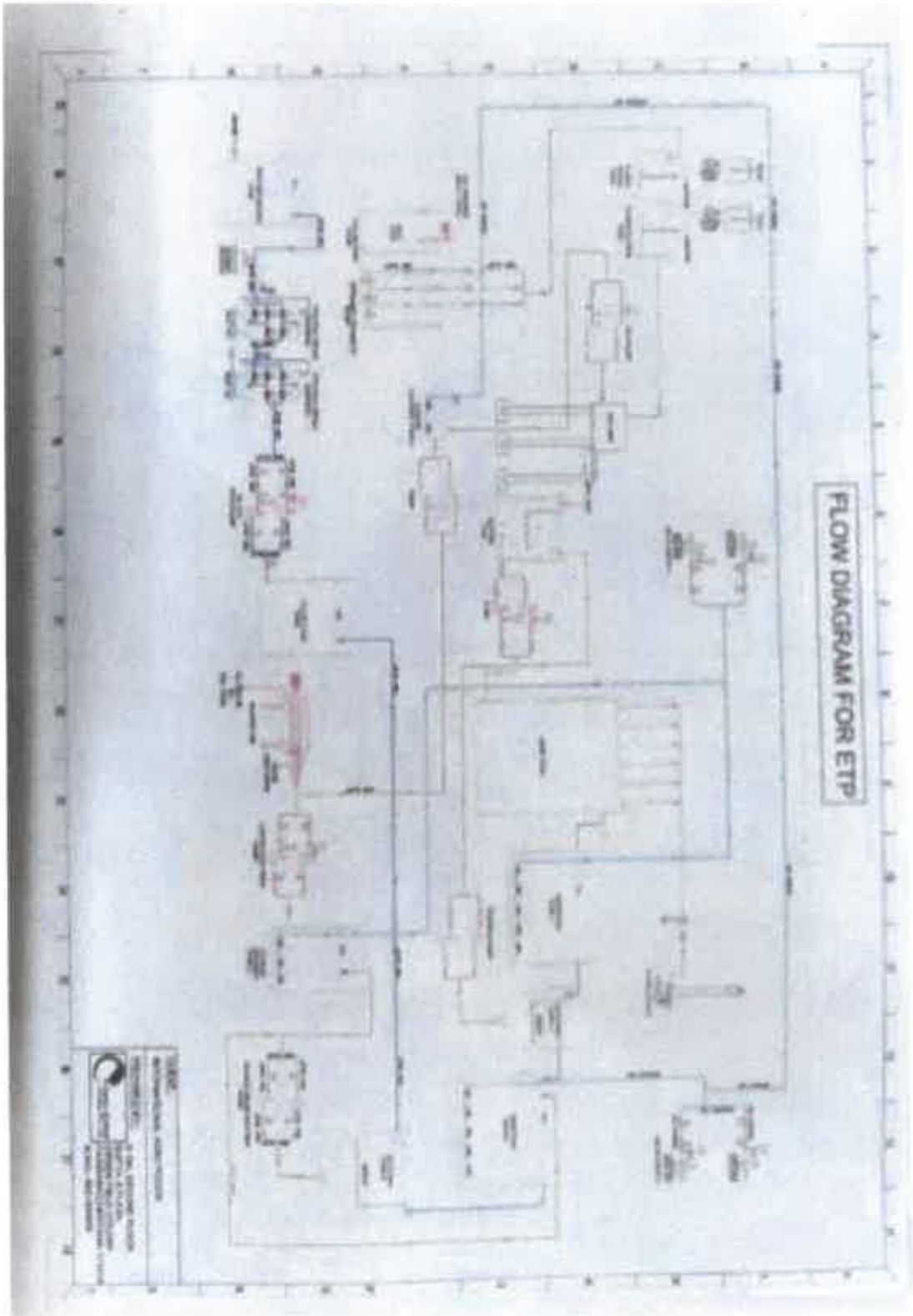
11.0 RECOMMENDATIONS

Even though the effluent is satisfying the CPCB effluent standards, some measures are recommended for better functioning and improved effluent quality.

- **Monthly Monitoring of STP influent and effluent quality needs to be conducted.**
- **Logbook of DO, MLSS, SVI of aeration tanks need to be maintained**
- **Frequent replacement (3-6 months) of the media of PSF and ACF is required for better polishing of effluent.**

12.0 REFERENCES

1. APHA (2012), for the examination of water and wastewater (22nd edition)
2. Revised Comprehensive Industry Document on Slaughterhouses, CPCB, 2017.
3. CPHEEO suggested guidelines for water reuse (CPHEEO 2013).


FLOW DIAGRAM FOR ETP

INTERNATIONAL AGRO FOODS

DASNA ,GHAZIABAD(U.P.)

TREATED WATER RECORD

MONTH: February -> 2023

S. No.	Date	Time	Initial Reading	Final Reading	Discharge (m^3)/day	Discharge in (Ltr.)/day
01	01/02/2023	10:00 AM	710345.35	710775.38	410	4,10,000
02	02/02/2023	10:00 AM	710775.38	711245.42	470	4,70,000
03	03/02/2023	10:00 AM	—	—	—	—
04	04/02/2023	10:00 AM	711245.42	711710.63	465	4,65,000
05	05/02/2023	10:00 AM	711710.63	712136.82	426	4,26,000
06	06/02/2023	10:00 AM	712136.82	712526.34	390	3,90,000
07	07/02/2023	10:00 AM	712526.34	712941.52	412	4,12,000
08	08/02/2023	10:00 AM	712941.52	713343.41	404	4,04,000
09	09/02/2023	10:00 AM	713343.41	713814.64	471	4,71,000
10	10/02/2023	10:00 AM	—	—	—	—
11	11/02/2023	10:00 AM	713814.64	714272.38	458	4,58,000
12	12/02/2023	10:00 AM	714272.38	714695.55	423	4,23,000
13	13/02/2023	10:00 AM	714695.55	715100.36	405	4,05,000
14	14/02/2023	10:00 AM	715100.36	715513.43	413	4,13,000
15	15/02/2023	10:00 AM	715513.43	715910.38	398	3,98,000
16	16/02/2023	10:00 AM	715910.38	716382.65	472	4,72,000
17	17/02/2023	10:00 AM	—	—	—	—
18	18/02/2023	10:00 AM	716382.65	716850.26	468	4,68,000
19	19/02/2023	10:00 AM	716850.26			
G. Total						

Prof.(Dr.) H. G. Prakash
Director Research
प्रो0 (डा0) एच0 जी0 प्रकाश
निदेशक शोध

**Chandra Shekhar Azad University of Agriculture
and Technology, Kanpur - 208002**
चन्द्रशेखर आज़ाद कृषि एवं प्रौद्योगिक विश्वविद्यालय
कानपुर – 208002

Ref. No. 74 /DR/2020
Dated 26, May, 2020

To,

Mr. Raveed Ahmed
Manager
M/S International Agro Foods
2764, 2765, 2766, Bhoor Garhi, Dasna,
Ghaziabad – 201015 (U.P.)
Mob.- 9412218462
Email-iafgzb@gmail.com

Sir,

It is inform you that our scientists/experts visited your slaughter house and submit a report showing Irrigation Plan for utilization of treated effluent, a copy of same is enclosed herewith for your kind perusal and necessary action please.

With warm regards

Encl: Report

Yours Sincerely

(H.G. Prakash)

Copy to:

1. Dr Y.K. Singh Department of Agronomy.
2. Dr Manoj Mishra, Directorate of Research.
3. Technical Secretary for kind information of Hon'ble Vice Chancellor.
4. Guard File, Directorate of Research.

(H.G. Prakash)

IRRIGATION MANAGEMENT PLAN FOR THE UTILIZATION OF TREATED EFFLUENT

INTER NATIONAL AGRO FOODS
Bhoorgarhi, Dasna, Ghaziabad Situated in
Distt. Ghaziabad

Y. K. Singh
Assistant Professor, Department of Agronomy

Manoj Mishra
Assistant Director, Directorate of Research

Chandra Shekhar Azad University of Agriculture and Technology Kanpur - 208 002 (U.P.)

Introduction

A slaughter house is an industrial facility where animals are processed for consumption as food products. Slaughterhouses act as a starting point of the meat industry, where the stock comes from farms / market to enter the food chain. They have existed as long as there have been settlements too large for individuals to rear their own stock for personal consumption. India is the largest resource of livestock population in the world. Livestock available for slaughtering comprises of animals namely - Buffaloes, Cattle, Sheep, Goats, Pigs and poultry. The Indian meat industry is currently on the track of a remarkable leap forward. The global demand for Indian meat and meat products is increasing considerably during the years. We also have one of the largest domestic markets for our meat and meat products. Slaughterhouses are also a good source of meat, protein and calories (FAO 1992), the reported per capita availability of meat in India is about 1.4kg per annum, which is rather low compared to 60-90kg in European countries.

As the above data suggests slaughterhouse industry has a bright scope and future in India. The meat processing industry is one of the largest consumers of fresh water used in the agricultural and livestock industry worldwide. Slaughterhouses produce large amount of waste water because of the slaughtering process and cleaning of facilities. Slaughterhouses need significant treatment for a sustainable and safe discharge to the environment due to the high content of organics and nutrients. Therefore the treatment and final disposal of slaughterhouse's waste water are a public health necessity. Irrigation Management Plan is a necessity because it reduces the impact on environment, health hazards, etc. Thus an onsite treatment using combined processes would be the best option to treat and disinfect the slaughterhouse effluents. The slaughterhouse effluents are safely discharged on to the agricultural land.

Slaughterhouse wastes are a potential reservoir of bacterial, viral, prion and parasitic pathogens capable of infecting both animals and humans. A quick cost effect and safe disposal method is thus essential in order to reduce the risk of disease following animal slaughter. Different methods for the disposal of such wastes exist including composting, anaerobic digestion (AD), alkaline hydrolysis, rendering, incineration and burning. Composting is a disposal method that allows a recycling of the slaughterhouse waste nutrients back into the earth.

The type of waste produced by the separate operations in the slaughterhouse shown as under –

Source	*Waste*
Stockyard	Manure
Killing floor	Blood
Dehairing	Hair & Dirt
Inside removal	Paunch, Manure & liquor
Rendering	Stick liquor, Press liquor
Carcass dressing	Flesh, grease, blood, manure
By product	Grease, offal

On the request of management of International Agro Foods, 2764, 2765, 2766, Bhoorgarhi, Dasna, Ghaziabad situated in Distt. Ghaziabad. A visit of the unit was undertaken by the team of CSAU, Kanpur on 16/02/2020 for investigations, inspection and collection of data. Also for the assessment of utilization of treated waste water, for creating and inspecting an efficient irrigation plan made by the slaughterhouse and verify water irrigation plan keeping in view of standards notified G.S.R. 35(E) Mo EF & CC, January 14, 2016.

Composition of Team:

1. Dr. Y. K. Singh — Assistant Professor, Department of Agronomy
2. Dr. Manoj Mishra — Assistant Director, Directorate of Research

Slaughter House Officials Present During the Visit

1. Raveed Ahmed — Manager
2. Farman Ali — ETP Supervisor
3. Mohd. Aslam — Agricultural Supervisor

(Annexure-1)

Observations & Discussion:

Observations of the slaughterhouse waste water treatment plant working verification and other conditions, particularly with respect to waste water treatment plant, water uses and quantity of waste water discharge. Thus our observation based on data information provided by slaughterhouse. The figures of water discharge and usage have been estimated subject to

correctness/authenticity of the data submitted by slaughterhouse. So the precise comments can only be confirmed by the slaughterhouse during the period.

After the visit observations, calculations and generation of reports are carried out on the basis of inputs provided by the slaughterhouse. The adequacy of the irrigation management plan is also based on the data provided by the slaughterhouse with respect to area available, plantation/cropping pattern and record of the land, etc.

Overview of Slaughterhouse

International Agro Foods slaughter house is located at Khasra no. 2764, 2765, 2766, Bhoor Garhi, Dasna, Distt. Ghaziabad, U.P (Figure 1). It is spread in an area of 36126 m2 with Effluent treatment plant sitting in 2100 m2 area. It has an infrastructure for a maximum slaughtering capacity of 750 Buffaloes/day. The plant has a processing capacity of Frozen meat 98 MT/day by-product Meat Bone 29.4MT/day, Tallow 9.8 MT/day, and Blood meal 1.125 MT/day.

The general slaughtering process is as follows-

1. Anti-mortem
2. Lairage
3. Slaughtering and Bleeding
4. Dressing
5. Evisceration
6. Carcass splitting

International Agro Food Ghaziabad (Uttar Pradesh) is working with the present slaughtering licensing capacity of 750 Buffaloes/day.

The waste water treatment plant in slaughterhouse was established and commissioned in the year 2013 with a capital investment of Rs 8 crore It has a capacity to take full load of waste water generated 750 m^3/day.

Slaughterhouse Performance in the year 2018-19:

S. No.	Particulars	2018-19
1.	Duration of slaughtering	248 days (April to March)
2.	Waste Water generation/day	368 m3
3.	Waste water generation in a year	91264 m3

No. of average slaughtering days in 2018-19 = 248 days (561 Buffaloes/day)

The ETP is capable enough to treat the effluent by achieving desired norms of UPPCB/CPCB. The treated effluent is having the desired norms as per UPPCB/CPCB drains out through pump and pipeline for using as irrigation water by slaughterhouse as per their requirements.

As per ETP adequacy report and data provided by the slaughterhouse

(Annexure-2)

Waste Water Generation

Waste water generation is observed on the basis of data provided by slaughterhouse and ETP adequacy report made by IIT Roorkee. The waste water generation is about 368 m3/day while no. of average slaughtering days in 2018-19 are 248 days. The total waste water generation on the basis of 248 days in a typical year=368 m3 X 248 days = 91264 m3.The waste water treatment plant has also been designed to cater the peak generation of waste water 750 m3/day.

- Total treated effluent generation = 368 m3/day.
- Treated effluent used in recycling and internal uses = 90 m^3/day.
- Net treated waste water generation left for irrigation = 278 m^3/day.
- Total treated effluent generated left for irrigation during the year
  278 m^3 x 248 days = **68944** m^3/year.

(Annexure-3)

Effluent Treatment Plant detail

Effluent is an out flowing of water or gas from a natural body of water, all from a human made structures. The meat industry uses large quantities of water. In this process effluents in slaughterhouse originate from lairage, slaughter and bleeding, dressing, paunch handling, rendering and processing and cleaning. Efficient disposal of effluent is important because of the possible pollution of water for the purpose of treatment of effluent. Slaughterhouse has an ETP which treats effluent in 3 different stages – Primary, Secondary and Tertiary.

Primary treatment includes 4 oil and grease traps, 3 holding tanks, 2 chemical dozing tanks, equalization tanks and a primary setting tank. Secondary treatment includes 2 stage activated sludge based biological treatment and setting tank. Tertiary treatment includes sand filter and activated carbon filter. Treated effluent is recycled for irrigation purposes in Karnal Technology, gardening purpose in slaughterhouse premises, washing boiler and cooling towers. Sludge is dewatered in a sludge drying beds (6) which is further reused as organic manure.
For achieving the objectives :-

- Eliminate threat of diseases.
- Convert the effluent into a readily re-usable resource.

- Conservation of water and nutrients.
- Produces a product that can be safely discharged into agricultural land.

The details of ETP of International Agro food are as follows:

1	Oil and grease trap tank	4
2	Holdings tank	2
3	Equalization tank	2
4	Solid separators/screen	2
5	Chemical dosing tank	2
6	Aeration tank	2
7	PST tank	1
8	Secondary Clarifier	1
9	Secondary Clarifier	2
10	Disinfection tank	1
11	Sand filter	1
12	Activated Carbon filter	1
13	Treated water tank	1
14	Sludge drying beds	6

(Annexure-4)

Characteristics of treated effluent

INSTRUMENTS	STANDARD	ACTUAL
Physical Check	Pass / Fail	*Pass*
Power Supply Test	230V AC	*Pass*
Diagnostic Checks	Pass / Fail	*Pass*
Parameter : TSS (VALIDATION WITH LAB SAMPLING)	19.00 PPM 35.00 PPM	21.00 PMM 39.00 PPM
Parameter : COD (VALIDATION WITH KHP STD)	50.00 PPM 100.00 PPM 500.00 PPM	54.20PPM 104.2 PPM 493.4 PPM
Parameter : COD (VALIDATION WITH LAB SAMPLING)	110.00 PPM 120.00 PPM	115.23 PPM 123.00 PPM
Parameter : BOD (VALIDATION WITH LAB SAMPLING)	16.00 PPM 21.00 PPM	17.50 PPM 22.00 PPM
Parameter :pH (VALIDATION WITH KNOWN BUFFERS)	4.00 pH 7.00 pH	4.00 pH 7.01 pH

The above values of treated effluent have been derived from the analysis report of the laboratory aaxis nano technology provided by International Agro Food.

(Annexure-5)

CPCB Protocol for Water usage

As per Ministry of Environment, Forest & climate change recommendation, for the application of treated effluent the requirement varies from soil to soil and crop to crop. The average effluent requirement varies from 170-225 M3 per hectare per day for irrigation of sandy loam soils.

Soil Structure	Effluent loading rate (m3/ha/day)
Sandy loam	170-225

Existing arrangement for treatment of effluent generated

During the typical year the slaughterhouse generated effluent about 240 M3/day. The slaughterhouse has fully fledged effluent treatment plan to treat the generated effluent as per norms of CPCB and also mentioned in ETP adequacy report made by IIT Roorkee.

The slaughterhouse has installed primary and secondary effluent treatment on the basis of maximum effluent generated 750 m3/day.

The primary effluent treatment system has physical and chemical treatment. The secondary system is based on activated sludge system and acts as a biological treatment for effluent. The third phase is the filtering phase. The slaughterhouse consists of Sand and Activated Carbon filters respectively. As per ETP adequacy report the capacity of the ETP plant is considered as adequate to handle the generated effluent from the plant at operational capacity of 750 slaughtering of buffaloes. The treated effluent assessed by IIT Roorkee 2018-19 Year and found that treated effluent quality is within the norms.

(Annexure-6)

Command area identified

A detailed survey of the area is carried out to find the plantation pattern. It has been observed that the area of the slaughterhouse used for irrigation is divided into 3 parts i.e. 2.45 ha under Karnal Plantation Technology, about 3.30 ha area under cropping and 1.34 ha area under green belt within slaughterhouse premises. As far as cropping is concerned slaughterhouse has adopted rice, wheat rotation.

As per soil testing report, the soil of the slaughterhouse (used for irrigation) is sandy loam. The slaughterhouse owns the land area of irrigation.

The details are as follows:-

S. No.	Location	Total available land in hectares	Distance from unit (M)	Mode of effluent transport
1	Area under Karnal Technology Plantation	2.45	500	Pipeline & irrigation channel
2	Area under green belt inside the slaughterhouse	1.34	Within premises	Pipeline along with outlets
3	Area under cropping	3.30	500	Irrigation channel
	Total	7.09		

(Annexure-7)

Physiochemical properties of soil

S. No.	Parameters	Test Methods	Results	Units
1	pH (1:2.5 Suspension)	IS: 2720 (P-26)	7.09	-
2	Conductivity (1:5 Suspension)	IS: 2720 (P-21)	503.7	µS/cm
3	Texture Class	EKO/CHEM/SOP/S-11	Sandy Loam	-
4	Texture (Clay)	EKO/CHEM/SOP/S-11	18.0	% by mass
5	Texture (Sand)	EKO/CHEM/SOP/S-11	52.8	% by mass
6	Texture (Silt)	EKO/CHEM/SOP/S-11	29.2	% by mass
7	Bulk Density	EKO/CHEM/SOP/S-12	1.34	gm/cc
8	Sodium Available (as Na)	EKO/CHEM/SOP/S-04	178.6	mg/kg
9	Potassium Available (as K)	EKO/CHEM/SOP/S-02	180.5	mg/kg
10	Organic Carbon	USEPA-SW 846 7130	0.52	% By mass
11	Available Phosphorus (as P_2O_5)	EKO/CHEM/SOP/S-03	81.5	mg/kg
12	Iron (as Fe)	USEPA-SW 846 7130	17.9	mg/kg
13	Magnesium Exchangeable (as MgO)	Ministry of Agriculture Manual 2011	320.5	mg/kg
14	Calcium Exchangeable (as CaO)	EKO/CHEM/SOP/S-08	1280.9	mg/kg
15	Moisture Content	IS: 2720 (P-2)	12.2	%
16	Available Nitrogen (as N)	EKO/CHEM/SOP/S-07	210.7	mg/kg
17	Boron (as B)	USEPA-SW 846 7130	3.14	mg/kg
18	Cation Exchange Capacity	Ministry of Agriculture Manual 2011	6.82	meq/gm
19	Porosity	EKO/CHEM/SOP/S-09	8.6	% by mass

As per soil testing report provided by EKO PRO ENGINEEERS PVT LTD soils of International Agro Foods are Sandy loam which is used for irrigation purposes.

(Annexure-8)

Water Consumption in the Command Area

Water required for area under Karnal Plantation technology

Water required for irrigation with 248 Days @ 225 m^3/ha/day at an interval of 6 Days.

Total treated effluent used 225 m^3 x 2.45 ha x 41 cycles = 22601 m^3

Water required for green belt inside the slaughterhouse premises

Water required for irrigation with 248 Days @ 225 m^3/ha/day at an interval of 4 Days.

Total treated effluent used 225 m^3 x 1.34 ha x 62 cycles = 18693 m^3

Water required for Area under cropping

Water required for irrigation with 248 Days @ 225 m^3/ha/day at an interval of 6 Days.

Total treated effluent used 225 m^3 x 3.30 ha x 41 cycles = 30442 m^3

Waste water utilization detail

Location	Treated waste water as per CPCB protocol & crop requirement	Area in ha	Effluent used (M^3)
Area under Karnal Technology	225 X 41 cycles = 9225	2.45	22601
Area under green belt	225 X 62 cycles = 13950	1.34	18693
Area under cropping	225 X 41 cycles = 9225	3.30	30442
Total		**7.09**	**71736**

The total 7.09 ha of land availability has been identified. Hence, the quantity of effluent to be used in identified command area shall be 22601 m3/year for Karnal plantation whereas 18693 m3/year for area under green belt and 30442 m3 under cropping. The total utilization of treated effluent will be 71736m3/year, which is higher than compared to effluent generated 68944 m3/year by the slaughter house.

So the waste water consumption is more than waste water generation by International Agro Food which is as per CPCB/UPPCB norms. Therefore we can conclude from the above data and records provided by the slaughterhouse that this irrigation plan is adequate.

(Annexure-9)

The Karnal Technology & its performance

In this method of plantation, trees are grown on ridges and treated effluent is disposed off in furrows. The amount of the effluents to be disposed off depends on the age, type of plants, climatic conditions, soil texture and quality of effluent. It is possible to dispose off treated effluent through this technique.

This technique utilizes the entire biomass as living filter for supplying nutrients to the soil and plant. Irrigation renovates the effluent for atmospheric recharge and ground storage. Further as forest plants are used for fuel, wood, timber or pulp there is no chance of pathogens, heavy metals and organic compounds to enter into the human food chain system.

Though most of the plants are suitable for utilizing the effluents, yet those tree species which are fast growing can transpire high amounts of water and are able to withstand high moisture content. The root environments of these plants are most suitable for such purposes. Eucalyptus is one such specie which has the capacity to transpire large amounts of treated effluent and remains active throughout the year.

This system generates gross returns from the sale of fuel wood. The sludge accumulating in the furrows along with the decaying forest litter can be exploited as an additional source of revenue. This technology does not require highly skilled personnel and restoring environment to generate biomass for improving organic carbon, better production, productivity and fertility of soil. The International Agro Food adopted the Karnal Technology in 3 ha of its own land and planted eucalyptus in this area, which gives fuel wood, as well as for financial gain.

Plantation done by International Agro Food is not only economically beneficial but also helps in maintaining healthy environment for plants as well as human beings. Under Karnal Technology the remains of sludge in trenches is mixed with animal excreta and defoliated leaves which improves organic carbon in the soil after decomposition. It not only improves soil health but also the micro climatic conditions.

Therefore it is primarily seen that the performance of Karnal Technology is feasible for treated effluent consumption, financial gain by selling wood products, improving soil health and micro climatic conditions.

Work force deployed for irrigation management plan

International Agro Food has:

Supervisor – Farman Ali

(Graduate Environmental Management)

Skilled Labor

1. Asif Bhati
2. Sandeep
3. Rohit
4. Bindadin

(Annexure-10)

- ✔ The waste water usage is more than the waste water generated by International Agro Food.
- ✔ Hence the Irrigation Management Plan is adequate as per the data provided by International Agro Food.
- ✔ This report is made on the basis of data provided by slaughter house. It should not be used as a legal document.

Suggestions

1) This irrigation management plan is only feasible and applicable until the time International Agro Food is adopting Karnal Technology.
2) Technical expertise is required for carrying out the Karnal Technology.
3) Irrigation management plan should be revised at least in every 3 years by an expert institute.
4) Lagoon should be as per norms of CPCB.
5) Suggestions given in ETP adequacy report/CPCB/UPPCB regarding water quality must be followed/implemented.

(Y. K. Singh)
Assistant Professor, Department of Agronomy

(Manoj Mishra)
Assistant Director, Directorate of Research

सिविल इंजीनियरिंग विभाग

भारतीय प्रौद्योगिकी संस्थान, रुड़की - 247 667 (उत्तराखण्ड) भारत

DEPARTMENT OF CIVIL ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE - 247 667 (U.K.) INDIA

Dr. A. A. Kazmi

D. Engg. (Tokyo Univ.), M. Engg. (A.I.T. Bangkok)
B. Engg. (Hons.) (AMU), MIE, MIWRS, MIWA (U.K.) MWEF (USA)
Professor

Fax : +91-1332-275568
Phone: +91-1332-285725 (O), 284257 (Lab)
+91-1332-285226 (R)
Mob. : +91-9837262698
e-mail : absarakazmi@yahoo.com

To

Mr. Raveed Ahmed

International Agro Foods

Dasna

Ghaziabad

26th December 2019

Subject: Adequacy Report of ETP

Dear Mr. Raveed,

Please find enclosed herewith the Adequacy report of ETP of International Agro Foods, Dasna.

It is to inform you that we are closing this project in IIT.

A. A. Kazmi

79

ADEQUACY REPORT OF 750 KLD ETP, INTERNATIONAL AGRO FOODS, DASNA, GHAZIABAD U.P.

SUBMITTED TO

INTERNATIONAL AGRO FOODS,

DASNA, UTTAR PRADESH

December 2019

DEPARTMENT OF CIVIL ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE

ROORKEE

EXECUTIVE SUMMARY

The performance assessment and adequacy of process units of 750 KLD ETP of International Agro Foods was conducted based on grab sampling on 07th December 2019. The analysis results show that the treated effluent pH (6.7), BOD (25 mg/L, 98 % removal), TSS (26 mg/L, 99% removal), and COD (95 mg/L, 85% removal) satisfy the CPCB standards for the discharge of effluent from the slaughterhouse.

The ETP is designed for 750 KLD, but operating at 47% capacity (353 KLD) due to reduced slaughtering of animals. The adequacy of the size and performance of each unit process is assessed by design criteria and water quality analysis. It was observed that unit sizing of Pre-settler, two-stage aeration and secondary settling tanks, Pressure sand, and Activated carbon filters is adequate.

Aeration tanksare operating at MLSS, i.e., 2764 mg/L (Tank-1) and 1682 (Tank-2), which results in effluent BOD of 25 mg/L. The operating DO 1.8 and 2.1 mg/L in tanks 1 and 2, indicating the adequate blower capacity.

Even though the effluent is satisfying the CPCB effluent standards, additional measures are recommended for better functioning and improved effluent quality.

- **Monthly Monitoring of STP influent and effluent quality needs to be conducted.**
- **Logbook of DO, MLSS, SVI of aeration tanks need to be maintained.**
- **DAF or other pre-treatment unit is recommended for further improvement in final effluent quality.**
- **Frequent replacement (3-6 months) of the media of PSF and ACF is suggested for better polishing of secondary treated effluent.**

A. A. Kazmi
Professor

Ankur Rajpal
Research Associate

81

TABLE OF CONTENTS

82

LIST OF FIGURES

LIST OF TABLES

1. BACKGROUND

International Agro Foods slaughter house is located at Bhoor Garhi, Dasna, district Ghaziabad, U.P (Figure 1). It is spread in an area of36126 m^2 with Effluent Treatment Plant sitted in 1900 m^2 area. It has an infrastructure for a maximum slaughtering capacity of 750 buffalo/day. The plant has a processing capacity of Frozen meat142 MT/per and by-product Meat Bone 29.4MT/day, Tallow 9.8 MT/day. and Blood meal 1.125 MT/day.

The general slaughtering process is as follows:

1. Anti-mortem
2. Lairage
3. Slaughtering and Bleeding
4. Dressing
5. Evisceration
6. Carcass splitting

Figure 1. Google Earth Image of International Agro Foods.

Wastewater is produced during slaughtering processing such as tray washing, debarking, rendering, machine room washing, floor washing, and cleaning of the abattoir facilities. It is treated in 750 KLD ETP. Blood from the slaughterhouse is pumped to a blood coagulator, where it is dewatered by passing through steam. Dried blood is used as poultry food, and contaminated water from the coagulator is then transferred to the ETP for the treatment. The

85

waste from Lairage is pre-treated in an anaerobic digester. The pre-treated anaerobic effluent is sent to ETP for further treatment. Domestic wastewater is being treated through a septic tank, and the effluent is sent for irrigation. The total water balance and is given in Figure 2.

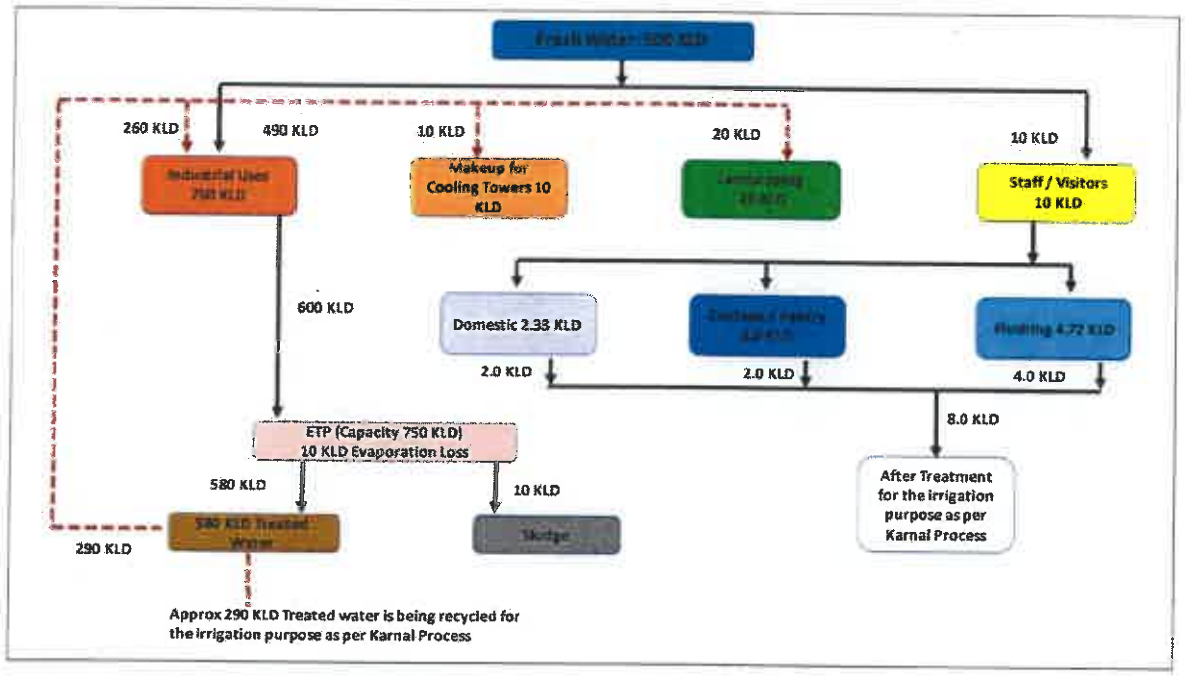


Figure 2. Water balance of International Agro Foods

To check the performance and efficacy of different process units of ETP, International Agro Foods had requested IIT Roorkee to conduct the technical audit of ETP.

2. INTRODUCTION

The ETP comprises of primary, secondary, and tertiary treatment. Primary treatment includes four Oil & Grease traps, three holding tanks, two chemical dosing tanks, twoEqualization tanks, and a Primary settling tank. Secondary treatment includestwo-stage activated sludge-based biological treatment and settling tanks. Tertiary treatment includes Sand filtration (SF) and Activated carbon filtration (ACF).

Treated effluent is recycled for irrigation purposes in Karnaltechnology, Gardening purpose in the factory premises washing, Boiler & Cooling Towers. Sludge is dewatered in a sludge six drying bed, which is further reused as organic manure.

86

3. OBJECTIVES OF THE REPORT

The key objectives of the report are:

1. Performance evaluation of the ETP to confirm whether ETP effluent quality fulfills the CPCB discharge standards.
2. Evaluation of the design capacity of each process unit of ETP w.r.t. Hydraulic and organic loading.
3. Recommendations for the improvement of ETP performance.

4. METHODOLOGY

The following approach was adopted for the study:

i) **Desk inventory**: The dry inventory was conducted based on background information available with International Agro Foods. It includes the study of flowsheet, layout, design, unit, and equipment sizes.

ii) **Wet Inventory:** The inspection was planned on 7thDecember 2019. IIT Roorkee team collected wastewater samples from different treatment stages of ETP.

Grab samples were collected from various stages of ETP, preserved in an icebox at 4°C before the analysis, and transported to the laboratory at IIT Roorkee within 24 h of sample collection. Samples collected from the ETP site were analyzed for Physico-chemical characteristics as per Standard Methods (APHA, 2012), and the data are summarized in Table 3.

The biota is analyzed by taking samples of mixed liquor from the aeration basin. 25µl sub-samples of mixed liquor were made with an automatic micropipette, and a minimum of four replicates of this volume was counted under phase-contrast illumination (100X magnifications). The sludge was kept constantly homogenized and aerated for the entire duration of analysis, to keep all of the solids in suspension.

07

5. TECHNICAL DETAILS OF ETP

5.1 PROCESS DESCRIPTION

The ETP scheme comprises of primary treatment includes Oil & Grease trap-4, Holding tanks-3, chemical dosing tanks-2, Equalization tanks-2, and Primary Settling Tank-1. Secondary treatment includes biological treatment based on two-stage activated sludge process Aeration Tanks-2 and Secondary Clarifiers-2 in series. Tertiary treatment includes Sand Filtration (SF) and Activated carbon filtration (ACF). The system is designed to treat the BOD and COD with a range of 2000-3000mg/L and 5000– 7000mg/L, respectively.

The Influent and Effluent design parameters are summarized in Table 1.0 and treatment flowsheet is provided in Figure 3.0

Table 1. Influent and Effluent Design parameter of ETP

S. No.	Parameters	Units	Inlet	Outlet
1	pH	-	5.0 - 7.0	7.0 – 8.0
2	BOD	mg/L	2000 -3000	<30
3	COD	mg/L	5000- 7000	<250
4	TSS	mg/L	4000 - 6000	<100
5	O&G	mg/L	200 - 250	<10
6	E.Coli	-	Present	Absent

5.1.2 Oil and Grease removal tank:

Effluent from various meat process units is drained into the Oil and grease removal tank. Here Oil and Grease or fatty material is skimmed manually.

5.1.1. Equalization Tank:

Effluent from various meat process units is drained into holding tanks, thereafter to the equalization tank after passing through an Oil & Grease trap tanks and screens (Solid Separator). The objective of the equalization tank is to minimize and control fluctuations in wastewater characteristics to provide optimum conditions for subsequent treatment processes. A diffused aeration system provides the mixing in an equalization tank.

5.1.3. Primary Clarifier:

After adding the chemicals (Alum + Caustic Crystal) in the chemical dosing tank, the wastewater is transferred to the primary clarifier, further settling of suspended solids takes

88

place. Treated effluent from the clarifier is transferred to two-stage aeration tanks for BOD &COD removal. Settled sludge is transferred to Sludge Drying beds.

5.1.4. Aeration tank and secondary clarifier

The treated effluent from primary clarifier flows to two stages activated sludge process, i.e., Aeration Tank-1 and secondary clarifier-1 and Aeration Tank-2 and secondary clarifier 2. In aeration tank, Mixed Liquor Suspended Solids degrade the organic matter in the presence of air. Atmospheric air is introduced to aeration tank by diffusers. Microorganisms utilize oxygen and convert the organic matter to carbon dioxide and new biological flocs known as mixed liquor suspended solids (MLSS).The MLSS is separated from treated water in the secondary clarifier. A return activated sludge (RAS) equipment to transfer settled activated sludge from the clarifier to the aeration tanks.

The treated effluent is collected in a clear water tank from where it is pumped to PSF and ACF. The clear water after PSF and ACF utilized for horticulture and discharged to storm water drain outside the slaughterhouse premises.

Excess sludge from the secondary settling tank is transferred to the sludge drying beds for dewatering.

5.1.5 UNIT SIZING AND PROCESS EQUIPMENTS OF ETP

The unit size of different units, including volume, surface areas and process equipmentare provided in Tables 2& 3.

Table 2. Unit Sizes of 750 KLD, ETP

S. No	UNIT	NUMBERS	SIZE	VOLUME (m^3)
1	Oil & Grease Trap Tank	4	3.0m x 1.9m x 3.0m	17.1
			3.0m x 1.9m x 3.0m	17.1
			3.0m x 1.9m x 3.0m	17.1
			3.0m x 1.9m x 3.0m	17.1
2	Holdings tank	3	10.82m x 4.06m x 3.0m	131.78
			6.17m x 3.88m x 3.0m	71.81
			4.42m x 4.13m x 3.0m	54.76
3	Equalization tank	2	3.0m x 3.0m x 2.5m	22.5
			3.0m x 3.0m x 2.5m	22.5
4	Solid Separators/Screen	2	Dia. 0.94 m Length 2.03 m	1.41

			Dia. 0.94 m Length 2.03 m	1.41
5	Chemical Dosing Tank	2	8.3 m x 4.1 m x 1.15 m	39.13
			8.3 m x 4.1 m x 1.15 m	39.13
6	Aeration tank -1	2	14.71 m x 9.6 m x 5.18 m	731.14
7	Aeration tank -2		15.16 m x 9.6 m x 4.62 m	672.37
8	PST Tank	1	Dia. 7.31 m Depth 4.01 m	168.19
9	Secondary clarifier -1	1	Dia. 7.31 m Depth 4.01 m	168.19
10	Secondary clarifier -2	1	Dia. 7.31 m Depth 4.01 m	168.19
11	Disinfection tank	1	3.96 m x 3.04 m x 4.57 m	55.01
12	Treated water tank	1	11.5 m x 9.5 m x 3.5 m	382.37
13	Sand Filter	1	Dia. 1.62 m x 2.69 m	5.54
14	Activated Carbon Filter	1	Dia. 1.62 m x 2.69 m	5.54
15	Sludge Drying Bed	4	3.0 m x 3.0 m x 3.5 m	31.5
			3.0 m x 3.0 m x 3.5 m	31.5
			3.0 m x 3.0 m x 3.5 m	31.5
			3.0 m x 3.0 m x 3.5 m	31.5
		2	3.35 m x 3.58 m x 2.23 m	26.7
			3.35 m x 3.58 m x 2.23 m	26.7

Table 3. Mechanical Equipment of ETP

1.	Influent Transfer Pumps	4	7.5 H.P. Discharge 75 KLPH	-
2.	Air Blowers	4	30.0 H.P.of capacity 701 m3/h	-
3.	EQT to Biogas digester	2	5.0 H.P. Discharge 50 KLPH	
4.	Sludge Transfer Pumps	6	5.0 H.P. Discharge 50 KLPH	-
5.	Feed to PSF and ACF	2	55.0 H.P. Discharge 55 KLPH	
6.	Final outlet pump to garden	2	7.5 H.P. Discharge 75 KLHP	

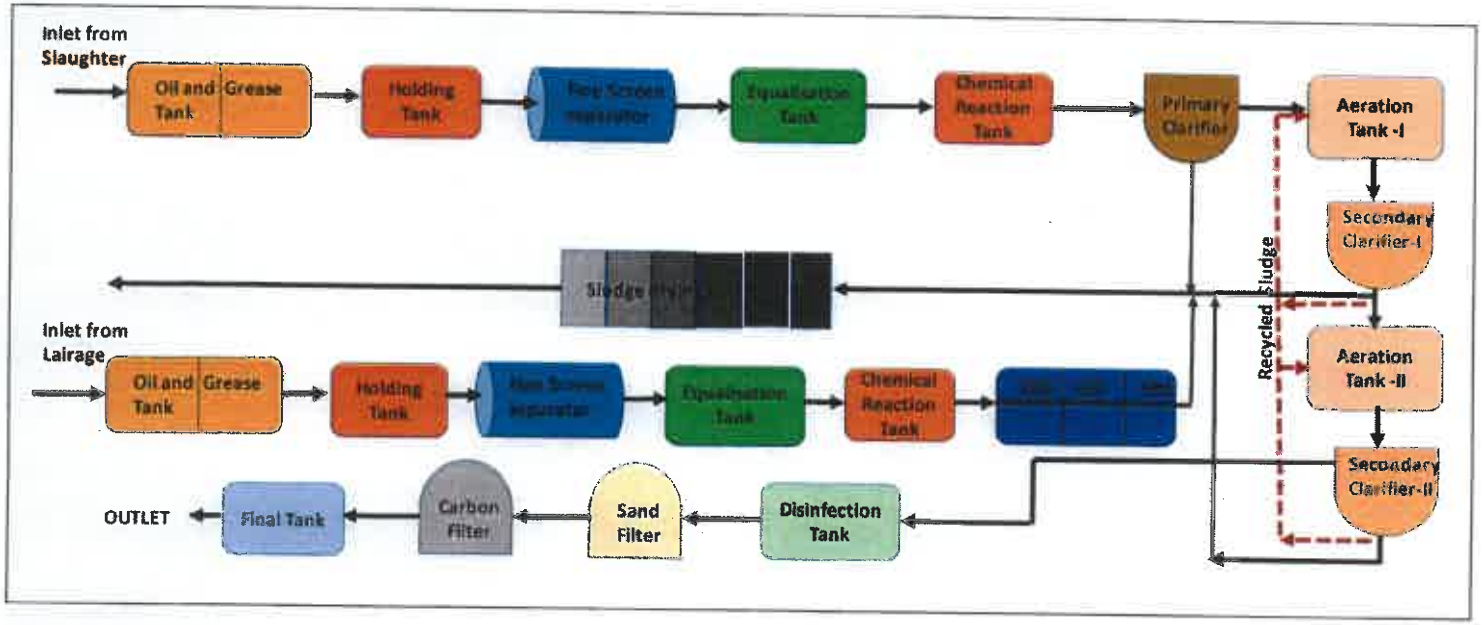


Figure 3. Flow scheme of ETP

6. PERFORMANCE EVALUATION OF ETP

6.1 FLOW AND WATER QUALITY

The wastewater inflow was353 KLD during the site visit. Hence, the ETP is operating at 47 % of treatment capacity. Daily discharge data of ETP for October 2019 is shown in Figure 4. The ETP was designed to treat the wastewater BOD and COD of 2000-3000 and 5000-7000 mg/L, respectively. The results obtained from the analysis of wastewater samples after each unit process of ETP are summarized in Table 4. Visual comparison of influent and effluent is also shown in Figure 5. The figure shows that even though the effluent satisfies the discharge standards, but clarity can be improved by standard operation practice of sand and activated carbon filters. The water quality of different unit processes summarized in Table 4.0.

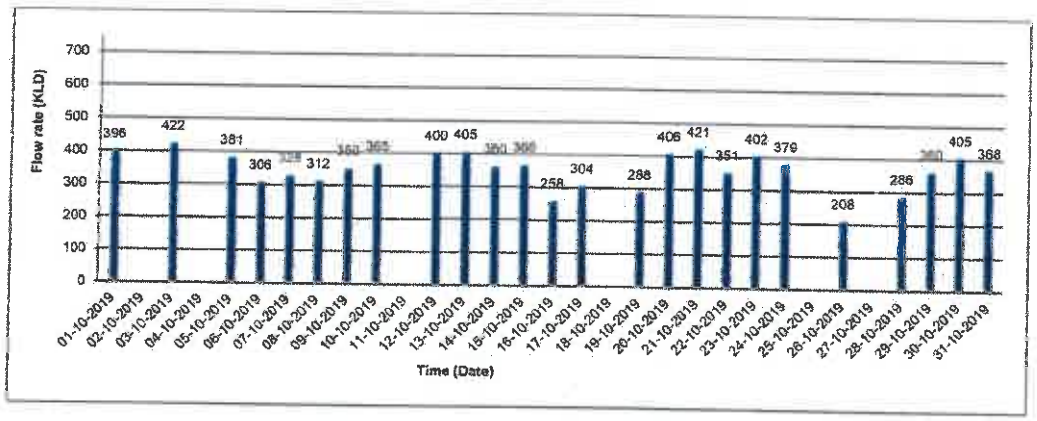


Figure 4. Wastewater flow rate in KLD to the ETP during Oct. 2019

Figure. 5. Sample of ETP's Inlet (Left) and treated effluent (Right)

92

Table 4. Summary of monitoring results obtained from different location of ETP

Parameters	Unit	Equalization Tank	Primary Clarifier outlet	Secondary clarifier-1 Outlet	Secondary clarifier-2 Outlet	Final Outlet (Sand Filter +ACF)	Removal (%)	CPCB Standards
pH	-	7.06	7.7	7.4	6.7	6.7	-	6.5-8.5
Turbidity	NTU	250	148	20.9	13.9	8.4	96	-
Alkalinity	mg/L	850	520	68	40	34	96	-
BOD	mg/L	1422	657	33	27	25	98	30
COD	mg/L	1783	1262	145	92	85	95	250
TSS	mg/L	2295	197	52	49	26	99	50
NH_4-N	mg/L	176.8	187.5	2.9	2.8	1.6	99	-
NO_3-N	mg/L	5	2	78	98	96	-	-
T-N	mg/L	228	-	-	-	115	50	-
PO_4-P	mg/L	14	1.2	4.5	5.1	4.9	65	-

* ***CPCB Standards for the discharge of effluent from the slaughterhouse,*** *Revised Comprehensive Industry Document on Slaughterhouses, CPCB, 2017.*

6.2. ORGANIC MATTER (BOD& COD) REMOVAL

Analysis of the collected samples during the ETP visit showed BOD concentration in the final effluent is 25 mg/L, and the overall BOD removal efficiency of the ETP is 98%. Hence, BOD removal efficiency is high. Similarly, effluent COD value is 85 mg/L (95%), thus, final effluent satisfies CPCB effluent discharge standards.Aeration tanks for BOD and TSS removal and PSF and ACF for polishing secondary treated wastewater.

6.3. TOTAL SUSPENDED SOLIDS REMOVAL

TSS in the effluent is 26 mg/L (99% Removal), thus satisfies the CPCB effluent discharge standards.

6.4 NITROGEN AND PHOSPHORUS

Nitrogen - NH_4-N concentration reduced from 176.8 mg/L to 1.6 mg/L in final outlet indicating nitrification (99%). The total nitrogen removal in the system was almost around 50%.

Phosphorus - PO_4-P concentration reduced due to chemical dosing (Alum) from 14 mg/L (average in influent) to 4.9 mg/L (65% removal). No enhanced biological phosphorus removal was observed in the system.

As shown in Table 5, the Aeration tanks are operating at MLSS, i.e., 2764 mg/L (Tank-1) and 1682 (Tank-2), which results in effluent BOD of 25 mg/L.

Table 5. Process operational parameter of Aeration basin

Parameters	Unit	Tank -1	Tank - 2
Influent Flow	KLD	353	353
SV_{30}	mL/L	260	150
SVI	mL/gm	94	89
MLSS	mg/L	2764	1682
MLVSS	mg/L	1093	918
OUR	mg/L.h	19.2	5.2
SOUR	$mgO_2\ g^{-1}VSS.h$	17.5	5.6

6.5 SLUDGE VOLUME INDEX (SVI) TESTS

The sludge volume index (SVI) is a measure of the settleability of the activated sludge in a secondary or final clarifier. Lower values of the SVI indicate better sludge settleability. It is the volume in mL occupied by one gram of MLSS after 30 minutes of settling in a 1,000 mL graduated cylinder and have units of mL/g. The SVI test is shown in figure 6.

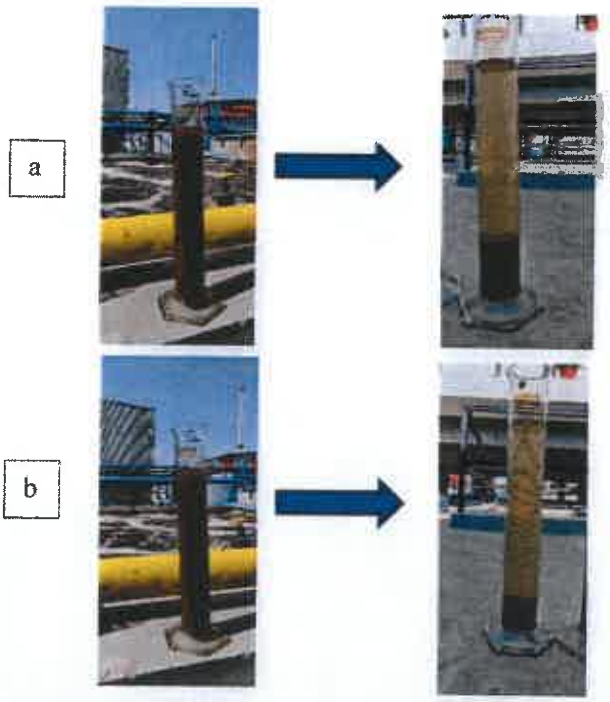


Figure 6. Sludge settling after 30 min a) in aeration tank-1 b) aeration tank-2

It can be interpreted that excellent interface or zone settling is observed in SVI cylinders with values of SV30 260 mL/L and 150 mL/L in tank-1 and tank-2, respectively, and SVI values observed of 94 mL/g and 89 mL/g in tank-1 and tank-2, respectively. It shows that the sludge is non-bulking in nature.

6.6 SPECIFIC OXYGEN UPTAKE RATE (SOUR)

The specific oxygen uptake rate (SOUR) is a measure of the amount of oxygen used by microorganisms to consume one gram of food. It is reported as mg/l of oxygen used per gram of the volatile suspended solids in the activated sludge. It is a relative measure of the rate of biological activity. As microorganisms become more active, the SOUR increases and vice versa. For analysing OUR, the sample of mixed liquor was filled into a 1000 mL capacity flask containing a magnetic stirring device (Figure 7). The sample was aerated for several minutes to reach the saturation DO concentration in the order of 7.8 mg/L. Then immediately, a DO probe was inserted into the flask. Enough sample was displaced with the probe containing the electrode to fill the flared top of the bottle to isolate itscontents from the atmosphere. The example was then stirred to provide adequate mixing, and the DO was monitored for 10 minutes at a 1-minute interval.Based on the above graph, the specific oxygen uptake rate (SOUR) was calculated as 17.5 and 5.6 $mgO_2\ g^{-1}VSS.h$ in tank-1 and tank-2, respectively, which represents very good activity of microorganisms for the degradation of organic matter.

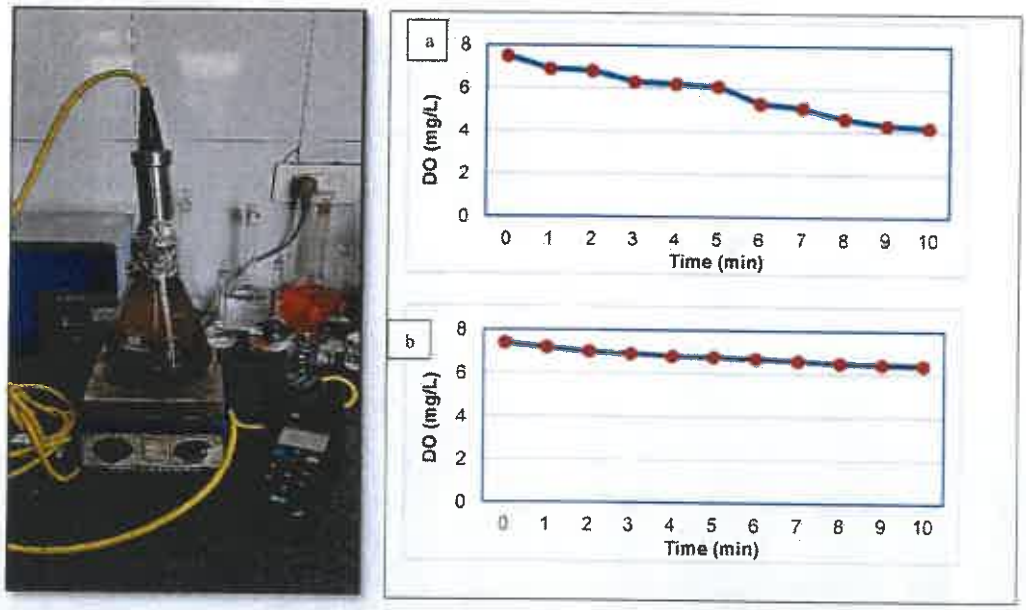


Figure 7. Oxygen uptake rate demonstration and DO reduction with time for a) aeration tank-1, b) tank-2

95

7.0 MICROBIOTA STUDY

7.1 Introduction:

Protozoa are single-celled organisms ranging in size from 10 microns to over 300 microns. They are easily visible under the microscope at 40 X and 100X magnification. Their primary function is the treatment process is to remove non-flocculent bacteria and very small floc that would not settle. Protozoans are responsible for the flocculation process, which results in the biosorption phenomenon of organic particles. These processes are essential in the treatment of conventional pollutants and micro-contaminant degradation. Hence, the presence or absence of protozoa is an indicator of the number of bacteria in the sludge and the degree of treatment.

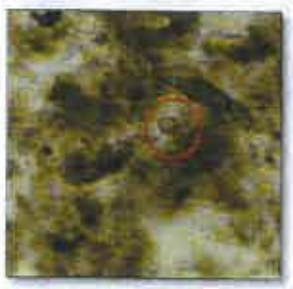
7.2 Methodology:

Qualitative microscopic observations were carried out in mixed liquor sample of aeration tank. 25 µL sub-samples of sludge were examined under phase contrast (Optica SN462763) illumination at 20X and 40X magnifications. Four replicates of final volume 1 mL were tested. Enumeration of microbiota was done according to scale where, (+) = 5-10 protozoans/mL; (++) = 10-100 protozoans/mL; (+++) = 100-1000 protozoans/mL; (++++) = >1000 protozoans/mL.

7.3 Results:

Counting of microbiota includes protozoa, metazoa, and filamentous organisms carried under a phase-contrast microscope at 20 X, and 40 X magnifications are shown in table 6.

Table 6: Microbiota profile and the sludge conditions in Aeration Tank-1

S.No.	Microbiota	Enumeration		Microscopic Images	Remarks
Amoeba					
1.	Arcella	+++	++		*Occurs under High organic Load or high F/M ratio*

96

Flagellates					
2.	Peranema	++	++		*The indicator of satisfactory effluent quality appears when the sludge is in the recovering state.*
Free Swimming Ciliates					
3.	Aspidisca	++	++		*Indicator of good effluent quality, Good DO, and oxidation condition.*
4.	Litonotus	+ +	++		*Treatment is satisfactory, and F/M is low*
Sessile Ciliates					
6.	Vorticella	++++	+++		*Treatment is satisfactory, as found in an adequate number.*

97

Rotifers/Rotaria					
8.	*Worms (Juvenile)*	+	++		*Indicator of good quality effluent when finding in abundant.*
Filamentous organisms					
9.	*Filaments*	++	++		*Multiplies in the aerobic system leading to sludge bulking*

7.4 Conclusion:

An adequate microbiota in indicating a well working condition of aeration tanks of ETP.

8.0 SLUDGE PRODUCTIONAND SLUDGE CHARACTERISTICS

On an average, 8 -10 KLD sludge produce from the clarifier is pumped to the sludge drying beds. Four nos. of the bed are arranged for drying purposes (Figure 8).Sludge from the anaerobic digesters also pumped to 2 other sludge drying beds. Approx. One trolley (10000 kg) sludge cakes are formed and disposed nearby for composting, and sometimes burned in the boiler.

Figure 8. Sludge drying bed at ETP site

Table 7. Dewatered Sludge Characteristics

Parameters	Units	Value	Organic Compost (FCO 2009)
pH	-	7.5	6.5-7.5
Moisture content	(%)	63	15-25
Organic matter	(%)	61	-
Total Organic Carbon, percent by weight	(%)	40	12
Total Nitrogen (as N), percent by weight	(%)	7.5	0.8
Total Phosphate (as P_2O_5), percent by weight	(%)	2.9	0.4
Carbon Nitrogen Ratio (C/N)	-	5.3	<20

The dewatered sludge samples were taken from the drying bed and analysed for TOC, TN, TP (Table 7). All parameter was within the standard of Organic Compost (FCO 2009), and sludge is rich in nutrient and can be used as high-quality organic fertilizer after composting.

9.0 DESIGN EVALUATION

Equalization tank

Equalization Tank: To homogenize the effluent generated from various process units. Compressed Air is provided for uniform mixing.

Size:3.0m x 3.0m x 2.5m each

Number: 2

Volume: 45.0 m^3

Mixing: Compressed Air

Parameter	Value	Remarks
Average Flow (KLD)	353	-
Average Flow (m^3/h)	14.7	-
Peak flow (m^3/hr)	44.1	2.5
The volume of equalization tank required (m^3)	66.15	1.5 h detention at Peak Flow
Equalizations Tank total volume available (m^3)	45.0	-
Additional Holding Tanks volume	258.75	
Total Equalization + Hold Tank Volume	303.75	

IIT Comment: The cumulative size of holding and equalization tanks is adequate

Chemical Dosing Tank	
	**Chemical Dosing Tanks:** To remove TSS from influent coming from the equalization tank. In these tanks, effluent is mixed with chemicals (Caustic Crystal and Alum) to maintain pH for effective coagulation and flocculation. The suspended solid trapped flocs easily settle in a primary settling tank **Number: 2** **Size:** 8.3 m x 4.1 m x 1.15 m **Volume:** 78.26 m^3 **MOC:** MS-2062 epoxy coated
Average flow (m^3/d)	353
Average Flow (m^3/h)	14.7
Alum dose (PPM)	800
Caustic Crystal (PPM)	200
IIT Comment: The system is working properly as the TSS removal efficiency in primary clarifier is very high.	

Primary Clarifier	
 	**Primary Clarifier:** After adding the chemicals (Alum + Caustic Crystal), the treated/underflow transferred to the primary clarifier tank, where further settling of suspended solids takes place. Treated effluent from the clarifier is transferred to the aeration tanks for BOD and TSS removal. Settled sludge is transferred to Sludge Drying beds. **Number: 1** **Size:** Dia. 7.31 m Depth 4.01 m **Surface Area :** 41.94 m^2 **Volume :** 168.2 m^3
Average flow (m^3/d)	353
Average Flow (m^3/h)	14.7
Surface Area of clarifier (m^2)	41.9
Overflow rate for clarifier (m^3/m^2.d)	8.42 (25-30 m^3/m^2.d)-CPHEEO Manual
IIT Comment: Dimensions are adequate and system is operating properly. TSS removal efficiency is 91.4%, which is excellent and acceptable.	

Aeration tanks

Aeration tank: To remove organic matter in an aeration basin in which microorganisms metabolize the suspended and soluble organic matter. Part of organic matter synthesized into new cells (MLSS), and the portion is oxidized to CO_2. The detail of the process is provided in the process description.

Numbers: 2 in series

Size: 14.71 m x 9.6 m x 5.18 m
15.16 m x 9.6 m x 4.62 m

Volume: AT –731.14 m^3,
AT- 672.37 m^3

MOC: RCC-M25

Aeration: Fine bubble diffused aeration

Average flow (m^3/d)	353
Operating flow (m^3/hr)	14.7
Volume of aeration tank -1 (m^3)	731.14 m^3
HRT for Tank -1 (hours)	49.7
Influent BOD for aeration Tank-1 (mg/L)	1722
Food (F) (kg BOD per day) for Tank -1	353 m^3/d x 1722 mg/L /1000 L/m^3 = 607.9 kg BOD/day
MLSS (mg/L) or (g/m3) in Tank -1	2764
Microorganism (kg) in Tank -1	2764 mg/L x (731.14 m3)x1/1000 = 2020.9 kg
F/M for Tank-1	607.9 kg/day/ 2020.9 kg = 0.3 day^{-1}
HRT for Tank -2 (hours)	45.7
Influent BOD for aeration Tank-2 (mg/L)	33
Volume of aeration tank -2 (m^3)	672.37 m^3
Food (F) (kg BOD per day) for Tank -2	353 m3/d x 33 mg/L /1000 L/m^3 = 11.6 kg BOD/day
MLSS (mg/L) or (g/m3) in Tank -2	1682
Microorganism (kg) for Tank -2	1682 mg/L x (672.37 m^3)x1/1000 = 1130.9 kg
F/M for Tank-2	11.6 kg/day/ 1130.9 kg = 0.01 day^{-1}

IIT Comment: The system is operating at F/M ratio in aeration Tank -1 is 0.3 day^{-1} and aeration Tank -2 is 0.01. The size of aeration tank is found to be adequate. However, aeration Tank -1 is operating at higher F/M to absorb higher BOD shock load, while Tank -2 is operating at much lower F/M ratio for polishing treatment.

Air requirement for aeration basins	
	**Air Blower:** To provide air for biological oxidation of organic matter in aeration tanks **Number:** 4 **Type:** UGRK-220 **Capacity:** 850 m3/h each
Flow (KLD)	353
Influent BOD (mg/L)	1722
Effluent BOD standard (mg/L)	30
BOD to be removed (mg/L)	1692
Total BOD to be removed (in Kg/d)	597.27
Oxygen required per Kg of BOD removal (kg O_2/kg BOD)	1.2 (CPHEEO Manual)
Total oxygen required (kg/d)	716.73
Total oxygen required (kg/hr)	29.86
Considering AOR/SOR= 0.4, oxygen transfer efficiency as 12%, 21% oxygen content from atmospheric air & 1.18 is density of air.	
The total air requirement (m^3/hr)	1004 m^3/h
The capacity of air blowers provided (m^3/hr)	701 x 2 = 1402 m^3/h
IIT Comment: Blower Capacity is found to be adequate	

Secondary Clarifiers	
 	**Secondary clarifier:** To separate suspended biomass through gravity settling from the effluent, coming from aeration basins. The fraction of this biomass is also recirculated in aeration basis to maintain optimum MLSS concentration. **Number:** 2 **Size:** Dia. 7.31 m Depth 4.01 m Dia. 7.31 m Depth 4.01 m **Surface Area:** 41.9 m^2 **Volume:** 168.2 m^3 + 168.2 m^3 Total**Volume**= 336.4 m^3
Operating flow (m^3/d)	353
Surface Area of clarifier -1 (m^2)	41.9
Overflow rate for clarifier -1 (m^3/m^2.d)	8.42 (<15 m^3/m^2.d)-CPHEEO Manual
MLSS concentration clarifier -1 (mg/L)	2764
Solid loading rate clarifier -1 (kg/m^2.d)	353 x 2764/1000/41.9= 23.3 kg/m^2.day (25-120kg/m^2.d) -CPHEEO Manual
Surface Area of clarifier -2 (m^2)	41.9
Overflow rate clarifier -2 (m^3/m^2.d)	8.42 (<15 m^3/m^2.d)-CPHEEO Manual
MLSS concentration clarifier -2 (mg/L)	1682
Solid loading rate clarifier -2 (kg/m^2.d)	353 x 1682/1000/41.9= 14.2 kg/m^2.day (25-120 kg/m^2.d) -CPHEEO Manual
IIT Comment: The size of secondary clarifier to be adequate as per current operating conditions.	

SAND FILTER	
	**Pressure Sand Filter:** To remove residual suspended solids **Number:** 1 **Size:** Dia. 1.62 m x 2.69 m **Surface Area:** 2.06 m^2 **Volume:** 5.19m^3, MS-2062 epoxy coated
Operating flow (m^3/hr)	14.7
Surface Area of filter (m^2)	2.06
Rate of Filtration ($m^3/m^2.h$)	7.13 (5-7.5 m3/m^2.h -US EPA)
IIT Comment: The size of the pressure sand filter is found to be adequate as per current operating conditions.	

ACTIVATED CARBON FILTER	
	**Activated Carbon Filter (ACF):** To remove suspended matters up to 30 microns size, to remove organics contributing to COD and specific color causing molecules. **Number: 1** **Size:** Dia. 1.62 m x 2.69 m **Surface Area:** 2.06 m^2 **Volume:** 5.19 m^3, **MOC:** MS-2062 epoxy coated
Operating flow (m^3/hr)	14.7
Surface Area of filter (m^2)	2.06
Rate of Filtration ($m^3/m^2.h$)	7.13 (should be< 12 $m^3/m^2.h$)

IIT Comment: The size of the Activated Carbon filter is found to be adequate as per current operating conditions.BOD, COD, and TSS removal efficiencies of combined Pressure sand and activated carbon filter are 7.0, 8.0, and 47%, respectively. Although TSS removal efficiency is acceptable but COD removal is questionable. Hencefrequent replacement (3-6 months) of the media of PSF and ACF is required for better polishing of effluent.

107

10.0CONCLUSION

The performance assessment and adequacy of units of 750 KLD ETP of International Agro-Food was conducted based on grab sampling, dated 7thDecember 2019. The result shows that effluent pH (6.7), BOD (25 mg/L, 99 % removal), TSS (26 mg/L, 99% removal), COD (85 mg/L, 95% removal) satisfies the CPCB standards for discharge of effluent from slaughterhouse.

11.0 RECOMMENDATIONS

Even though the effluent is satisfying the CPCB effluent standards, some measures are recommended for better functioning and improved effluent quality.

- **Monthly Monitoring of STP influent and effluent quality needs to be conducted.**
- **Logbook of DO, MLSS, SVI of aeration tanks need to be maintained**
- **DAF or other pre-treatment unit is recommended for further improvement in final effluent quality.**
- **Frequent replacement (3-6 months) of the media of PSF and ACF is required for better polishing of effluent.**

12.0 REFERENCES

1. APHA (2012), for the examination of water and wastewater (22nd edition)
2. Revised Comprehensive Industry Document on Slaughterhouses, CPCB, 2017
3. CPHEEO suggested guidelines for water reuse (CPHEEO 2013).

Annexure-VI

GROUND WATER DEPARTMENT

(Namami Gange & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

Form 8 (E)

[See rules 15(2)]

(RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: REG010236

VALID FROM 11/11/2018 TO 10/11/2023

Registration No.: 202109000307			
Name of the Owner	MOHD SALEEM QURESHI		
Address of the Applicant	Khasra No-2761 Bhorgarhi, Dasna, Ghaziabad	**Application Form Serial No.**	GZBD1121RIN0240
Date of Submission	11/09/2021	**Specimen Signature**	
Company Name	Al Nasir Exports Pvt Ltd	**Company Address**	Khasra No-2761, village Bhoorgarhi, Dasna, Ghaziab
Location Particulars			
District	Ghaziabad	**Block**	RAJAPUR
Plot No./Khasra No.	Khasra No-2761, village Bhoorgarhi,	**Municipality/Corporation**	No
Ward No./Holding No.			N/A
Particular of the Existing Well and Pumping Device			
Date of Construction/Sinking of the Well	11/04/2012		
Type of Well	Tube Well/Boring	**Depth of the Well (In meter)**	48.00
Purpose of well	Industrial	**Assembly Size(For Tube Well)**	
Strainer Position (For Tube Well)			
Type of Pump Used	Submersible	**H.P. of the Pump**	2.00
Operational Device	Electric Motor	**Rate of Withdrawal (m^3/hr.)**	10.00
Date of Energization (In Case of Electric Pump)		11/04/2012	
Maximum Allowable Rate of Withdrawal (m^3/hr.):	10.00	**Maximum Allowable Running Hours Per Day:**	10.00
Maximum Allowable Annual Extraction of Ground Water:			33000
Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण	For the industrial use of ground water to operate the plant.		
Against Case			

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (3) for extraction of ground water at a

rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

Conditions

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at SL (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) n case, any of the particulars I information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- • The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

S.No	Quantum of Ground water withdrawal (cum/day)	No.of piezometers required	Monitiring Mechanism	
			Manual	DWLR with Telemetry
1	< 10	0	0	0
2	11 - 50	1	1	0
3	50- 500	1	0	1
4	> 500	2	0	2

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care of.
- (11) Any other condition(s) that may be imposed by the concerned Authority.

110

- (12) In case, any of the particulars I information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- **SPECIFIC CONDITIONS:**
- (A) **For Industrial User:** No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m^3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department, Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no.10 shall be mandatory for industries drawing/ proposing to draw more than 10 m^3/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) **Infrastructural User:** The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m^3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

Date :**02/03/2022**

Place:**Ghaziabad**

This certificate is electronically generated and does not require digital signature

GROUND WATER DEPARTMENT
(Nagarik Ganga & Rural Water Supply Department)
Ministry of Jal Shakti
Government of Uttar Pradesh

Form 8 (E)

[See rules 15(2)]

(RENEWAL OF AUTHORIZATION/ NO-OBJECTION CERTIFICATE FOR SINKING OF EXISTING WELL FOR INDUSTRIAL/ COMMERCIAL/ INFRASTRUCTURAL OR BULK USER OF GROUND WATER)

AUTHORIZATION/ NO-OBJECTION CERTIFICATE NO: REG017479

VALID FROM 22/11/2021 TO 21/11/2026

Registration No.: 202106000519

Name of the Owner	MOHD SALEEM QURESHI		
Address of the Applicant	Khasra No-2761 Bhorgarhi, Dasna, Ghaziabad	Application Form Serial No.	GZBD0621RIN0088
Date of Submission	23/06/2021	Specimen Signature	
Company Name	Al Nasir Exports Pvt Ltd	Company Address	Khasra No-2761, village Bhoorgarhi, Dasna, Ghaziab

Location Particulars

District	Ghaziabad	Block	RAJAPUR
Plot No./Khasra No.	Khasra No-2761, village Bhoorgarhi,	Municipality/Corporation	No
Ward No./Holding No.			N/A

Particular of the Existing Well and Pumping Device

Date of Construction/Sinking of the Well	11/04/2012		
Type of Well	Tube Well/Boring	Depth of the Well (in meter)	48.00

112

Purpose of well	Industrial	Assembly Size(For Tube Well)	
Strainer Position (For Tube Well)			
Type of Pump Used	Submersible	H.P. of the Pump	7.50
Operational Device	Electric Motor	Rate of Withdrawal (m^3/hr.)	30.00
Date of Energization (In Case of Electric Pump)		11/04/2012	
Maximum Allowable Rate of Withdrawal (m^3/hr.)	30.00	Maximum Allowable Running Hours Per Day:	10.00
Maximum Allowable Annual Extraction of Ground Water:			99000
Reason for renewal of N.O.C. एन.ओ.सी. के नवीनीकरण का कारण	We need this much ground water to continuously run our plant on daily basis for both both industrial as well as domestic usage.		

Against Case

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at Sl. (3) for extraction of ground water at a rate not exceeding that as shown at Sl. (3j), for Running Hours per day as shown at Sl. (3k), and for maximum allowable annual extraction of ground water as shown at Sl. (3k) and is valid subject to the observance of the conditions stated overleaf.

Conditions

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix digital water flow meters(conforming to BIS/ IS standards) having telemetry system in the abstraction structure, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(e) shall not exceed to the recorded rate from water meters.
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, in the situation of demands.
- (5) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (6) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (7) In case, any of the particulars / information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (8) The Certificate of Authorization/ NOC shall be valid for a period of five years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.
- (9) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (10) Guidelines for Installation of Piezometers and their Monitoring
- Piezometer is a borewell /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC
- • The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6"

- • The depth of the piezometer should be same as in case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- • No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table.

S.No	Quantum of Ground water withdrawal (cum/day)	No.of piezometers required	Monitiring Mechanism	
			Manual	DWLR with Telemetry
1	< 10	0	0	0
2	11 - 50	1	1	0
3	50- 500	1	0	1
4	> 500	2	0	2

- • The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimals.
- • For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- • The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- • All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- • The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October-November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- • A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- • Any other site-specific requirement regarding safety and access for measurement may be taken care of.
- (11) Any other condition(s) that may be imposed by the concerned Authority.
- (12) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- SPECIFIC CONDITIONS
- (A) For Industrial User: No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:
- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m^3/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to Ground Water Department, Uttar Pradesh. All such industries shall be required to reduce their ground water use by at least 20% over the next five years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in General Condition no 10 shall be mandatory for industries drawing/ proposing to draw more than 10 m^3/day of ground water and Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 50 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Monthly water level data shall be submitted online to the Ground Water Department, UP.
- v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
- vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.

- vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution.
- (B) Infrastructural User: The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:
- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data online to Ground Water Department, UP as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by District Ground Water Management Council.
- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m^3 /day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.

Date: 06/12/2021
Place Ghaziabad

This certificate is electronically generated and does not require digital signature

Annexure - VII

U.P. Pollution Control Board

CONSENT ORDER

Ref No. -
78826/UPPCB/Ghaziabad(UPPCBRO)/CTO/water/GHAZIABAD/2019

Dated : 12/03/2020

To ,

Shri MOHD SAALIM QURESHI
M/s AL NASIR EXPORTS PVT LTD
Khasara No. 2761, Bhoorghari, Dasna, Ghaziabad (U.P.),GHAZIABAD,201015
GHAZIABAD

Sub : Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974 (as amended) for discharge of effluent to M/s. AL NASIR EXPORTS PVT LTD

Reference Application No :6933040 **Dated :12/03/2020**

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act,1974 as amended (here in after referred as the act) M/s. AL NASIR EXPORTS PVT LTD is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tant/soak pit subject to general and special conditions mentioned in the annexure ,in refrence to their foresaid application .
2. This consent is valid for the period from 01/01/2020 to 31/12/2024 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Previntion and Controt of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

Ashok Kumar Tiwari Digitally signed by Ashok Kumar Tiwari Date: 2020.03.12 12:30:58 +05'30'

For and on behalf of U.P. Pollution Control Board

C.E.O
C-1

Enclosed : As above
(condition of consent):

Copy to: Regional Office, U.P. Pollution Control Board, Ghaziabad

Ashok Kumar Tiwari Digitally signed by Ashok Kumar Tiwari Date: 2020.03.12 12:31:03 +05'30'

C.E.O
C-1

U.P. POLLUTION CONTROL BOARD, LUCKNOW

Annexure to Consent issued to M/s.AL NASIR EXPORTS PVT LTD vide

Consent Order No. 6933040/ Water Dated : 12/03/2020

CONDITIONS OF CONSENT

1. This consent is valid for the approved maximum slaughtering capacity Slaughtering of 200 buffaloes per day and 100 Goats per day producing Frozen Meat-50 MT/Day, MBM-11MT/day, Tallow-4 MT/day per day.
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
3. The unit should follow the various provisions of "REVISED COMPREHENSIVE INDUSTRY DOCUMENT ON SLAUGHTER HOUSES" issued by Central pollution Control Board in October 2017.
4. The slaughter house will follow the various provisions of rules and regulations as mentioned in the " Compendium of Indian Standards on Slaughter House".
5. The slaughtering of the cow & its progeny is not permitted under any circumstances.
6. The industry should strictly follow the various Acts & guidelines mentioned in the compendium compiled in compliance of the Hon'ble Supreme Court order dated 17-02-2017 in the matter of W.P.(Civil) No. 330/2001, Common Cause V/s Govt. of India, W.P. No. 44/2004, contempt petition 124/2015 annexed with W.P. (Civil) No. 309/2003 Laxmi Narayan Modi V/s Govt. of India and ors.
7. The industry should provide the linkage of the CCTV cameras installed at the entry points, lairage and meat processing unit to the DM office and on the public portal. It will be the responsibility of the industry to comply with the various conditions of the permission taken from local administration or any other government department.
8. The quantity of maximum daily effluent discharge should not be more than the following :

Effluent Discharge Details			
S.No	**Kind of Effulant**	**Maximum daily discharge,KL/day**	**Treatment facility and discharge point**
1	Domestic	4 KLD	Septic Tank
2	Industrial	200 KLD	ETP

9. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. The treated domestic and industrial effluent if discharged outside the premises, if meets at the end of final discharge point, arrangement should be made for measurement of effluent and for collecting its sample. Except the effluent informed in the application for consent no other effluent should enter in the said arrangements for collection of effluent. It should also be ensured that domestic effluent should not be discharged in storm water drain.

9(a) The domestic effluent should be treated in treatment plant so that the should be in conformity with the following norms dated treated effluent .

Domestic Effulant		
S.No	**Parameter**	**Standard**
1	Quantity of Discharge	4 KLD
2	Total Suspended Solids	As per E.P Rules 1986
3	COD	As per E.P Rules 1986
4	BOD	As per E.P Rules 1986
5	Oil & Grease	As per E.P Rules 1986

9(b) The industrial effluent should be treated in treatment plant so that the treated effluent should be in conformity with the following norms. .

Industrial Effulant		
S.No	**Parameter**	**Standard**
1	Total Suspended Solids	As per E.P Rules 1986
2	BOD	As per E.P Rules 1986
3	COD	As per E.P Rules 1986
4	Quantity of Discharge	200 KLD
5	Oil & Grease	As per E.P Rules 1986

10. Effluent generated in all the processes, bleed water, cooling effluent and the effluent generated from washing of floor and equipments etc should be treated before its disposal with treated industrial effluent so that it should be according to the norms prescribed under The Environment (Protection) Rules, 1986 or otherwise mandatory.
11. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/ standards prescribed under the Environment (Protection) Act, 1986.
12. The industry will have to ensure compliance of the permission from the CGWA before ground water extraction and it will be the responsibility of the industry to comply with the various conditions of the permission taken.
13. The industry shall submit Environmental Statement in prescribed form V rule no.14 of E.P Rules 1986.
14. The industry shall comply with various provisions of Air (Prevention and Control of Pollution) Act 1981 as amended, Water (Prevention and Control of Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act 1986.
15. Minimum 33% of the land on which unit is established will be covered and properly maintained by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/02/2018. The copy of this guideline is available at URL http://www.uppcb.com/pdf/Green-Belt-Guidle_160218.pdf.
16. The industry will ensure the continuous and uninterrupted data supply from the OCEEMS to the CPCB and SPCB.
17. Flow meter to be installed in all water abstraction points and usage of fresh water to be minimized. The unit will ensure facility to transmit data to CPCB server and submit a regular calibration certificate of Electro Magnetic Flow meter to the Board.
18. If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective with additional conditions mentioned in the closure revocation order.
19. Industry shall abide by the directions given by Hon'ble Court, Central Pollution Control Board and UPPCB for protection and safe guard of environment from time to time.

Specific Conditions:

1- The industry shall follow the guidelines for the utilization of treated effluent in irrigation, which are available on the website of CPCB at the web link http://cpcb.nic.in/NGT/Guidelines-UTE-irrigation.pdf
2- All the slaughtered meat produced by slaughter house shall be supplied to its integrated frozen meat unit. The prior permission from U.P. Pollution Control Board is required if the slaughtered meat is to be given to other frozen meat unit for processing.
3- The industry shall submit quarterly monitoring reports of treated effluent from a certified / approved laboratory under E.P. Act 1986.
4- The industry shall ensure deployment of qualified to step up self monitoring mechanism on 24 ×7 hours basis.
5- The industry shall implement treated effluent flow distribution measurement for irrigation purposes completely in accordance with irrigation plan & its impact.
6- The impact of treated effluent application on land is to be included further in E.I.A. studies involving ground water monitoring point identified in close proximity to the unit.
7- E.I.A. studies shall include comprehensive study of water & waste water balance in addition to the adequacy studies of E.T.P. relating to pollution load reduction impacts after implementation of treatment technology & discharge of treated effluent completely for irrigation purposes in place of discharge on surface water body.
8- The industry shall deploy self monitoring task force to strictly observe & monitor treated effluent discharge restriction on surface water body located in its proximity.
9- The industry shall also explore treated effluent Re-cycle mechanism in furtherance to the application of treated effluent on land as a significant alternative mode of re-cycle. This step shall in turn reduce hydraulic loading of effluent discharge as well as shall eliminate extraneous treated effluent discharge possibility elsewhere.
10- The industry shall use the brine solution or de-freezing in the place of salt to preserve the raw hides to reduce the TDS in the effluent.
11- The industry shall obtain prior consents in the event of any addition or alteration of existing effluent treatment or discharge mode or any addition or alteration of new emission generation sources such as - Boiler/Furnace/Heaters/D.G. Sets in accordance with section- 25/26 of water act 1974 & section 21/22 of air Act 1981 (as amended respectively)
12- The solid waste generated from the industry should be disposed in such a manner that it does not pollute ground water, river or any other surface water body source.
13- The E.T.P. installed in the factory should be maintained and operated in such a manner that treated effluent always conforms to the standard laid down by the board.
14- The flow meter should be installed and the industry should appoint skilled and qualified persons to operate the ETP.
15- The industry shall follow all the terms and conditions stipulated in closer order suspension letter by the Nagar Vikash anubhag-8 vide its letter no 06/C.M/Nau-8-2020/107 Ja /2017T.C dated 05-02-2020
16- The ground water samples of the hand pumps near the industry should be got tested on a quarterly basis and the report of the same should be submitted to the board.
17- The industry should follow the Karnal Technology for the disposal of treated effluent and under no circumstance the water waste of the industry should reach any surface water body.
18- The industry should submit the EIA study report in triplicate after the compilation of the same.
19- The industry shall submit the point wise compliance report of the conditions imposed in the CTO issued by the Board for year 2019 and audited balance sheet for the current year and the details of fees deposited during last three years within a month otherwise this CTO may be revoked.
20- If the CPCB or UPPCB issues the Closure order against the industry this consent order stands automatically suspended for that period.
21- This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/process/fuel/Plant machinery failing which consent would be deemed void.
22- The solid waste generated from the industry should be disposed in such a manner that it does not pollute ground water, river or any other surface water body source.
23- The E.T.P. installed in the factory should be maintained and operated in such a manner that treated effluent always conforms to the standard laid down under the E.P Act 1986 as amended.
24- The industry shall maintain strict supervision upon fluctuations in operating parameters with respect to each treatment unit and shall ensure deployment of qualified to step up self-monitoring mechanism on 24 ×7 Hours basis.
25- The ground water samples of the hand pumps near the industry should be got tested on a quarterly basis and the report of the same should be submitted to the Board.
26- The flow meter should be installed at inlet of Kernel Technology and log book should be maintained.

27- The industry should submit the irrigation plan approved or authenticated by the reputed Agricultural University.

Issued with the permission of competent authority .

Ashok Kumar Tiwari

For and on behalf of U.P. Pollution Control Board .

C.E.O
C-1

U.P. Pollution Control Board

CONSENT ORDER

Ref No. -
78872/UPPCB/Ghaziabad(UPPCBRO)/CTO/air/GHAZIABAD/2019

Dated : 26/02/2020

To ,

Shri MOHD SAALIM QURESHI
M/s AL NASIR EXPORTS PVT LTD
Khasara No. 2761, Bhoorghari, Dasna, Ghaziabad (U.P.),GHAZIABAD,201015
GHAZIABAD

Sub : Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. AL NASIR EXPORTS PVT LTD

Reference Application No. 6936348 Dated : 26/02/2020

1. With reference to the application for consent for emission of air pollutants from the plant of M/s AL NASIR EXPORTS PVT LTD. under Air Act 1981. It is being authorised for said emissions, as per the standards, in environment, by the Board as per enclosed conditions .
2. This consent is valid for the period from 01/01/2020 to 31/12/2024 .
3. Inspite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 21 (6) of the Air (Previntion and Controt of Pollution) Act, 1981 as amended.

   This consent is being issued with the permission of competent authority .

Ashok Kumar Tiwari Digitally signed by Ashok Kumar Tiwari Date: 2020.03.12 12:22:38 +05'30'

For and on behalf of U.P. Pollution Control Board

C.E.O
C-1

Enclosed : As above
(condition of consent):

Copy to: Regional Office, U.P. Pollution Control Board, Ghaziabad

Ashok Kumar Tiwari Digitally signed by Ashok Kumar Tiwari Date: 2020.03.12 12:22:49 +05'30'

C.E.O
C-1

121

U.P. Pollution Control Board

Dated : 26/02/2020

CONDITIONS OF CONSENT

1. This consent is valid for the approved maximum slaughtering capacity Slaughtering of 200 buffaloes per day and 100 Goats per day producing Frozen Meat-50 MT/Day, MBM-11MT/day, Tallow-4 MT/day per day Buffalos per day.
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
3. The unit should follow the various provisions of "REVISED COMPREHENSIVE INDUSTRY DOCUMENT ON SLAUGHTER HOUSES" issued by Central pollution Control Board in October 2017.
4. The slaughtering of the cow & its progeny is not permitted under any circumstances.
5. The slaughter house will follow the various provisions of rules and regulations as mentioned in the "Compendium of Indian Standards on Slaughter House".

6(a) The maximum rate of emission of flue gas should not be more than the emission norms for the stacks.

6(b) Air Pollution Source Details.

Air Pollution Source Details					
S.No	**Air Polution Source**	**Type of Fuel**	**Stack No.**	**Parameters**	**Height**
1	Boiler 6 TPH	wood	1	Particulate Matter	30 mt. stack from G.L with multi cyclone dust collector
2	2x 1010 KVA D.G Set	H.S.D	3.4	Sulphur Dioxide	each minimum 6.40 mt. from the nearest roof
3	D.G Set 500 KVA	H.S.D	2	Sulphur Dioxide	minimum 4.5 mt. above nearest roof

6(c) The emissions by various stacks into the environment should be as per the norms of the Board .

Emission Quality Details Detail			
S.No	**Stack No**	**Parameter**	**Standard**
1	1	Particulate Matter	As per E.P Rules 1986
2	2.3.4	Sulphur Dioxide	As per E.P Rules 1986

7. The industry should be operated in such a manner that it does not adversely affect the environment and the solid waste generated such as ash etc. is disposed in eco friendly manner .
8. Any source of emission other than that mentioned in the Air consent seeking application will not be permitted by the Board .
9. The industry should ensure the operation of the air pollution control system (APCS) in such a manner that the air emission confirms with the standards prescribed under the E.P Act 1986 as amended.
10. The industry shall submit Environmental Statement in prescribed format as per rule no.14 as per E.P Rules 1986 .
11. The industry shall abide by orders / directions issued by Hon'ble Supreme court Hon'ble High Court, Hon'ble National Green tribunal, Central Pollution Control Board and U.P Pollution Control Board for protection and safe guard of environment from time to time .

12. Industry shall submit monthly monitoring reports of all stacks and ambient air quality from a certified / approved laboratory under E.P. Act 1986 .
13. The industry shall comply with various provisions of Air (Prevention and Control of Pollution) Act 1981 as amended, Water (Prevention and Control of Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act 1986.
14. The industry will ensure the continuous and uninterrupted data supply from the OCEEMS to the CPCB and SPCB .
15. The unit shall submit audited balance sheet for the current year and the details of fees deposited during last three years within a month failing which consent would be deemed void.
16. The use of Pet coke and Furnace oil as a fuel in the factory is restricted in compliance of the Hon'ble Supreme court order .
17. The Industry will use minimum 20% Bio Briquette as fuel in the Boiler depending upon its availability .
18. The industry shall obtain prior consents in the event of any addition of new emission generation sources such as- Boiler/ Furnace/ Heaters/ D.G. Sets or alteration of existing emission sources in accordance with section- 21/22 of air Act 1981 (as amended respectively).
19. Minimum 33% of the land on which industry is established will be covered and properly maintained by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/02/2018. The copy of this guideline is available at URL http://www. uppcb. com /pdf/Green-Belt-Guidle_160218.pdf .
20. If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective with additional conditions mentioned in the closure revocation order .
21. Industry shall abide by the directions given by Hon'ble Court, Central Pollution Control Board and UPPCB for protection and safe guard of environment from time to time .

Specific Conditions:

1- The industry shall follow all the terms and conditions stipulated in closer order suspension letter by the Nagar Vikash anubhag-8 vide its letter no 06/C.M/Nau-8-2020/107 Ja /2017T.C dated 05-02-2020
2- All the slaughtered meat produced by slaughter house shall be supplied to its integrated frozen meat unit i.e. M/s International Agro Foods, Khasra No-2764, 2765, 2766, Vill-Bhoorgarhi, Dasna, Ghaziabad. The prior permission from U.P. Pollution Control Board is required if the slaughtered meat is to be given to other frozen meat unit for processing.
3- The industry shall submit the point wise compliance report of the conditions imposed in the CTO issued by the Board for year 2019 and audited balance sheet for the current year and the details of fees deposited during last three years within a month otherwise this CTO may be revoked.
4- The industry should follow the directions issued by the Chief Secretary vide letter no.760/Nau-8-2017-29J/2017 dated 22/03/2017 and the direction issued by the Principal Secretary, Nagar Vikas vide letter No. 3710/Nau-8-2017-2 CS/12 TS dated 07 July, 2017.
5- The industry should strictly follow the various Acts & guidelines mentioned in the compendium compiled in compliance of the Hon'ble Supreme Court order dated 17-02-2017 in the matter of W.P.(Civil) No. 330/2001, Common Cause V/s Govt. of India, W.P. No. 44/2004, contempt petition 124/2015 annexed with W.P. (Civil) No. 309/2003 Laxmi Narayan Modi V/s Govt. of India and ors.
6- No change in capacity or new source of emission will be added by the company without the prior permission of the board.
7- The industry should provide the linkage of the CCTV cameras installed at the entry points, lairage, and meat processing unit to the DM office and on the public portal..
8- The solid waste generated from the industry should be disposed in such a manner that it does not pollute ground water, river or any other surface water body source.
9- The ground water samples of the hand pumps near the industry should be got tested on a quarterly basis and the report of the same should be submitted to the Board.
10- This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/process/fuel/Plant machinery failing which consent would be deemed void.
11- The solid waste generated from the industry should be disposed in such a manner that it does not pollute ground water, river or any other surface water body source.

Ashok Kumar Tiwari Digitally signed by Ashok Kumar Tiwari Date: 2020.03.12 12:27:52 +05'30'

123

Issued with the permission of competent authority .

For and on behalf of U.P. Pollution Control Board .

C.E.O
C-1

February 2023

Annexure-VIII

S.NO	DATE	INIT. READING		[illegible]	UP TO DATE	REMARK
1	1/2/23	[illegible]			[illegible]	[illegible]
2	2/2	[illegible]			[illegible]	[illegible]
3	3/2	[illegible]		[illegible]	[illegible]	[illegible]
4	4/2	[illegible]		[illegible]	[illegible]	[illegible]
5	5/2	[illegible]		[illegible]	[illegible]	[illegible]
6	6/2	[illegible]		[illegible]	[illegible]	[illegible]
7	7/2	[illegible]		[illegible]	[illegible]	[illegible]
8	8/2	[illegible]		[illegible]	[illegible]	[illegible]
9	9/2	[illegible]		[illegible]	[illegible]	[illegible]
10	10/2	[illegible]			[illegible]	[illegible]
11	11/2	[illegible]			[illegible]	[illegible]
12	12/2	[illegible]		[illegible]	[illegible]	[illegible]
13	13/2	[illegible]		[illegible]	[illegible]	[illegible]
14	14/2	[illegible]			[illegible]	[illegible]
15	15/2	[illegible]		[illegible]	[illegible]	[illegible]
16	16/2	[illegible]				
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

January 2023

AL-NASIR [illegible] PVT. LTD.

S. NO.	DATE	INITIAL READING	[illegible]	REFERENCE	UP TO DATE	REMARK
1	1-1-23	202205			175	
2	2-1-23	202400			388	
3	3-1-23	202553			530	
4	4-1-23	202765			779	
5	5-1-23	202974			967	
6	6-1-23	203172			1165	
7	7-1-23	203326			1301	
8	8-1-23	203512			1496	
9	9-1-23	203603			1591	
10	10-1-23	203796			1781	
11	11-1-23	203986			1970	
12	12-1-23	204175			2162	
13	13-1-23	204367			2353	
14	14-1-23	204407			2393	
15	15-1-23	204597			2586	
16	16-1-23	204791			2778	
17	17-1-23	204983			2970	
18	18-1-23	205187			3167	
19	19-1-23	205382			3358	
20	20-1-23	205573			3549	
21	21-1-23	205611			3588	
22	22-1-23	205803			3779	
23	23-1-23	205997			3969	
24	24-1-23	206184			4161	
25	25-1-23	206376			4355	
26	26-1-23	206570			4548	
27	27-1-23	206808			4785	
28	28-1-23	206900			4775	
29	29-1-23	206990			4966	
30	30-1-23	207181			5160	
31	31-1-23	207375				

Annexure-IX

ADEQUACY REPORT

on

EFFLUENT TREATMENT PLANT

for

Al-Nasir Exports Pvt. Ltd.
Khasra No. – 2761 & 2762, Bhoorgarhi Road,
Bhoorgarhi Dasna, Ghaziabad

by

Department of Civil Engineering
Jamia Millia Islamia, New Delhi

TABLE OF CONTENTS

1.0 INTRODUCTION

M/s Al-Nasir Exports Pvt. Ltd. Dasna, Ghaziabad, U.P., is a meat processing industrial unit with the daily slaughtering of 900 animals (Buffalo – 800 and Sheep/ Goat – 100 respectively).

This industry will produce frozen meat of 96 Tons, meat bone meal of 36 Tons and 12 Tons of Tallow per day if working for full capacity.

The water requirement of this industrial unit is very high since it is used for washing at different stages such as cleaning of the slaughtering and bleeding floor, washing of dressed halls, washing of carcasses, cleaning of intestines and cleaning of knife, axes and table etc. If the unit works in full capacity for the slaughtering of 900 animals, it would generate the industrial effluent of about 730 KLD. But the management has decided to slaughter about 200 animals daily so that various environmental issues, the different schedule of working and future program etc. must be observed. By view of these factors, the ETP has been designed for its maximum capacity of 1000 KLD. Since only 200 animals are slaughtering daily presently, about 200 KLD flow is reaching to ETP from animal washing, industrial unit washing, cleaning and from other sources of the unit. The treated effluent disposed to farther by using through Karnal Technology.

Recently, a team of environmental experts from the Department of Civil Engineering, Jamia Millia Islamia (A Central University) visited ETP on dated June 09, 2022, to inspect the ETP, its operation & maintenance (O & M) and final treated effluent quality.

The client requires an adequacy report for its O&M approved by Govt. Institute/ University to operate the ETP.

The adequacy report was prepared by environmental experts of Jamia Millia Islamia, New Delhi based on the visit, inspection of various treatment units, observations, detailed discussion with plant engineers and staff, its working methodology for the treatment of wastewater and the sample analysis report provided by the client.

Presently the ETP is under operation and receiving the wastewater 200 KLD approx. The samples collected from outlet of ETP have been investigated by the Noida Testing Laboratories. The copy of analysis reports is enclosed (Annexure IV).

2.0 WATER REQUIREMENT OF THE UNIT

2.1 Brief Background of the Unit

M/s Al-Nasir Exports Pvt. Ltd. Dasna, Ghaziabad, U.P. is an industrial unit having production of meat products. The industrial unit is 45 km away from Delhi.

2.2 Water Requirement of Unit

The current daily water requirement of the unit is summarized in Table 1.0. The freshwater obtained from bore well (groundwater) is used for industrial purpose. Treated water is used for gardening and agriculture purpose after treatment. Table 1.0 indicates the amount of wastewater generated by the industry if working in full capacity

Table 1.0 Daily Water Requirement

S. No	Description	Water Requirement (KLD)	Quantity of Wastewater (KLD)
1	Processing (Industrial process/ washing)	365	730
	Total (per day)	365	730

But, the currently daily water requirement for industrial unit is 200 KLD.

3.0 WASTEWATER GENERATION AND ITS CHARACTERISTICS

3.1 Quantification of the Industrial Effluent (Wastewater)

The effluent in the industry generated mainly from the following sources:

- Washing of animals (Buffalo [illegible]s), carcasses, intestine
- Cleaning of floor, dressing [illegible] bleeding plastic sheet, washing of knife, axes, tables etc
- Blood of the animals after slaughtering
- High salt water (TDS [illegible])

3.2 Characteristics of the Effluent

To evaluate the treatment [illegible] of ETP and its efficacy, thorough characterization of treated effluent is very important. The samples were collected from outlet and analyzed by [illegible] Laboratories, UP, India.

Table 3.1 summarizes the effluent characteristics of the ETP.

Table 3.1 Summary of Final Parameters of the ETP

S. No.	Parameters	Unit	Values
1.	pH		7.56
2.	Total Suspended Solids (TSS)	mg/L	32.0
3.	Chemical Oxygen Demand (COD)	mg/L	121.0
4.	Biochemical Oxygen [illegible] (BOD) (3 days at 27°C)	mg/L	20.0
5.	Oil and Grease [illegible]	mg/L	<1.0

4.0 Process Train

The effluent generated from industry is transferred through gravity to the ETP. The effluent from all the streams except high solids (TDS) and blood streams are considered as combined stream and goes to ETP. Solid waste including flesh particles, remove at initial level then remaining fibers are remove using mechanical rotating fibers removing machine. The industrial effluent was collected in the water holding tanks and then flows to equalization tanks followed by various unit operations and processes. Fig 4.1 shows that process flow diagram of the ETP.

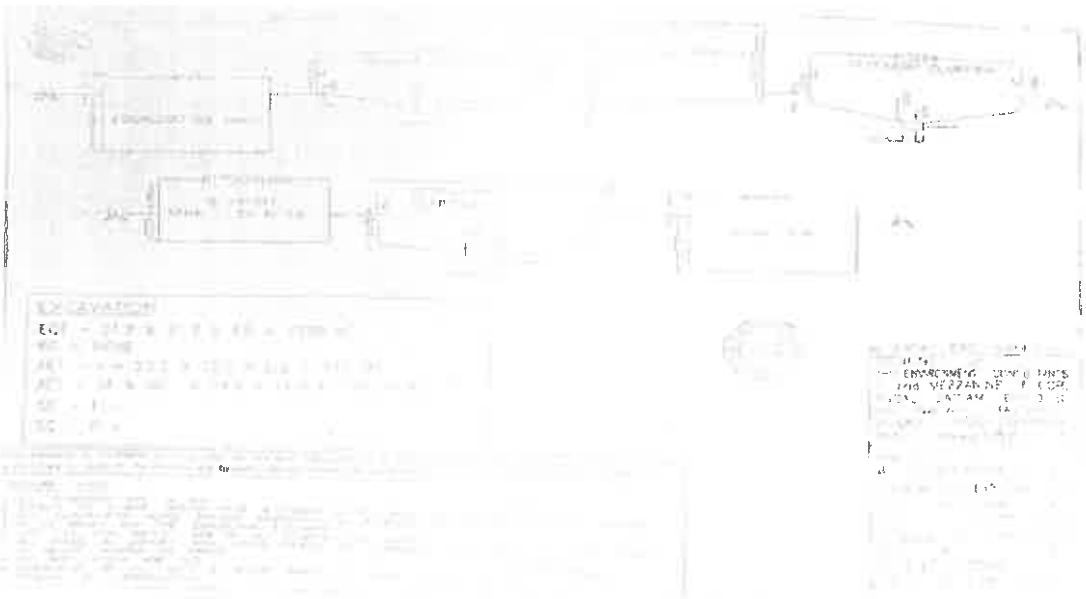


Fig. 4.1 Typical Process Flow Diagram

5.0 PROCESS DETAIL [illegible]

5.1 Design Criteria for ETP

Treatment Process	=	Biological System
Working Hours per (day)	=	24 hours (Continuous Process)
Present Effluent Inflow	=	200 KLD (approx.)
Design Flow	=	1000 KLD
Treatment Technology	=	Activated Sludge Process
HRT of Anaerobic Digester	=	35 hrs. approx.

5.2 Provision/Possibility of By-Passing the Effluent

The client (Al-Nasir Export Pvt. [illegible]) must submit an undertaking, not to by-pass the effluent and must be [illegible] report if submitted in any office. The Plant Operator should have [illegible] ETP to maintain high level of housekeeping

5.3 Disposal of Sludge

The sludge collected from filter press [illegible]red as per norms.

The ETP sludge is dewatered [illegible] disposal as solid waste.

5.4 Design Criteria and Treatment Unit Details for ETP

S.No.	Design Criteria	Quantity	Units
1	Wastewater Flow	200	KLD
a	Wastewater from Slaughtering, [illegible] & Frozen stream	200	KLD
b	Wastewater from Domestic [illegible]	10	KLD
c	Wastewater from [illegible]	10	KLD
2	Design Discharge of ETP	1000	KLD
3	Influent BOD ([illegible])	2000-3500	mg/L
4	MLSS Conc	4000-5000	mg/L
5	Operating Dissolved Oxygen	[illegible]	mg/L
6	F/M Ratio	0.30-0.50	Per day

S.No.	Treatment Units/ Specifications	Quantity
1	Free Board in different Units	0.45 m
2	Surface Overflow Rates	12-15 m³/m²/d
3	Area, app	5,000 m²
4	Mechanical Rotary Fine Screening Machine	[1.5 (Dia.) X3.0 (L) m – (2 Nos.)
5	Oil & Grease Trap	7.0 X 3.0 X 2.0 (D) m (1 Nos.)
6	Equalization Tank	[20X10X3.5 (D) m (2 Nos.)
7	Flash Mixing Tank	2.5 (dia.) X 3.5 (D)
8	Primary Clarifier	10 (dia.) X 4 m
9	Aeration Tank	22.0 X 11.0X 3.5 (D) m - (1 Nos.)
10	Secondary Clarifier	10 (Dia.) X 3.5 (D) m - (2 Nos.)
11	Sump	8 X 4 X 4.5 (D) m
12	Sand Filter	1.5 (Dia.) X 2.5 m
13	Activated Carbon Filter	1.5 (Dia.) X 2.5 m
14	Treated Water Storage Tank	16.0 X 10.0X 3.5 (D) m
16	Air Blower	40 & 25 H.P.
18	Pump for Effluent Transfer	5.0 H.P.; Dis: 35.0 Kl/H
19	Pump for sludge removal	3.0 H.P.; Dis: 5.0 KL/h (6 Nos.)
21	Sludge scrapper	10.0 Dia.; RPH -2-3

6.0 DESCRIPTION OF MECHANICAL EQUIPMENT

Various unit and processes [illegible] its detailed specifications are summarized in Table 6.1

Table 6.1 Specification of Mechanical Equipment

S.No.	Items	Description	Units	Remarks
1	DG Set	750 K.	2	Working
2	I D Fan	15 H.P	2	Working

Screens

Make	MADE BY OWN WORKSHOP
Quantity	1
MOC	M.S.STEEL
Size	1200*600
Type	Coarse
Holes	

Dissolved Air Flotation

Makes	SES ENVIRO
Size	3100*2200*3000
Diameter	
Height	
Quantity	1
Type	RECTANGULAR
Discharge	30KLH.
Max. Load of TSS	
Recycling Rate	
Drive for Floatation	
MOC	M.S.

Wetted Metal	
Non-Wetted Metal	
No Of Air Fixing Tube	
Air Requirement	

DAF Recycling Pump

Makes	KIRLOSKAR
Quantity	
Model	
Discharge	
Total Head	
Power	
Connection Size	
Pump Speed	
Motor	
Pump Housing	
Bearing Housing	
Shaft	

Air Blower

Make	
Model	(615*3) + (515*2)
Quantity	
Type	
Capacity	CUBIC METER
Pressure	
Power Requirement	
Blower Speed (RPM)	
Outlet Size	

RPM	1500
Power Requirement	20 HP

Raw Effluent Transfer Pump

Make	[illegible]
Model	[illegible]
Quantity	2
Capacity	[illegible]
Head	6 M
Power Requirement.	5.5 KW
Speed (RPM)	2900
Solid Handing	Mud Pump
Suction	Open
Discharge	100 mm
MOC	
Impeller	CI
Casing	CI
Shaft	SS

Filter Feed Pumps

Make	Kirloskar
Model	VDS-520
Quantity	1
Type	Centrifuge
Power Requirement	3.7 KW
Speed (RPM)	3000
Capacity	25 M3/h
Head	10 Meter

Suction Size	
Delivery size	
MOC	
Casing	
Impeller	
Shaft	

Sludge Recirculation Pump

Make	
Model	
Quantity	
Capacity	
Head	
Power Requirement	
Solid Handing	
Speed (RPM)	
Suction	
Discharge	
Impeller	
Casing	
Shaft	

Multi Grade Sand Filter

Make	
MOC	
Quantity	
Filter Media	

Capacity	CUBIC METER/HOUR
Filtration Velocity	
Diameter	2.0 M TRS
HOS	3.0 MTRS
Thickness	
Shall	6 mm
Dish	8 mm
Operating Pressure	2 Kg
Testing Pressure	7 Kg
Frontal Piping Dia	100 mm
Valve	80 mm

Activated Carbon Filter

Make	POLLUCON
MOC	MSEP
Quantity	1
Filter Media	CARBON
Capacity	50 m³/h
Filtration Rate	
Diameter	2.0 MTRS
HOS	3.0 MTRS
Thickness	
Shall	6 mm
Dish	8 mm
Operating Pressure	2 Kg
Testing Pressure	7 Kg
Frontal Piping Dia	100 mm
Valve	80 mm

140

Sludge Dewatering System

Make	[illegible] ENVIRO
SCREW PRESS	SCREW PRESS
Type	SCREW TYPE
SCREW	
MOC of plates	SS-304
MOC of frame	SS-304
Batches per day	CONTINOUS
Filtration area	

Dosing System

Dosing Pumps	
Make	MINIMAX
Quantity	2
Model	MMD
Capacity	[illegible] 1000LPH
Power Requirement	1.5KW
MOC	MS
Alum Dosing Tank	
Make	MINIMAX
MOC	PVC
Capacity	1000LTR

Poly Electrolyte Dosing System

Dosing Pumps	
Make	[illegible]
Quantity	[illegible]
Model	[illegible]
Capacity	[illegible]
Power Requirement	[illegible]
MOC	[illegible]
Dosing Tank	
Make	SYNTAX
MOC	PVC
Capacity	1000 LTR

Instrumentation

Air Rotameter	
Make	[illegible] (0-15) PSI
Quantity	[illegible]
	Electromagnetic flowmeter
Make	Hindustan FlowTech
Quantity	[illegible]
	[illegible]
Make	[illegible]
Quantity	[illegible]
	[illegible]ntroller
Make	[illegible]

Quantity	
Make	
Quantity	

Electric Panel Feeder Details

S. No.	Description	Quantity	Power (Each)	Remarks
2	DAF	1	30 KW	3 Phase
3	Air blowers	4	100 KW	3 Phase
4	Aerators		-	3 Phase
5	Raw effluent transfer pump	2	5.2 KW	3 Phase
6	Surge transfer pump	4	2.2 KW	3 Phase
7	Filter Feed Water Pumps	3	3.7 KW	3 Phase
8	Digested Sludge Disposal Pump	2	2.2 KW	3 Phase
9	Sludge recirculation Pump	1	1HP	3 Phase
13	Alum dosing pump	2	40 W	Single Phase
14	Poly electrolyte dosing Pump	2	0.5 HP	3 Phase
15	Spare	1	16 A TPN	3 Phase
16	Spare	1	32 A TPN	3 Phase

7.0 CHARACTERISTICS OF TREATED EFFLUENT QUALITY

The samples of treated Effluent are regularly analyzed from the reputed impaneled lab. According to the laboratory reports the results are summarized in Table 7.1.

Table 7.1 Final Treated Effluent Quality

S. No.	Parameters	Unit	Outlet Values	CPCB Effluent Disposal Standards
1	pH		7.53	6.5 -8.5
2	Suspended Solids (TSS)	mg/l	26	50
3	COD	mg/l	120	250
4	BOD, (3 days at 27degree C)	mg/l	15.2	30
5.	Oil and grease	mg/l	4.3	10

8.0 Summary Sheet of Adequacy Report for ETP in Respect of M/s Al-Nasir Exports Pvt. Ltd.

Date of issue: 19-07-2022

S.No.	Description	Details
Part A: General Information		
1	Name of Unit	M/s Al-Nasir Exports Pvt. Ltd.
2	Address of Unit	Dasna Ghaziabad
3	Date of Commissioning/ [illegible]	
4	(a) Plot Area (m²)	
	(b) Built up Area (m²)	
5	Name, Designation and Contact [illegible] dealing with pollution control matters	Mr. Sharik Khan
6	Name and Designation of the [illegible] at the site during visit	Mr. Nazim (Manager)
7	Activity/ Process	Meat Processing Industry Modern Slaughter House
8	Production capacity (No. of rooms in case of Hotels/ No. of seat in case of Restaurants/ No. of beds in case of Hospital	96 Tons per day
9	Manufacturing Process/ Main Activities	Meat Export
10.	Main raw Material	Buffalo
11	Main Products	Frozen Meat
12.	Source of Water	Ground Water
Part B: Water Consumption, Wastewater generation and Treatment		
13	Water Consumption, Source and Wastewater Generation (KLD)- 200 KLD	
b)	Cooling/ Boiler feed water	
c)	Processing (Industrial process/ kitchen/ restaurant/ Laundry	Industrial Process
d)	Gardening/ Horticulture	
e)	Others	
	Total	
14	Basis of the Quantity of water consumption and wastewater mentioned above: WATER BALANCE DIAGRAM	
15	Wastewater Treatment Facility	

S. No.	Treatment Facility	Design Capacity (KLD)	[illegible]	[illegible]	Batch or Continuous [illegible]	Sources of wastewater leading to ETP	Avg. Wastewater Generation	Flow meter (Yes/ No)	Disposal Point
1	ETP	1000 KL	[illegible]	[illegible]	[illegible]	Industrial process boiler blow down, floor, vegetable and bottle washing & Gardening	1000 KL	yes	Used in Irrigation by Karnal Technology

16	**Whether all the wastewater generated from the unit/ Establishment is treated: Yes**
17	**Mode and Location of Effluent Discharge:** *Please attached location map of disposal agreement clearly indicating the outlets for sampling/ Effluent Discharge* *a) **Treated Effluent:** Public sewer/ Open drain/ Surface water (NA) Used in Karnal technology* *b) **Untreated Effluent:** Public sewer/ Open drain/ Surface water (NA)*
18	Detail of the constituent units of ETP, Design capacity of ETP (KLD): **As per schematic diagram attached in Annexure I** Treatment Process (Physico-chemical, Biological or mention **technology): Physico-Chemical + biological for ETP**

145

	Whether continuous or Batch: Continuous				
	(Enclose the schematic ... of the treatment scheme and photographs of ETP)				
	DETAILS OF ELECTRO... AND TREATMENT UNITS				
S. No.	ETP Components			MOC	Design Detail (Type)	Whether adequate, if not, give reason
1	Screen	1		SS	Bar Screen	Yes
2	DAF	1		MSEP	Circular	Yes
3	DAF Recycling Pump	1		CI	Horizontal	Yes
4	DAF Air Compressor	1		CI	Horizontal	Yes
5	Air Blower	1		CI	Twin Lobe	Yes
6	Air Diffusers	1		EPDM	Tubular & Disc	Yes
7	Aerator	1		SS	Submersible	Yes
8	Raw Effluent Transfer Pump	2		CI	Horizontal	Yes
9	Filter Feed Pump	2		CI	Horizontal	Yes
10	Sludge Disposal Pump	1		CI	Horizontal	Yes
11	Sludge Recirculation Pump	1		CI	Horizontal	Yes
12	Multigrade Sand Filter	1		MSEP	NA	Yes
13	Activated Carbon Filter	1		MSEP	NA	Yes
14	Filter Press System	1		PP	Manual	Yes
15	Alum Dosing System	2		PP	Metering	Yes
16	Poly Dosing System	2	Yes	PP	Metering	Yes
17	Piping	1		PVC&MS	NA	Yes
18	Electromagnetic Flow Meter	1		NA	NA	Yes
19	pH Meter	1		NA	NA	Yes
20	Level controller	1		NA	NA	Yes
21	DO Sensor	1		NA	NA	Yes
22	Media	1		PVC	Tube Deck	Yes
23	Electrical Panel	1		NA	NA	Yes
24	Screen Chamber	1		RCC	NA	Yes
25	Oil & Grease	1		RCC	NA	Yes
26	Equalization Tank	1		RCC	NA	Yes

27	Aeration Tank 1		RCC	NA	Yes
28	Secondary Clarifier 1		RCC	NA	Yes
29	Aeration Clarifier - 2		RCC	NA	Yes
30	Clear Water Tank	1	RCC	NA	Yes
31	Sludge Holding Tank		RCC	NA	Yes
32	Treated Water Tank		RCC	NA	Yes

33	Whether design aspects were [illegible] performance of ETP/ STP: YES
34	• Whether any modification [illegible] to rectify deficiencies to improve/ upgrade the ETP/ STP: Yes • Whether modification [illegible]
35	Whether STP/ETP [illegible] treated: YES
36	Whether wastewater [illegible] If yes, please [illegible] locations etc. At Sewage Transfer Pump Pipe Line
37	Whether all the wastewater [illegible] YES If not, how much % is being treated?
38	Whether unit is having any [illegible] discharge of untreated effluent from premises No
39	Whether the entire treated effluent [illegible] YES If yes, mention the quantity [illegible] of treated effluent in various usages and provide details If not, how much % is being reused?
40	Whether the unit has proper [illegible] for handling and disposal of sludge generated from the ETP/ STP: YES
41	Whether the unit is having adequate [illegible] qualified staff: YES Operators for the proper operation and maintenance of the ETP/ STP
42	Whether proper logbook is being [illegible] operation: YES O &M of ETP/STP [illegible] Yes Enclose
43	Whether influent (untreated) [illegible] characteristics provide were mentioned/ analyzed for the prescribed [illegible] (as per table): yes

Date and time of effluent sampling	[illegible]	Name and designation of the person who collected the samples	Name of the empaneled laboratory which conducted monitoring/ analysis
12-05-2023	[illegible]		Shri Ram Institute for Industrial Research

44	Whether the treated effluent [illegible] Standards	YES

147

46	Name and Designation of the [illegible] visit/ inspection of the unit/ establishment	Dr. Abid Khan, Dr. Azhar Husain & Dr S.Shakil Afsar
47	Whether existing ETP/ STP is adequate to treat the wastewater/ effluent of industry	YES
48	Advise (if any) given to the unit for proper operation and maintenance of ETP/ STP (separate sheet can be attached)	Proper safety during operation
49	Remarks (if any)	No
50.	Suggestion for the best available technology	Present technology is adequate

Adequacy Report No. AR-ETP 2022-0107-D

Date of Issue:

(Signature of Authorized Person for issuing adequacy report for ETP)

Name: Dr. Azhar Husain

Designation: Professor

Name of organization: Dept. of Civil Engg., Jamia Islamia, New Delhi

Name: Dr. Abid Ali KHAN

Designation: Asst. Professor

Name of organization: Dept. of Civil Engg., Jamia Islamia, New Delhi

Dr. Abid Ali Khan
Asstt. Professor & Consultant
Department of Civil Engineering
Jamia Millia Islamia
(A Central University)
New Delhi-110025

Name: Dr. S. Shakil Afsar

Designation: Asst. Professor

Name of organization: Dept. of Civil Engg., Jamia Islamia, New Delhi

(Affix seal/ stamp of the organization)

Dr. S. SHAKIL AFSAR
Asstt. Prof. & Consultant
Dept. of Civil Engineering
Jamia Millia Islamia
New Delhi - 110025

Enclosures:

1. Annexure 1(Flow Diagram); 2. Annexure II (Photographs); Annexure III (Undertaking from Client); Annexure IV (Test Reports)

9.0 CERTIFICATE OF ADEQUACY FOR EFFLUENT TREATMENT PLANT

The ETP consisting of the following unit

DAF System	Treated Water Tank
Equalization Tank	Multi Grade Sand Filter
Buffer Tank	Activated Carbon Filter
PC – 1 & 2	Variable Pore Micron Filtration System
Aeration Tank-1	Treated Holding Tank
Aeration Tank-2	Clarifier
SC – 1 & 2	

The ETP is installed by M/s [illegible] Pvt. Ltd. **(Khasra No. 2761 & 2762) Bhoorgarhi, Dasna, Dist. Ghaziabad (U.P.)** *is adequate to treat the 200 KLD effluent generated from the unit processing and currently operating at 200 KL/day effluent to achieve specified standards as given below:*

pH	=	*7.0 to 8*
Oil & Grease	=	*< 10 mg/l*
BOD	=	*< 30 mg/l*
TSS	=	*< 50 mg/l*
COD	=	*< 250 mg/l*

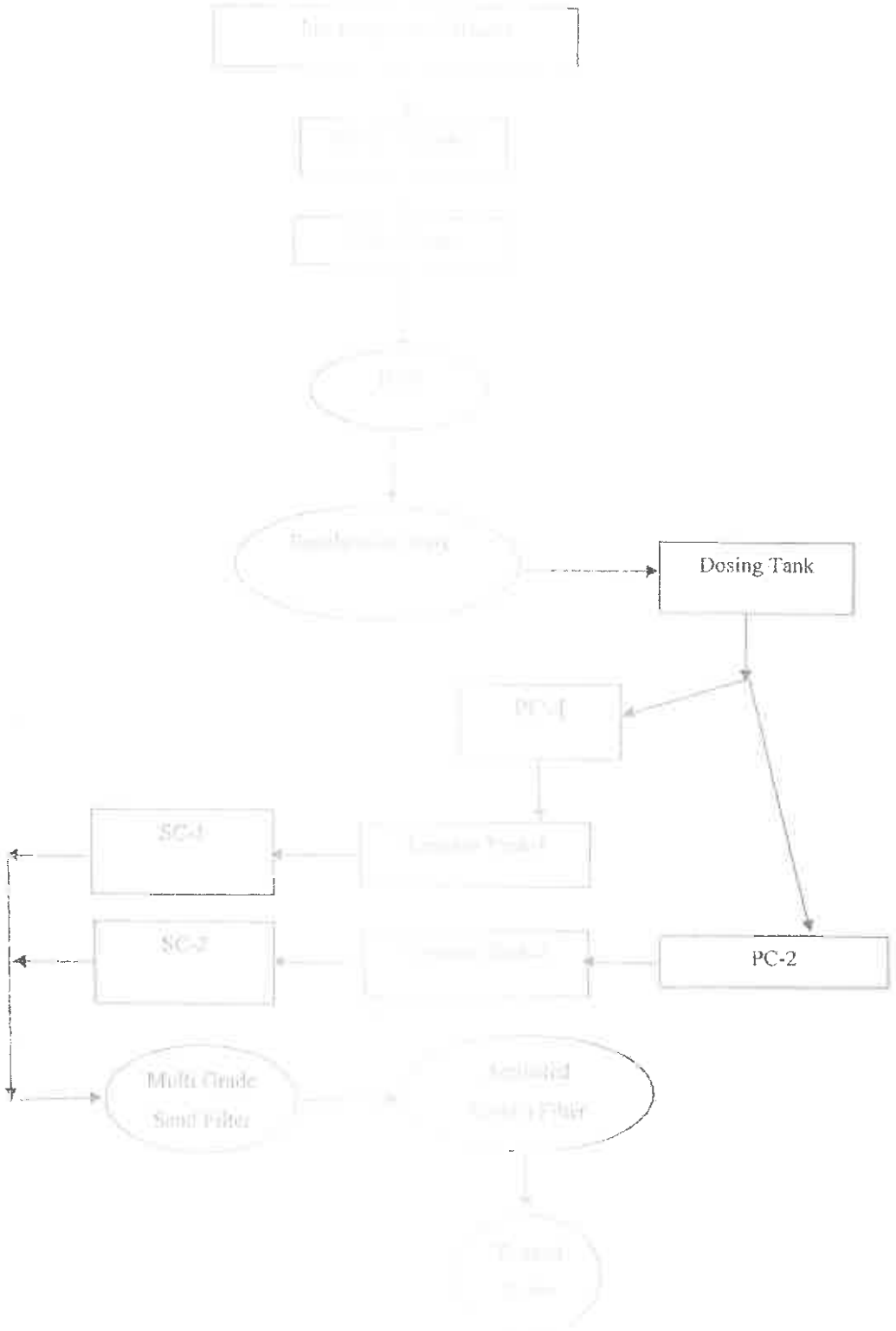
The adequacy is applicable with the following conditions:

1. The plant shall be operated as per operating guidelines/Operating procedures and as per MOEF Consent Manual conditions.
2. Any change in process, raw material, plant & machinery, raw material, process must be informed to the **State Pollution Control Board and a new adequacy certificate should be sought.**
3. The client must submit [illegible] of the equipment are installed. However, all equipment's [illegible] properly at ETP

Dr. [illegible]
Associate Professor & Consultant
Department of Civil Engineering
Jamia Millia Islamia
(A Central University)
New Delhi-110025

ANNEXURE - I

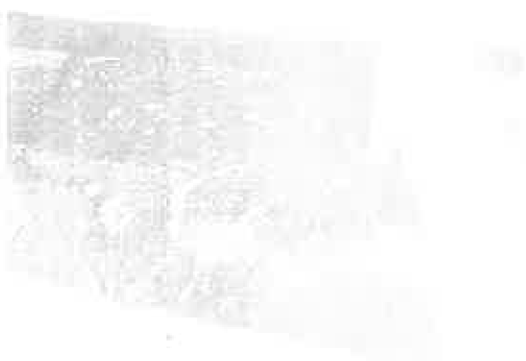
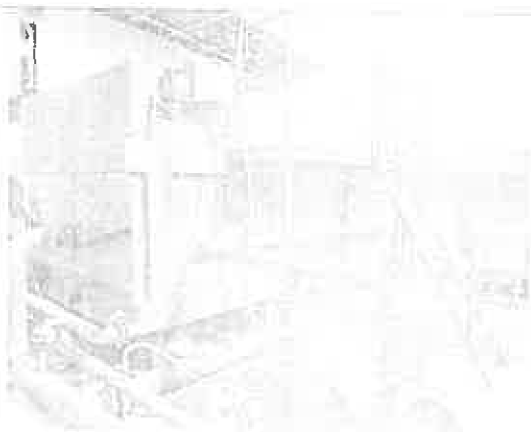
Flow Diagram of Effluent Treatment Plant

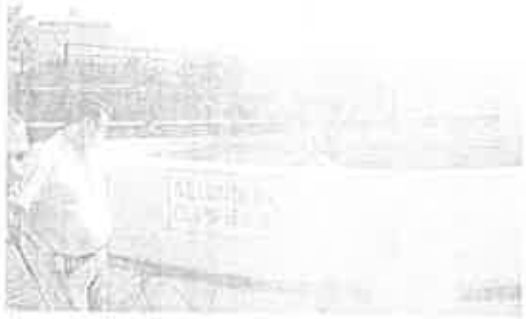
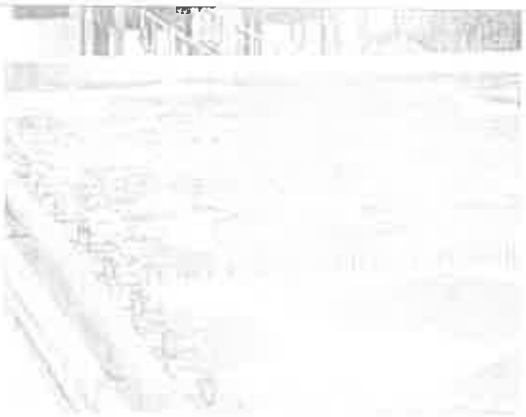
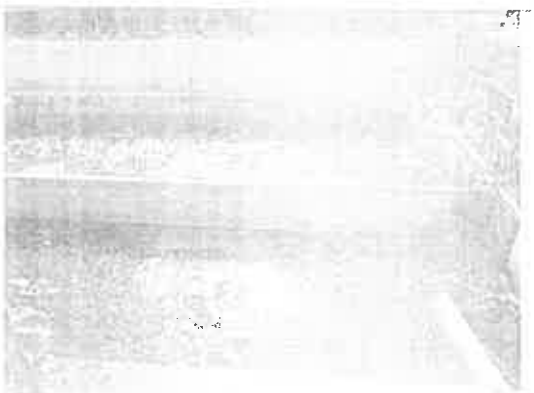


150

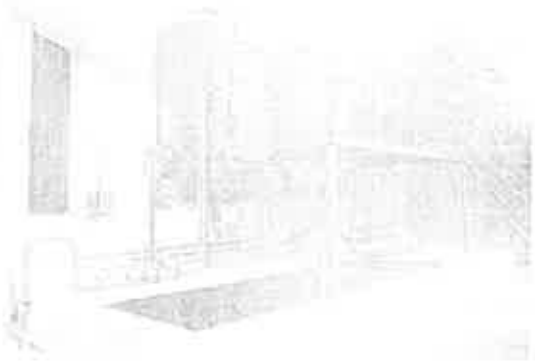
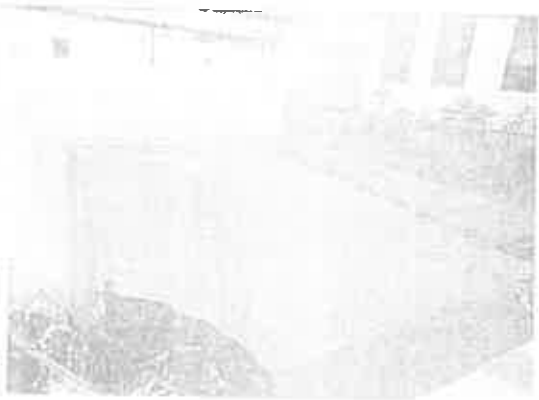
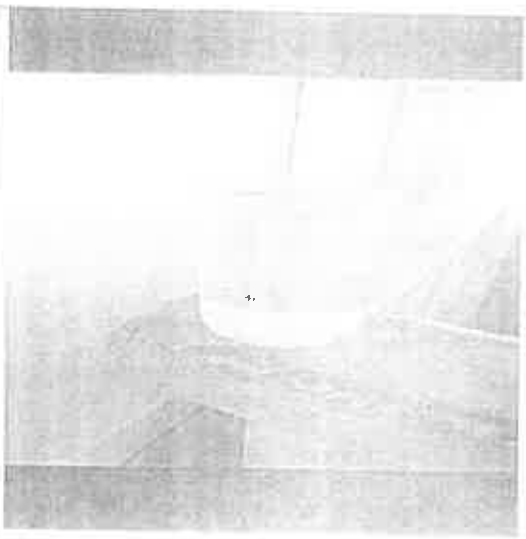
ANNEXURE-II

Photographs of various units of ETP

Units	Photographs of Unit	Comments/Remarks
Screen Chamber		▪ Screens are not fixed as per standard design ▪ Spacing is also not as per the manual condition
Filter Feed Tank		▪ This tank is well maintained ▪ Two tanks are in use ▪ FFT ▪ Disinfection
DAF		▪ Well maintained ▪ Found in working order

OCTOMS Tank		• Not known kind of chemicals used as coagulant • Dosing is not defined
Secondary Clarifier -II		• Found well maintained
Aeration Tank		• Uneven aeration • Diffusers damaged
Equalization Tank		• Biomass concentration well maintained

152

ACF & MGF		• Well Maintained
Treated Effluent Tank		• Treated effluent collection tank
Treated Effluent Sample from Final Outlet		• Seem clear and transparent and no odor observed

153

Data/Information and Undertaking from [redacted] Pvt. Ltd. And ***should be provided with this report***

ANNEXURE - IV

Test Reports

Annexure-X

IRRIGATION MANAGEMENT PLAN FOR THE UTILIZATION OF TREATED EFFLUENT

AL NASIR EXPORTS PVT. LTD.
Khasra No. 2761, Bhoorgarhi Road, Bhoorgarhi Dasna Ghaziabad
201015(U.P.)

Y. K. Singh

Agronomist, AICRIP, Rice

Manoj Mishra

Assistant Director, Directorate of Research

Chandra Shekhar Azad University of Agriculture & Technology, Kanpur- 208 002 (U.P.)

Introduction

A slaughterhouse is a highly efficient [illegible] animals are slaughtered to harvest their meat for human consumption. Slaughterhouses are the starting point of the meat industry, where the stock comes from farms [illegible] chain. They have existed as long as [illegible] their own stock for personal consumption. India is the largest [illegible] in theworld.

Livestock available for slaughter [illegible] namely - Buffaloes, Sheep and Goats. The Indian meat industry is [illegible] a remarkable leap forward. The global demand for Indian meat and [illegible] considerably during the years. We also have one of the largest [illegible] for our meat and meat products. Slaughterhouses are also a good source [illegible] calories (FAO 1992), the reported per capita availability of meat in India is [illegible] kg, which is rather low compared to 60-80kg in European countries. As reported by Ministry of Food Processing as of 1989, a total of 3616 recognized slaughter houses [illegible] 2 million cattle and buffaloes, 50 million sheep and goat, 1.5 million [illegible] million poultry annually, for domestic consumption as well as for export purposes.

As the above data suggests slaughter [illegible] industry has a bright scope and future in India. The meat processing industry is one of the [illegible] consumers of fresh water used in the agricultural and livestock industry. [illegible] produce large amount of waste water because of the slaughtering process and [illegible] facilities. Slaughterhouses need significant treatment for a sustainable and [illegible] the environment due to the high content of organics and nutrients. Therefore [illegible] and final disposal of slaughterhouse's waste water are a public health necessity. [illegible] Plan is a necessity because it reduces the impact on environment, health [illegible] as onsite treatment using combined processes would be the best option to [illegible] the slaughterhouse effluents. The slaughterhouse effluents are safely discharged [illegible] land.

Slaughterhouse [illegible] viral and parasitic pathogens [illegible] and safe disposal method is [illegible] essential in [illegible] slaughter. Different methods [illegible] for the disposal of [illegible] anaerobic digestion (AD), alkaline hydrolysis, rendering, [illegible] disposal method that allows a [illegible] of the slaughterhouse [illegible]

The type of waste produced by the [illegible] slaughterhouse shown as under –

Source	[illegible]
Stockyard	[illegible]
Killing floor	[illegible]
Plucking	[illegible]
Inside removal	[illegible] manure & liquor
Rendering	[illegible] liquor
Carcass dressing	[illegible] blood, manure
By-product	[illegible]

It is necessary for safety disposal [illegible]

On the request of management [illegible] Ltd. Bhoorgarhi Dasna situated in District Ghaziabad. A visit of the unit [illegible] the team of CSAU, Kanpur on dated [illegible]-10-2021 for investigations, inspection [illegible] data. Also for the assessment of utilization of treated waste water, [illegible] an efficient irrigation plan made by the slaughterhouse and verify water [illegible] in view of standards notified G.S.R. [illegible] MoEF & CC, January 14, 2016.

Composition of Team:

1. Dr. Y. K. Singh [illegible] Rice
2. Dr. Manoj Mishra [illegible] Directorate of Research

Slaughter House Officials Present [illegible]

1. [illegible]
2. [illegible]

(Annexure-1)

Observations & Discussion

Observations of the slaughter h[illegible] verification and other conditions particularly with resp[illegible] plant, water uses and quantity of waste water discharge. [illegible] data information provided by slaughterhouse. The figures of [illegible] have been estimated subject to correctness/authenticity of the data given by slaughterhouse. So the precise comments can only be confirmed by the slaughterhouse.

After the visit observations [illegible] of reports are carried out on the basis of inputs provided by the slaughterhouse. The irrigation management plan is also based on the data provided by the slaughterhouse with respect to area available, plantation/cropping pattern and [illegible]

Overview of Slaughterhouse

Al-Nasir Exports Pvt. Ltd. is [illegible] Ghaziabad U.P. It is spread in an area of 37139.53 m2 with Effluent [illegible] existing **in 3500m2 area**. It has an infrastructure for [illegible] Animals/day. The plant has a processing capacity of.

Frozenmeat- 38MT/day

By Product

MBM11-MT/day.

Tallow4 MT/day

The general slaughtering process [illegible]

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. Carcass [illegible]

Al-Nasir Exports Pvt. Ltd. [illegible] working with the present slaughtering licensing capacity of the [illegible]

The waste water treatment [illegible] established and commissioned in the year 2011 with a capital investment [illegible] has a capacity to take full load of waste water generated 204 m3/day.

Slaughterhouse Performance in the year 2020-21

S. No.	Particulars	2020-21
1	Duration of slaughtering	300 days
2	Waste Water generated	61200 m3
3	Waste water [illegible]	61200 m3

NO. of average slaughtering days

The ETP is capable enough to treat the effluent by achieving desired norms of UPPCB/CPCB. The treated effluent is [illegible] as per UPPCB/CPCB drains out through pump and pipeline for using as irrigation water by slaughterhouse as per their requirements.

As per ETP adequacy report and data provided by the slaughterhouse

(Annexure-2)

Waste Water Generation

Waste water generation is observed [illegible] data provided by slaughterhouse and ETP adequacy report made by APEX [illegible] CONSULTANTS, GHAZIABAD. The waste water generation is about 204 m3/day whereas [illegible] slaughtering days in 2020-21 are 300 days. The total waste water generation [illegible] in a typical year= 204 m3 X 300 days = 61200 m3.The waste water [illegible] has been designed to cater the peak generation of waste water 204 m3/day.

- Total treated effluent generation [illegible]
- Treated Effluent used in recycling [illegible] = 20 m^3/day.
- Net treated waste water [illegible] = 184 m^3/day
- Total treated effluent generated [illegible] during the year 184m^3 x 300 days = 55200m3/year

(Annexure-3)

Effluent Treatment Plant (ETP)

Effluent is an out flowing of water [illegible] natural body of water, all from a human made structure. The meat industry [illegible] water. In this process effluents in slaughterhouse originate from [illegible] dressing, paunch handling, rendering, processing and cleaning. [illegible] effluent is important because of the possible pollution of water for the purpose [illegible] of effluent. Slaughterhouse has an ETP which treats effluent in 3 different stages [illegible] Secondary and Tertiary.

Primary treatment includes [illegible] holding tanks, 2 chemical dozing tanks, equalization tanks and [illegible]. Secondary treatment includes 2 stage activated sludge based biological [illegible]. Tertiary treatment includes sand filter and activated carbon filter. [illegible] for irrigation purposes in Karnal Technology agreement and [illegible] slaughterhouse premises, washing boiler and cooling towers. Sludge is [illegible] system and in sludge drying beds (beds) which is further [illegible].

For achieving the objectives :-

- Eliminate threat of diseases.
- Convert the effluent into a [illegible]
- Conservation of water and nutrients.
- Treated Effluent that can be [illegible] agricultural land.

The details of ETP of Al-Nasir [illegible]

SL No	Description	[illegible]
1	Oil and grease trap tank	[illegible]
2	Solid separators/screen	[illegible]
3	Holding tank	[illegible]
4	DAF SYSTEM	[illegible]
5	Equalization Tank EMT	[illegible]
6	PST tank	[illegible]
7	Aeration tank 1	[illegible]
8	Secondary Clarifier 1 Aeration tank 2	[illegible]
9	Secondary Clarifier 2 Filter feed tank	[illegible]
10	Disinfection tank	[illegible]
11	Sand filter	[illegible]
12	Activated Carbon filter	[illegible]
13	Treated water tank	[illegible]
14	Sludge drying beds	[illegible]
15	Oil and grease trap tank	[illegible]
16	Solid separators/Screen	[illegible]
17	Holding tank	[illegible]
18	DAF SYSTEM	[illegible]
19	Sludge dewatering system	[illegible]

(Annexure-4)

Effluent Treatment Plant Detail

S. No.	Description	Size/Volume
1.	[illegible]	7.0m x 3.0m x 2.0m
2.	[illegible]	20.0m x 10.0m x 3.0m
3.	[illegible]	2.5m x 3.5m
4.	[illegible]	10.0m x 4.0m
5.	[illegible]	22.0m x 11.0m x 3.5m
6.	[illegible]	10.0m x 3.5m
7.	[illegible]	20.0m x 10.0m x 3.5m
8.	[illegible]	10.0m x 3.5m
9.	[illegible]	1.5m x 2.5m
10.	[illegible]	1.5m x 2.5m
11.	[illegible]	16.0m x 10.0m x 3.5m

The above specifications of effluent treatment plant have been received from the report provided by Al Nasir Exports Pvt. Ltd.

(Annexure-5)

CPCB Protocol for Water usage

As per Ministry of Environment [illegible] change recommendation, for the application of treated effluent [illegible] soil and crop to crop. The average effluent requirement [illegible] per day for irrigation of sandy loam soils.

Soil Structure	[illegible] rate (m3/ha/day)
Sandy loam	

Existing arrangement for treatment of effluent generated

During the typical year the [illegible] effluent about 353 M3/day. The slaughterhouse has fully [illegible] the generated effluent as per norms of CPCB and also [illegible] report made byABM Environment Consultants, Ghaziabad

The slaughterhouse has [illegible] effluent treatment on the basis of maximum effluent generated 204 M3/day

The primary effluent [illegible] physical and chemical treatment. The secondary system is based on activated [illegible] acts as a biological treatment for effluent. The third phase is the filtration [illegible] slaughterhouse consists of Sand and Activated Carbon filters respectively. As per [illegible] report the capacity of the ETP plant is considered as adequate to handle [illegible] effluent from the plant at operational capacityof 500 slaughtering of animals. [illegible] assessed by ABM Environment Consultants,Ghaziabad 2012 Year and hence [illegible] effluent quality is within the norms.

(Annexure-6)

Command area identified

A detailed survey of the area [illegible] the plantation pattern. It has been observed that the area of the slaughterhouse [illegible] for irrigation is divided into 3 parts i.e.0.884 ha under Kamal Plantation Technology, [illegible] area under gardening and 4.49 ha under cropping.

As per soil testing repor [illegible] (used for irrigation) is sandy loam.

The slaugh[illegible]

The details are as follows:-

S. No.	Location	[illegible]	Distance from unit (M)	Mode of effluent transport
1	Area under Kamal Technology Plantation	[illegible]	6 Mtrs.	Pipeline
2	Area under gardening	[illegible]	Inside the premises	pipeline
3	Area under Cropping/ Agreemental Land	[illegible]	100 Mtrs.	Pipeline
	Total	[illegible]		

(Annexure-7)

Physico-chemical properties of soil

S. No.	Description	Result
1.	pH	7.84
2.	Potassium [illegible]	214.3
3.	Sodium [illegible]	258.6
3.	Bulk density	1.29
4.	Porosity	32.5
5.	Electrical Conductivity	365
6.	Sand	89
7.	Silt	4.00
8.	Clay	7.00
9.	Phosphorus (as P[illegible])	75.6
10	Organic Carbon	0.24

As per soil testing report provided by [illegible] Testing Laboratories soils of Al Nasir Exports Pvt. Ltd. are Sandy loam which is used [illegible]

(Annexure-8)

Water Consumption in the [illegible]

Water required for area under Karnal [illegible]

Water required for irrigation with [illegible] at an interval of 4 Days.

Total treated effluent used 225 m³ x [illegible] m³

Water required for gardening [illegible]

Water required for irrigation with [illegible] at an interval of 5 Days.

Total treated effluent used 225 m³ x [illegible] m³

Water required for area under Cropping

Water required for irrigation with [illegible] at an interval of 10 Days.

Total Treated effluent used 225 m³ x 4 [illegible] m³

Waste water utilization detail

Location	Treated [illegible] per [illegible]	Area in ha	Effluent used (M^3)
Area under Karnal Technology	[illegible]	0.884	14917
Area under gardening	[illegible]	0.35	4725
Area under cropping	[illegible]	4.49	37379
Total		5.73	**57021**

The total 5.73 ha of land availability h[illegible]. Hence, the quantity of effluent to be used in identified command area [illegible] Karnal plantation,4725 m3 under gardening and 37379 m³ under cropping [illegible] of treated **effluent will be 57021 m3/year, which is higher than co[illegible] generated 55200 m3/year by the slaughter house.**

So the waste water consumption [illegible] water generation by Al Nasir Exports Pvt. Ltd. which is as per CPCB/UPPCB [illegible] therefore we can conclude from the above data and records provided by the slaughterhouse [illegible] plan is adequate.

(Annexure-9)

The Karnal Technology & its peculiarities

In this method of plantation, [illegible] and treated effluent is disposed off in furrows. The amount of the effluent [illegible] depends on the age, type of plants, climatic conditions, soil texture and quality [illegible] possible to dispose off treated effluent through this technique.

This technique utilizes the [illegible] effluent for supplying nutrients to the soil and plant. Irrigation [illegible] recharge and ground storage. Further as forest plants are used for fuel [illegible] there is no chance of pathogens, heavy metals and organic compounds to [illegible] food chain system.

Though most of the plants [illegible] effluents, yet those tree species which are fast growing can [illegible] rate and are able to withstand high moisture content. The root environment [illegible] most suitable for such purposes. Eucalyptus is one such specie which [illegible] large amounts of treated effluent and remains active throughout the [illegible]

This system generates good returns [illegible] fuel wood. The sludge accumulating in the furrows along with the decaying [illegible] be exploited as an additional source of revenue. This technology does not require [illegible] personnel and restoring environment to generate biomass for improving organic [illegible] production, productivity and fertility of soil. Al Nasir Exports Pvt. Ltd. adopted [illegible] chnology in 0.88 ha of its own land and planted eucalyptus in this area, which gives [illegible] as well as for financial gain.

Plantation done by Al Nasir is [illegible] economically beneficial but also helps in maintaining healthy environment for [illegible] human beings. Under Karnal Technology the remains of sludge in trenches [illegible] excreta and defoliated leaves which improves organic carbon in the soil [illegible] improves soil health but also the micro climatic conditions.

Therefore it is primarily seen [illegible] Karnal Technology is feasible for treated effluent consumption, financial [illegible] products, improving soil health and micro climatic conditions.

Work force deployed for irrigation [illegible] plan

Al Nasir Exports Pvt. Ltd. has

ETP INCHARGE

1. SHARIK KHAN [illegible]

SKILLED STAFF-

1. RAMSIMRAN
2. AARIF
3. GULZAR
4. SHAKIB
5. RASHID BILAL
6. SAJID

(Annexure-10)

Conclusion-

- The waste water [illegible] generated by Al Nasir Exports Pvt. Ltd
- Hence the Irrigation Management [illegible] per the data provided by Al Nasir Exports Pvt. Ltd.
- This report is made on the [illegible] slaughter house. It should not be used as a legal document

Suggestions-

1. This report is [illegible] the treated effluent in irrigation of crops
2. Al-Nasir Exports Pvt. Ltd. [illegible] Technology.
3. Technical expertise is [illegible] the Karnal Technology.
4. Irrigation Management [illegible] at least in every 3 years by an expert institute.
5. Lagoon should be as per [illegible]
6. Suggestions given in ETP [illegible]/CPCB/UPPCB regarding water quality must be followed/implemented.

(Y. K. Singh)
Agronomist,
AICRIP [illegible]

(Manoj Mishra)
Assistant Director
Directorate of Research

Director
Agricultural [illegible]
[illegible]

168

[illegible] Board

[illegible]ER

Ref.No. -
78826/UPPCB/Ghaziabad(UPPCBRO)/C[illegible]
/GHAZIABAD/2019

Dated : 12/03/2020

To ,

Shri MOHD SAALIM QURESHI
M/s AL NASIR EXPORTS PVT LTD
Khasara No. 2761, Bhoorgharhi, Dasna [illegible] (U.P.),GHAZIABAD,201015
GHAZIABAD

Sub : **Consent under Section 25/26 of [illegible] (Prevention and control of Pollution) Act, 1974 (as amended) for discharge of [illegible] AL NASIR EXPORTS PVT LTD**

Reference Application No :6933049

Dated :12/03/2020

1. For disposal of effluent into water [illegible] under The Water (Prevention and control of Pollution) Act,1974 as amended [illegible] the act) M/s. AL NASIR EXPORTS PVT LTD is hereby authorized by the Board [illegible] of their industrial effluent generated through ETP for irrigation/river through [illegible] domestic effluent through septic tant/soak pit subject to general and special conditions [illegible] the annexure ,in refrence to their foresaid application.
2. This consent is valid for the period from [illegible] to 11/12/2024 .
3. In spite of the conditions and provisions [illegible] consent order UP Pollution Control Board reserves its right and powers to [illegible] all conditions under section 27(2) of the Water (Previntion and Control of Pollution) Act 1974 as amended .

This consent is being issued with the [illegible] competent authority .

Ashok Kumar Tiwari (Digitally signed by Ashok Kumar Tiwari Date: 2020.03.12)

For and on behalf of U.P. Pollution Control Board

C.E.O
C-1

Enclosed : As above
(condition of consent):

Copy to: Regional Office, U.P. Pollution Control Board, Ghaziabad

Ashok Kumar Tiwari (Digitally signed)

C.E.O
C-1

169

U.P. POLLUTION CONTROL BOARD, LUCKNOW

Annexure to Consent issued to M/s.AL NASIR [illegible] PVT LTD vide

Consent Order No. 69330/W Water

Dated : 12/03/2020

CONDITIONS OF CONSENT

1. This consent is valid for the [illegible] slaughtering capacity Slaughtering of 200 buffaloes per day and 100 [illegible] per day, [illegible] Frozen Meat-50 MT/Day, MBM-11MT/day, Tallow 4 MT/day per day.
2. This consent is valid only for [illegible] mentioned above. Industry shall obtain prior approval before making any modification [illegible] process /fuel/ plant machinery failing which consent would be deemed void.
3. The unit should follow the various [illegible] REVISED COMPREHENSIVE INDUSTRY DOCUMENT ON SLAUGHTER [illegible] Central pollution Control Board in October 2017.
4. The slaughter house will follow the [illegible] rules and regulations as mentioned in the " Compendium of Indian Standards on [illegible]
5. The slaughtering of the cow & its progeny [illegible] permitted under any circumstances.
6. The industry should strictly follow the [illegible] & guidelines mentioned in the compendium compiled in compliance of the Hon'ble [illegible] Court order dated 17-02-2017 in the matter of W.P.(Civil) No. 330/2001, Common Cause [illegible] of India, W.P. No. 44/2004, contempt petition 124/2015 annexed with W.P. (Civil) No. [illegible] Laxmi Narayan Modi V/s Govt. of India and ors.
7. The industry should provide the linkage of the CCTV cameras installed at the entry points, lairage and meat processing unit to the DM office and on the public portal. It will be the responsibility of the Industry to comply with the various conditions of the permission taken from local administration or any other government department.
8. The quantity of maximum daily effluent [illegible] should not be more than the following :

Effluent Discharge Details			
S.No	Kind of Effluent	Maximum daily discharge KL/day	Treatment facility and discharge point
1	Domestic	4 KLD	Septic Tank
2	Industrial	200 KLD	ETP

9. Arrangement should be made for [illegible] water used in process and domestic effluent separately in closed water supply system. [illegible] domestic and industrial effluent if discharged outside the premises, it meets at the [illegible] point. arrangement should be made for measurement of effluent and for coll[illegible] sample. Except the effluent informed in the application for consent no other effluent [illegible] to the said arrangements for collection of effluent. It should also be ensured that [illegible] effluent should not be discharged in storm water drain.

9(a) The domestic effluent should be treated [illegible] so that the should be in conformity with the following norms dated treated effluent

Domestic Effluent		
S.No	Parameter	Standard
1	Quantity of Discharge	4 KLD
2	Total Suspended Solids	As per E.P Rules 1986
3	[illegible]	As per E.P Rules 1986
4	[illegible]	As per E.P Rules 1986
5	[illegible]	As per E.P Rules 1986

9(b) The industrial effluent should be [illegible] that the treated effluent should be in conformity with the following norms

S.No		Standard
1		As per E.P Rules 1986
2		As per E.P Rules 1986
3		As per E.P Rules 1986
4		200 KLD
5		As per E.P Rules 1986

effluent and the effluent generated from before its disposal with treated industrial prescribed under The Environment (Protection)

and its analysis should be as per legal heads prescribed under the Environment (Protection) Act, 1986

from the CGWA before ground water comply with the various conditions of the permission taken.

prescribed form V rule no.14 of E.P Rules 1986.

Prevention and Control of Pollution) Act Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act.

shall be covered and properly maintained by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/2/18. A copy of this guideline is available at URL http://www.uppcb.com/pdf/Green-Belt-Guideline-2018.pdf.

The industry will ensure the continuous and uninterrupted data supply from the OCEEMS to the CPCB and SPCB.

17 Flow meter to be installed in all water abstraction points and usage of fresh water to be minimized. The unit will ensure facility to transmit data to CPCB server and submit a regular calibration certificate of Electro Magnetic Flow meter to the Board.

18 If closure order is issued by CPCB or UPPCB for the unit, then CTO issued earlier will remain suspended during the closure period and after revoking the compliance and after revocation of closure order, the CTO will auto matically be restored with additional conditions mentioned in the closure revocation order.

19 The industry shall abide by the directions issued by Central Pollution Control Board and UPPCB for protection and safe guard of environment from time to time.

Specific Conditions:

effluent in irrigation, which

supplied to its integrated frozen
is required if the slaughtered

effluent from a certified /

self monitoring mechanism on 24 ×7

ption measurement for irrigation

further in E.I.A. studies
the unit.
water balance in addition to the
after implementation of
irrigation purposes in place of

erve & monitor treated effluent

anism in furtherance to the
cycle. This step shall in
eliminate extraneous treated

the place of salt to preserve the raw

ion or alteration of existing
new emission generation
with section- 25/26 of water act

in such a manner that it does not

and operated in such a manner that
by the board.
should appoint skilled and qualified persons

ulated in closer order suspension letter
-8-2020/107 Ja /2017T.C dated 05-02-

industry should be got tested on a
to the board.
disposal of treated effluent and under
surface water body.
ndicate after the compilation of the same.
of the conditions imposed in the CTO
for the current year and the details of
wise this CTO may be revoked.
st the industry this consent order stands

mentioned above. Industry shall obtain prior
plant machinery failing which

be disposed in such a manner that it does not
source.
and operated in such a manner that
under the E.P Act 1986 as amended.
fluctuations in operating parameters with
of qualified to step up self-monitoring

industry should be got tested on a
ed to the Board.
and log book should be

192

... The industry should s... ...ed or authenticated by the reputed Agricultural University.

Issued with the **permission** of compet... ...and on behalf of **U.P. Pollution Control Board .**

Ashok Kumar Tiwari

C.E.O
C-1

123

Dated : 26/02/2020

Ref No.
7887/Z/UPPCB/Ghaziabad(UPPCBRO)/CTO/2019

To,

Shri MOHD SAALIM QURESHI
M/s AL NASIR EXPORTS PVT LTD
Khasara No. 2761, Bhoorgheri, Dasna Ghaziabad(U.P.),GHAZIABAD,201015
GHAZIABAD

Sub : **Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. AL NASIR EXPORTS PVT LTD.**

Reference Application No. 6936349 Dated : 26/02/2020

1. With reference to the application for consent for emission of air pollutants from the plant of M/s AL NASIR EXPORTS PVT LTD., unit is hereby authorised for said emissions, as per the standards, in environment, for the following specified conditions .
2. This consent is valid for the period from 11/12/2019 to 31/12/2024 .
3. Inspite of the conditions and provisions laid down in this consent order UP Pollution Control Board reserves its right and powers to cancel/modify/revoke any or all conditions under section 21 (6) of the Air (Prevention and Control of Pollution) Act, 1981 as amended.
This consent is being issued with the permission of competent authority .

Ashok Kumar Tiwari

For and on behalf of U.P. Pollution Control Board

C.E.O
C-1

Enclosed : As above
(condition of consent):

Copy to: Regional Officer, U.P. Pollution Control Board, Ghaziabad

Ashok Kumar Tiwari

C.E.O
C-1

Dated : 26/02/2020

1 This consent is valid for the approved slaughtering capacity Slaughtering of 200 buffaloes per day and 100 Goats per day Frozen Meat-50 MT/Day, MBM-1MT/day, Tallow-4 MT/day per day Buffalo per day

2 This consent is valid only for products mentioned above. Industry shall obtain prior approval before making any modification process /fuel/ plant machinery failing which consent would be deemed void

3 The unit should follow the guidelines GUIDED COMPREHENSIVE INDUSTRY DOCUMENT ON SLAUGHTER pollution Control Board in October 2017

4 The slaughtering of the cow & its progeny shall not be any circumstances.

5 The slaughter house will follow the rules and regulations as mentioned in the compendium of Indian Standards

6(a) The maximum rate of emission of the gases from the stack shall not be more than the emission norms for the stacks

6(b) Air Pollution Source Details

S.No	Air Polution Source	Type of Fuel	Stack No.	Parameters	Height
1	Boiler 6 TPH	Wood	1	Particulate Matter	30 mt. stack from G.L with multi cyclone dust collector
2	2x 1010 KVA D G Set	H.S.D	3,4	Sulphur Dioxide	each minimum 6.40 mt. from the nearest roof
3	D.G Set 500 KVA	H.S.D	2	Sulphur Dioxide	minimum 4.5 mt. above nearest roof

6(c) The emissions by various stacks into the atmosphere should be as per the norms of the Board .

S.No	Stack No	Parameter	Standard
1	1	Particulate Matter	As per E.P Rules 1986
2	2,3,4	Sulphur Dioxide	As per E.P Rules 1986

7 The industry should be operated in such a manner that it does not adversely affect the environment and the solid waste generated such as ash should be disposed in eco friendly manner .

8 Any source of emission other than those mentioned in the Air consent seeking application will not be permitted by the Board

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

10 The industry shall submit Environmental Statement in prescribed format as per rule no.14 as per E.P Rules 1986 .

11 The industry shall abide by orders passed by Hon'ble Supreme court Hon'ble High Court, Hon'ble National Green Tribunal, Central Pollution Control Board and U.P Pollution Control

135

and ambient air quality from a

Control of Pollution) Act
1974 as amended and all other

from the OCEEMS to the

the details of fees deposited
be deemed void.

in compliance of the Hon'ble

Boiler depending upon its

addition of new emission generation
alteration of existing emission sources in

be covered and properly maintained
set up by the Board vide its
guideline is available at

unit, then CTO issued earlier will remain
the compliance and after revocation of
additional conditions mentioned in the

Court, Central Pollution Control Board and
time to time.

Specific Conditions:

closer order suspension letter
Ja /2017T.C dated 05-02-

shall be supplied to its integrated frozen
2764, 2765, 2766, Vill-Bhoorgarhi, Dasna,
Board is required if the slaughtered

conditions imposed in the CTO
for the current year and the details of
otherwise this CTO may be revoked.
the Chief Secretary vide letter no.760/Nau-8-
by the Principal Secretary, Nagar Vikas
2017
guidelines mentioned in the compendium
order dated 17-02-2017 in the matter of
India, W.P. No. 44/2004, contempt petition
Narayan Modi V/s Govt. of India and ors.
added by the company without the prior

at the entry points, lairage,

in such a manner that it does not

factory should be got tested on a quarterly
Board

referred above. Industry shall obtain prior
the Plant machinery failing which

in such a manner that it does not

126

Issued with the permission of competent authority .

For and on behalf of U.P. Pollution Control Board .

C.E.O

C-1

661

NOIDA TEST[illegible] LABORATORIES

(A Government [illegible] Testing Laboratory)

(An ISO : 9001 : 2015, [illegible] & NABL Accredited Laboratory)

MoEF & CC (Ministry of Environment [illegible]), UPPCB & HSPCB Recognized Laboratory

☎ +91-9313611642, 8510081931, [illegible]870572, 7503031146, 9999794369

Certificate No. : TC-8814

Test Report of	Date of Issue
Waste Water	01/10/2021

Issued To: M/s. Al- Nasir Exports

Khasra No.- 2761, Bhe[illegible] Gadhi Dasna, Ghaziabad (U.P.) India

ANALYSIS DATA

Sample Drawn On [illegible]/2021

Sample Collected By [illegible]

Sample Description : ETP Outlet

Sample Quantity/Packing detail : 1L/Plastic Cane

Weather Conditions : [illegible]nnel

Analysis Duration : [illegible]/09/2021 to 01/10/2021

TEST RESULTS

S. No.	Parameter	Results	Units	Limits as per CPCB norms
1.	pH	7.54	-	6.0-9.0
2.	Color	Colorless	-	-
3.	Total Dissolved Solid (TDS)	875.0	mg/l	-
4.	Total Suspended Solid (TSS)	23.0	mg/l	100.0
5.	Chemical Oxygen Demand(as O_2)	88.0	mg/l	250.0
6.	Biological Oxygen Demand(as O_2)	15.0	mg/l	30.0
7.	Oil & grease	<1.0	mg/l	10.0

Remarks: Test parameters coming in under-limit [illegible] are given by MoEF/Central Pollution Control Board.

Notes:

1. The results given above are related to the tested [illegible] parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the [illegible]
3. This test report will not be presented again, either [illegible]
4. This test report will not be used for any publicity [illegible] written permission of the laboratory.
5. The test samples will be disposed off after two weeks [illegible] of test report, unless [illegible] by the customer.

CHECKED BY

AUTHORIZED SIGNATORY

Laboratory : GT-20, Sector [illegible] Nagar - 201301

Branch Office : [illegible]khand

Branch Office : Gayatri [illegible]dwani, Uttrakhand

E. : noida.laboratory@gmail.com W. : www.noidalabs.com

NOIDA TES[illegible] LABORATORIES

(A [illegible] Testing Laboratory)

(An ISO : 9001 : 2015 [illegible] NABL Accredited Laboratory)

MoEF & CC (Ministry of Environment [illegible]), UPPCB & HSPCB Recognized Laboratory

☎ +91-9313611642, [illegible] 7503031146, 9999794369

Certificate No. : TC-6814

Test Report of Soil Quality	[illegible]	Date of Issue
		01/10/2021

Issued To: M/s. Al- Nasir Exports Pvt. Ltd.
Khasra No.- 2761, [illegible] Dasna, Ghaziabad (U.P.) India

Sampling [illegible] Details

Sample Drawn On [illegible]
Sample Received On [illegible]
Sample Description [illegible] Soil Sample
Sample Quantity [illegible]
Sample Drawn By [illegible]
Analysis Duration [illegible]/09/202[illegible] to 01/10/2021

Sl. No.	Parameters		Unit	Results	Test Method
1.	pH			7.84	IS:2720(Part-26)
2.	Electrical Conductivity at 25° (1:5 suspension)			365	IS:2720(Part-21)
3.	Sodium (as Na)			258.6	STP/SOIL
4.	Water holding capacity			24.7	STP/SOIL
5.	Potassium (as K)			214.3	STP/SOIL
6.	Texture	Sand		89.0	STP/SOIL
		Clay		7.00	STP/SOIL
		Silt		4.00	STP/SOIL
7.	Soil Texture			Sandy Soil	STP/SOIL
8.	Calcium (as Ca)			574.6	STP/SOIL
9.	Magnesium (as Mg)			298.4	STP/SOIL
10.	Sodium Absorption Ration (SAR)			2.18	STP/SOIL
11.	Cation Exchange Capacity (CEC)			1.47	STP/SOIL
12.	Available Phosphorus (as P)			75.6	STP/SOIL
13.	Organic carbon			0.24	STP/SOIL
14.	Porosity			32.5	STP/SOIL
15.	Permeability			5.65	STP/SOIL
16.	Bulk Density			1.29	STP/SOIL
17.	Particle Density			2.08	STP/SOIL
18.	Nitrogen (as N)			75.6	STP/SOIL
19.	Zinc (as Zn)			48.59	STP/SOIL

Notes:

1. [illegible] asked for the above tests only.
2. [illegible]
3. [illegible] of the laboratory.
4. [illegible]
5. [illegible] specified by the customer.

CHECKED BY

AUTHORIZED SIGNATORY

INDIA NON JUDICIAL

Government of Uttar Pradesh

e-Stamp

Certificate No.	:	[illegible]
Certificate Issued Date	:	[illegible]
Account Reference	:	NE[illegible]5504/ GHAZIABAD SADAR/ UP-GZB
Unique Doc. Reference	:	SUBIN-[illegible]7486353649347
Purchased by	:	AL NASIR [illegible] PVT LTD
Description of Document	:	Article [illegible] Memorandum of an agreement
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	
First Party	:	HINDON [illegible] PVT LTD
Second Party	:	AL NASIR EXPORTS PVT LTD
Stamp Duty Paid By	:	AL NASIR [illegible] PVT LTD
Stamp Duty Amount(Rs.)	:	500 (Five Hundred only)

NOTARY — [illegible] Ghaziabad (U.P.) [illegible] — GOVT. OF INDIA

This lease Agreement is made at [illegible] between M/s Hindon Organics Pvt Limited. through its Director Mr. SHAKIR HUSSAIN QURESHI S/O of Mr. ABDULI QUUIM R/O 10-B Nizamuddin west, Hazrat Nizamuddin, South Delhi Delhi-110013 (here in after called as first Party)

AND

For Hindon Organics Private Limited

Authorised Signatory

For AL NASIR EXPORTS PVT. LTD.

Authorised Signatory

0003676767

180

M/s Al-Nasir Exports Pvt limited a company [illegible] under companies act 1956, having registered address 7A/39, chaman market, [illegible] through its authorized representative **Mr. [illegible]UDDIN,** S/o of Mr. [illegible] **Tayyab Masjid, Okhla, South Delhi,** Delhi 110025

Now the term of the agreement [illegible]

1. That the first party is in possession [illegible] khasra no 1503 khata No 2722 situated at village [illegible] Road.
2. That the first party is the sole and [illegible] detailed above.
3. That the Second party is desirous to [illegible] lease for irrigation purpose.
4. That the Lease period is 5 years and [illegible] 0000 per year.
5. That the lease rental will be paid [illegible] every year. That if the lease **rent** is not paid for [illegible] consecutive year then first party [illegible] every right to take possession of the land.
6. That the second Party shall not [illegible] to further sub lease without obtaining consent of the first party.
7. Either of the party can terminate [illegible] months prior notice to other party.

For Hindon Organics Pvt limited

Shakir Hussain qureshi

For Al Nasir Exports Pvt Limited

Authorised Signatory

Witness

1. SHARIK KHAN S/o SANOOAR [illegible]
Vill. SHAHNAGAR [illegible]

2. INTZAR ALI S/o MOHD [illegible]
PILKHUA, HAPUR

उत्तर प्रदेश UTTAR PRADESH

BB 327915

किरायेनामा (लीजडीड) जिसे स्टाम्प अंकन–2,500/–रूपये स्टाम्प ड्यूटी नियमानुसार [illegible] अंकन 10,000/–रूपये के छः गुणे पर लीज अंकन–60,000/– [illegible] पर 4 प्रतिशत की दर से अदा की गई है।

हम कि मैसर्स [illegible] फूड एक्सपोर्ट प्रा0लि0, (PAN :AAICA2935[illegible] ग्राम भूडगढी डासना गाजियाबाद द्वारा डायरेक्टर्स शाकिर हुसैन [illegible] पुत्र अब्दुल कैय्यूम निवासी–बी–10, हजरत निजामुद्दीन [illegible] व मौहम्मद सालिम कुरैशी पुत्र मौहम्मद युसूफ कुरैशी निवासी–[illegible]–378, फर्स्ट फलोर, चमेलीयन रोड, आहता विकास, [illegible] प्रथमपक्ष सम्पत्ति मालिक।

UID :3725 1789 [illegible] 7034 3020

एवं मैसर्स अलनासिर [illegible] (PAN :AADCA2047H)खसरा नम्बर–2761 व 2762 व [illegible] ग्राम भूडगढी डासना गाजियाबाद द्वारा प्रतिनिधि नजमुल [illegible] पुत्र श्री रुहुल्लाह खान निवासी–सी–148/1, [illegible] मस्जिद, ओखला, दिल्ली–110025 द्वितीयपक्ष किरायेदार। UID [illegible] 3057 3142

182

उत्तर प्रदेश UTTAR PRADESH

V 771656

(2)

परगना डासना, तहसील व जिला
भूमि रकबई 0.8840 हैक्टेयर अर्थात
मालिक व काबिज हैं। तथा न्यायालय
उप जिलाधिकारी प्रथम श्रेणी गाजियाबाद वाद
संख्या 19/08-09 धारा 143 उ0प्र0ज0वि0अधि0, ग्राम डासना
परगना डासना तहसील व जिला गाजियाबाद मैसर्स अलजफर यासीन
फ्रोजन फूड एक्सपोर्ट लिमिटेड बनाम उत्तर प्रदेश सरकार, आदेश दिनांक

183

22 JAN 2018

23 JAN 2018

FIVE HUNDRED RUPEES

Rs. 500

उत्तर प्रदेश UTTAR PRADESH

V 771657

27.08.2010 को [illegible] आदेश दिनांक 27.08.2010 ग्राम इन्दरगन्दी डासना [illegible] 1416–1421 फसली के खाता नम्बर 1771 खसरा [illegible] 0.8940 हैक्टयर में से रकबा 0.2946 हैक्टयर लगानी फर्द फांट को तहसीलदार गाजियाबाद की आख्या एवं शासन आदेश के [illegible] घोषित किया गया। एवं वाद संख्या टी–2016[illegible] परगना डासना तहसील व जिला गाजियाबाद खतौनी [illegible] के खाता नम्बर–02881 खसरा नम्बर 2754/[illegible] लगानी फर्द फांट अन्तर्गत धारा

184

उत्तर प्रदेश UTTAR PRADESH

V 771658

यासीन फ्रोजन फूड एक्सपोर्ट दिनांक 11.02.2016 शासन आदेश के क्रम में आकर्षित किया गया। उक्त सम्पत्ति आज दिन तक प्रथमपक्ष की ओर से [illegible] बन्धक भार, सरकारी देनदारी आदि से मुक्त है कहीं अन्य [illegible] हिबै महायदाबय आदि में गस्त नहीं है। उक्त सम्पत्ति [illegible] किरायेदार ने प्रथमपक्ष मालिक से अंकन 10,000/- [illegible] हजार रूपये) किराये पर दिनांक 01.01.2017 से आगिल [illegible] दिनांक 31.12.2046 तक के लिये किराये पर लिया है, [illegible] मालिक ने लीज/किराये पर दी है निम्नलिखित शर्तों की पालना [illegible] पक्षगण व हमारे वारसान पर रहेगी।

185

लीजरेन्ट / किराया अंकन--10,000 / —
है इसमें अन्दर मियाद कमी बेशी करने
का अधिकार

से 15 जनवरी तक प्रथमपक्ष
रसीद अदायगी किराया लेते
किराया द्वितीयपक्ष किरायेदार

किराये पर ली गई सम्पत्ति में किसी
आबाद नहीं करेगे। यदि
किरायेदारी फोरन काबिज बेदखली के
का जो हर्जा खर्चा होगा वो

/8c

किराया अदा न करने की दशा में द्वितीयपक्ष बेदखली होगें। और बकाया किराया प्रथमपक्ष किरायेदार से प्रथमपक्ष मालिक को वसूल करने का पूर्ण

किराये पर ली गई सम्पत्ति में किसी तोड फोड नहीं करेगे, जिससे प्रथमपक्ष क्षति पहुंचे। यदि द्वितीयपक्ष किरायेदार की की सम्पत्ति को कोई क्षति पहुचती है तो द्वितीयपक्ष किरायेदार पर होगा।

आवश्यकता अनुसार किराये करवाकर तामीर करें,तथा अपने कारोबारी को कोई आपत्ति नही होगी। किरायेदारी को खाली करते समय द्वितीय पक्ष अपने उठाकर खाली कर देंगे।

सम्पत्ति में कोई गैर कानूनी कार्य जिम्मेदारी द्वितीयपक्ष की होगी। से कोई टैक्स या सरकारी देनदारी जिम्मेदारी द्वितीयपक्ष किरायेदार की नहीं होगी।

उक्त किराये पर ली गई सम्पत्ति को अपने [illegible] करके प्रथमपक्ष मालिक के कब्जे में अनिवार्य रूप से [illegible]

9–यह कि [illegible] स्वतः समाप्त समझी जावेगी।

10–यह कि किरायेदार [illegible] प्रशासन व सरकार द्वारा समय समय जारी आदेशों व कानून का [illegible]

11–यह कि इस [illegible] की पाबन्दी दोनों पक्ष व वारसान पक्षकार पर होगी।

अतः यह [illegible] कि प्रमाण रहे और समय पर काम आवे इति–

(3)

सीमा किराये पर दी गई सम्पत्ति —
पूरब—प्लाट [illegible]
पश्चिम—रास्ता आम [illegible] 2761 व 2762 व 2763 मिलकियत
[illegible]
उत्तर—प्लाट [illegible]
दक्षिण—प्लाट [illegible]

हस्ताक्षर प्रथमपक्ष [illegible] हस्ताक्षर द्वितीयपक्ष किरायेदार

गवाह — [illegible]

गवाह — [illegible]

दिनांक—05.02.2018 [illegible] पाल सिंह, एडवोकेट, चैम्बर नम्बर—56,
तहसील [illegible]

189

AL NASIR EXPORTS PRIVATE LIMITED

H.O. 7-A/42, W.E.A. Western Chamber, Channa Market, Musa Road, Karol Bagh, New Delhi-110005 (INDIA)
T: +91 11 4909 7786 F: +91 11 4145 2000 E: info@alnasirexports.com W: www.alnasirexports.com

TO WHOM IT MAY CONCERN

WE WISH TO INFORM YOU THAT WE AL NASIR EXPORT PVT. LTD . WE USES 20-30 KL WATER EFFLUENT FOR RECYCLING IN GARDENING AND ROAD WASHING

THANKS & REGARDS

AL NASIR EXPORT PVT. LTD.

DASNA GHAZIABAD

Factory Address : Plot No. 2761, [illegible] Ghaziabad, Uttar Pradesh, India

190

AL NASIR EXPORTS PRIVATE LIMITED
Road, Karol Bagh, New Delhi-110005 (INDIA)
W: www.alnasirexports.com

TO WHOM IT MAY CONCERN

WE WISH TO INFORM YOU THAT M/S AL NASIR EXPORT PVT. LTD . THERE IS NO DISPUTE WITH UPPCB/ CPCB/ NGT OR ANY OTHER COURT.

THANKS & REGARDS

AL NASIR EXPORT PVT. LTD.

DASNA GHAZIABAD

AL NASIR EXPERTS PRIVATE LIMITED
H.O. 7-A/42, W.E.A. Western Chamber, [illegible] Road, Karol Bagh, New Delhi-110005 (INDIA)
T: +91 11 4909 7786 F: +91 11 [illegible] info@alnasirexports.com W: www.alnasirexports.com

AL NASIR EXPORT PVT. LTD.

EFFLUENT FOR IRRIGATION MONTH WISE

SR. NO.	MONTH & YEAR	MONTHLY USE (KL)
1	SEPTEMBER-2020	3905 (KL)
2	OCTOBER-2020	4535 (KL)
3	NOVEMBER-2020	1274 (KL)
4	DECEMBER-2020	0438 (KL)
5	JANAUARY-2021	4320 (KL)
6	FEBUARARY-2021	4150 (KL)
7	MARCH-2021	4472 (KL)
8	APRIL-2021	4394 (KL)
9	MAY-2021	4827 (KL)
10	JUNE-2021	4314 (KL)
11	JULY-2021	4128 (KL)
12	AUGUST-2021	4722 (KL)
	TOTAL	50159 (KL)

AUTHORIZED SIGNATURE

AL NASIR ... PRIVATE LIMITED
H.O. ... Karol Bagh, New Delhi-110005 (INDIA)
T: ... 7786 ... W: www.alnasirexports.com

AL NASIR ... PVT. LTD.

EFFLUENT GENERATION ...

SR. NO.	MONTH & YEAR	MONTHLY USE (KL)
1	SEPTEMBER -2020	5263 (KL)
2	OCTOBER-2020	[illegible] (KL)
3	NOVEMBER-2020	[illegible] (KL)
4	DECEMBER-2020	[illegible] (KL)
5	JANAUARY-2021	[illegible] (KL)
6	FEBUARARY-2021	[illegible] (KL)
7	MARCH-2021	5062 (KL)
8	APRIL-2021	[illegible] (KL)
9	MAY-2021	[illegible] (KL)
10	JUNE-2021	4263 (KL)
11	JULY-2021	[illegible] (KL)
12	AUGUST-2021	[illegible] (KL)
	TOTAL	[illegible] (KL)

AUTHORIZED SIGNATURE

AL NASIR EXPORTS PRIVATE LIMITED
H.O. 7-A/42, W.E.A. Western Chan[illegible] Road, Karol Bagh, New Delhi-110005 (INDIA)
T: +91 11 4909 7786 F: +91 [illegible] W: www.alnasirexports.com

TO WH[illegible]

WE WISH TO INFORM YOU THAT [illegible] EXPORT PVT. LTD. WE USES 90%
AND REMAINING 10% USED IN [illegible] THOD EFFLUENT FOR IRRIGATION
BY KARNAL METHOD

THANKS & REGARDS

AL NASIR EXPORT PVT. LTD.

DASNA GHAZIABAD

Factory Address : Plot No. [illegible] Ghaziabad, Uttar Pradesh, India

194

सेवा में,

श्रीमान [illegible]

[illegible] प्रा० लि०

2761, [illegible] गाजियाबाद

महोदय

निवेदन [illegible] है कि प्रार्थीगण मसूरी के [illegible] है। [illegible] खसरा नं० [illegible] 3.7023 हेक्टेयर है। और [illegible] स्थित है। प्रार्थीगण [illegible] मक्का ज्वार-बाजरा [illegible] है। प्रार्थी को पानी सिंचाई [illegible] शोधित उत्प्रवाह की सिंचाई हेतु [illegible] है। कृपया मुहैया करने का कष्ट करें। आपकी [illegible] होगी

प्रार्थीगण

1. [illegible] — Anis
2. [illegible] — Nafees
3. [illegible] — रईस
4. [illegible] — [illegible]
5. [illegible] — [illegible]
6. [illegible] — [illegible]

195

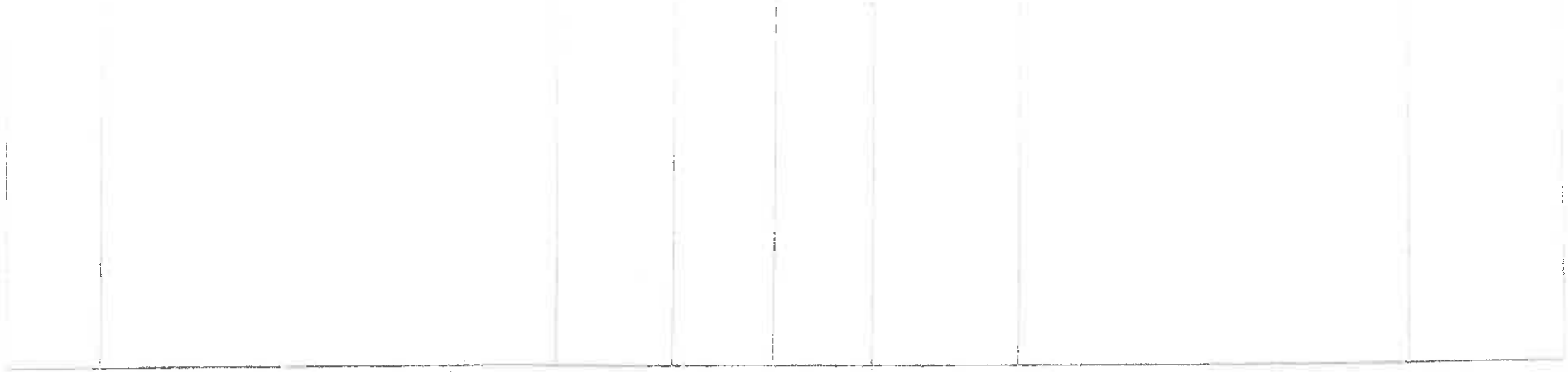
196

उद्धरण खतौनी

उद्धरण क्रमांक : 119742202111288

ग्राम क्रमांक : 119742 ग्राम का नाम / परगना : डासना(डासना) तहसील : गाजियाबाद जनपद : गाजियाबाद फसली वर्ष : 1428-1433 भाग : 1

खाता खतौनी क्रम संख्या	खातेदार का नाम / पिता पति संरक्षक का नाम / निवास स्थान	भौमिक अधिकार प्रारम्भ होने का वर्ष	खाते के प्रत्येक गाटे की खसरा संख्या	प्रत्येक गाटे का क्षेत्रफल (हे.)	खातेदार द्वारा देय मालगुजारी या लगान	परिवर्तन सम्बन्धी आज्ञा या उसका सारांश उनकी संख्या तथा दिनाँक सहित और आज्ञा देने वाले आधिकारी का पद	टिप्पणी
1	2	3	4	5	6	7	8



11/8/2021 1:56

198

[illegible]

1325-ए: लैटर पैड [illegible] ... 07.01.19 पर [illegible] ... 720, ... 2630, ... 2631, ... 2651, ... 2576 ... 1807, 1793, ... 1771, ... 1071, ... 1773, 1781 के नीचे से भूमिगत पाईप लाईन बिछायी गयी है । पाईप लाईन के 30 मीटर के अन्तर्गत पेड़ लगाना, कुआ , बोरिंग, खुदाई, पक्का व कच्चा भवन का निर्माण वर्जित है । ह.अ.र.का. ।

1	3.7023	₹ 170.00	13		2

कुल गाटे- एक   कुल क्षेत्रफल- तीन दशमलव सात शून्य दो तीन (हेक्टेयर)   कुल भू-राजस्व - एक सात शून्य दशमलव शून्य शून्य रुपये

Data Digitally Signed by: SHWETA JINDAL

सक्षम अधिकारी: RAJIV TYAGI
तहसील: गाजियाबाद जनपद: गाजियाबाद

11/8/2021 1:56 I

उद्धरण खतौनी

ग्राम कोड : 119742 ग्राम का नाम / परगना : डासना(डासना) तहसील : गाजियाबाद जनपद : गाजियाबाद फसली वर्ष : 1428-143 भाग : 1

खाता संख्या	खातेदार का नाम / पिता पति संरक्षक का नाम / निवास	भौमिक अधिकार प्रारम्भ होने का वर्ष	खाते के प्रत्येक गाटे की खसरा संख्या	प्रत्येक गाटे का क्षेत्रफल (हे)	खातेदार द्वारा देय मालगुजारी या लगान	परिवर्तन सम्बन्धी आज्ञा या उसका सारांश उनकी संख्या तथा दिनाँक सहित और आज्ञा देने वाले आधिकारी का पद	टिप्पणी
1	2	3	4	5	6	7-12	13
			2758, 2631, 2647, 2645, 2652, 1640, 2659, 2654, 2656, 2577, 2590, 2589, 2588, 2587, 2586, 2582, 2500, 2331, 2583, 2584, 2506, 2505, 2504, 2503, 2501, 2502, 2503, 2329, 2019, 2020, 2021, 1996, 1991, 1992, 1995, 19994, 1982, 1999, 2000, 1992, 2001, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2011, 2013, 1833, 1832, 1831, 1824, 1823, 1818, 1817, 1814, 1813, 1811, 1812, 1810, 1809, 1808, 1807, 1793, 1794, 1795, 1792, 1791, 1784, 1783, 1782, 1780, 1777, 1776, 1775, 1774, 1071, 1072, 1773, 1781 के नीचे से भूमिगत पाईप लाईन		

11/8/2021 1:56

1	0.1047	₹ 5.00	1

कुल गाटे- एक

Data Digitally Signed by SHWETA JINDAL

सक्षम अधिकारी: SAHIV TYAGI

11/8/2021 1:56

203

सेवा में,

श्रीमान प्रबन्धक महोदय

[illegible], [illegible] प्रा० लि०

[illegible], [illegible] गाजियाबाद

महोदय,

निवेदन [illegible] है कि प्रार्थीगण [illegible] के किसान [illegible] 1 किता खसरा नं० [illegible] [illegible] है। और आप की कम्पनी [illegible] स्थित है। प्रार्थीगण उक्त खेत में गेहूं, [illegible], ज्वार, बाजरा आदि फसलों की खेती [illegible]। प्रार्थी को सिंचाई हेतु अधिक [illegible] शोधित उत्प्रवाह की पानी सिंचाई [illegible] आवश्यकता है। कृपया मुझे सिंचाई [illegible] जल आपूर्ति करने का कष्ट करें।

आपकी अति कृपा होगी।

प्रार्थीगण

1. इंसाफ अली — [signature]

उद्धरण खतौनी

उद्धरण क्रमांक : 11974220211291

ग्राम क्रमांक : 119743 ग्राम का नाम / परगना : डासना(डासना) तहसील : गाजियाबाद जनपद : गाजियाबाद फसली वर्ष : 1428-1433 भाग : 1

खाता खतौनी क्रम संख्या	खातेदार का नाम / पिता पति संरक्षक का नाम / निवास स्थान	भौमिक अधिकार प्रारम्भ होने का वर्ष	खाते के प्रत्येक गाटे की उसरा संख्या	प्रत्येक गाटे का क्षेत्रफल (है.)	खातेदार द्वारा देय मालगुजारी या लगान	परिवर्तन सम्बन्धी आज्ञा या उसका सारांश उनकी संख्या तथा दिनाँक सहित और आज्ञा देने वाले अधिकारी का पद	टिप्पणी
1	2	3	4	5	6	7-12	13

हस्ताक्षरित है।

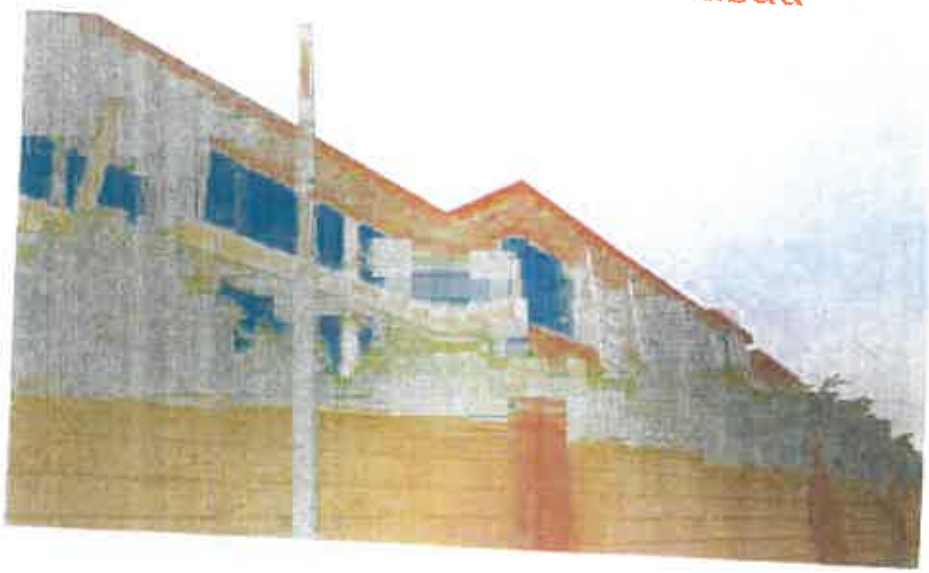
11/8/2021 1:57 I

Environmental Management System at a glance

Of

M/s AL-NASIR Exports Pvt Ltd

Bhoorgarhi Dasna Ghaziabad



Front View

(Modern slaughter house)

PREPARED BY
SUNIL KUMAR SINGH
M.E (Environmental Engineering)
POLLUTION CONTROL ADVISOR
LUCKNOW
Sksingh195647@gmail.com

स्वच्छ भारत- स्वस्थ भारत

November 2018

Sksingh195647@gmail.com
791

206

AL-NASIR EXPORTS PVT. LTD. DASNA GHAZIABAD

ENVIRONMENTAL, OCCUPATIONAL HEALTH AND SAFETY POLICY-

We at **Al-nasir Exports Pvt. Ltd. Dasna Ghaziabad** ,engaged in the manufacturing of frozen meat, along with its by products bone meal (MBM), Blood meal and tallow, are committed to demonstrate continual improvement in our environment, occupational and safety performance through prevention, monitoring and control of environmental aspects and occupational health and safety hazards/ risks, to ensure sustainable growth in company"s operation.

To achieve the above, following shall be the key objectives.

1. Adoption of modern techniques of slaughtering, deboning, packing and transportation.
2. Use of cleaner/safer operation process in manufacturing product and by product.
3. Zero waste disposal in terms of body parts of the slaughtered animal (buffalo, sheep and goat).
4. To make use of all the non-edible components of slaughtered animal into MBM, and tallow. Thus no solid waste to be generated and to be discharge in the environment causing harm to it.
5. Minimization of use of water by recycling and reuse.
6. Treating all the geuerated waste water in a modern effluent treatment plant.
7. Reuse and recycling of treated effluent.

Sksingh195647@gmail.com
Mob-9565458791

8. Discharge of treated water to make on land for irrigation by Karnal Technology and not to discharge any waste water/effluent into surface water.
9. To keep the ground water clean.
10. To keep the ambient air within prescribed standard and free from any odour and noise pollution.
11. To follow the environmental regulations under water act, air act and EPA act 1986.
12. Adopting majors and programs that focus on the prevention of occupational related injuries, illness and incidents and strive to continuously improve such process.
13. All the rules and regulations related to occupational health and safety shall be fallowed.
14. To ensure environment, occupational health and safety awareness and competence among all employees and different levels through appropriate training and providing necessary tools, safety equipments and take due care for health and safety of employee and society at large.
15. Integrate environment, occupational health and safety in all its decisions including those dealing with purchase of plant, equipment, machinery and materials as well as selection and placement of personal.
16. Through above commitments to ensure the plant truely modern and to have sustainable growth, M/s Al-nasir Exports Pvt Ltd reaffirms its corporate commitment towards business excellence.
17. This policy is applicable to Al-nasir Export Pvt Ltd Dasna Ghaziabad unit.

Director

Sksingh195647@gmail.com
Mob-9563458791

1. Name- M/s Al-NASIR
2. Plant Address- Khasra No. 2765 and 2754
3. Owner- Mohd.Salim
7A/42, WEA Channa Market Karol Bagh, New Delhi-5
4. E-mail- al_nasir@rediffmail.com alnasirexport@gmail.com
5. Mob. No.- 9871196074,
6. Total Area of unit- 30139.76 square meters.
7. Location details-
   i. Nearest highway- NH 24 2 Km
   ii. Railway line- 3 Km
   iii. Human settlement- more than 1 Km
   iv. River - Nil
   v. Drain- Hindon drain
   vi. Reserve forest- Nil
   vii. Sanctuary- Nil
   viii. Religious Place- Nil
8. Present Main Product- Buffalo meat and sheep / goat frozen meat for export purposes.
9. By product- Meat bonemeal (MBM), Tallow, Hides,
10. Basic Raw Material- Buffalo 200 numbers/day and sheep/goat 100 numbers/day
11. Export countries- Gulf countries, Malaysia and Russia
12. Registered for modern slaughter house and export with APEDA ministry of commerce Govt of India and food safety and standards authority of India. Member of National meat and poultry processing board of Govt of India. Member Delhi chamber of commerce. License from labour department of Uttar Pradesh, chief fire officer, certificate of importer-exporter code from Zonal director, foreign trade, ministry of commerce and industry, horticulture and food processing department Govt of UP.
13. UP Pollution control Board for ground water and air consents .

Sksingh195647@gmail.com
Mob-9565458791

14. ISO 22000:2005 for processing of frozen bone less buffalo meat by SGS and UKAS

Neat and clean AL-NASIR Export pvt. Ltd Campus

Modern effluent treatment plant

Sksingh195647@gmail.com
Mob-9565458791

Facilities available at M/s A.L-N Pvt Ltd Dasna Ghaziabad

1. Lairage
2. Completely enclosed Modern Abattoir facility
3. Rendering plant
4. Blood meal plant
5. Bio filter
6. **Complete effluent treatment plant meeting uppcb discharge norms.**
7. Solar evaporation tanks for [illegible] water from hide preservation.
8. Irrigation of treated effluent by Drip Technology
9. Chilling plant for frozen meat
10. Online automatic effluent analyser
11. Neat and green campus
12. In house water and waste water laboratory
13. CCTV camera installed

Lairage for buffaloes

Slaughtering facility and refrigerated trucks

Sksingh195647@gmail.com
Mob-9565458791

Water and waste water details-

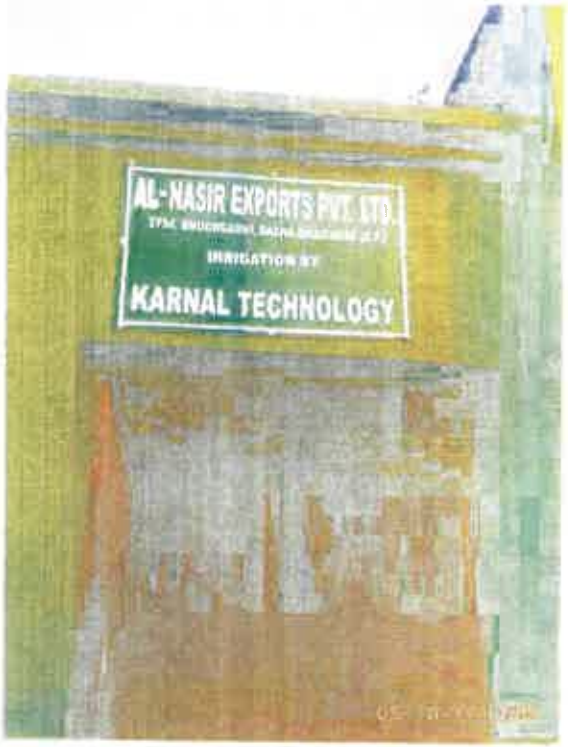
1. Daily consumption of water for buffaloes-200kld approx.
2. Total waste water generated (effluent)including domestic effluent-180-200 kld approx.
3. **Complete ETP installed capacity-1000kld capacity (already installed)**achieving 30 mg/l B.O.D.
4. Presently generated and treated 200 kld effluent used for irrigation in **our own land by Karnal technology method approved by MOEF** and UPPCB.
5. . No effluent goes to drain/nala/river.

Effluent treatment plant, installed capacity 1000kld based on **two stage activated sludge process,** WITH DAF.

Clear water storage tank at the end of ETP.

5ksingh195647@gmail.com
Mob-9565458791

Flow Diagram of Installed ETP

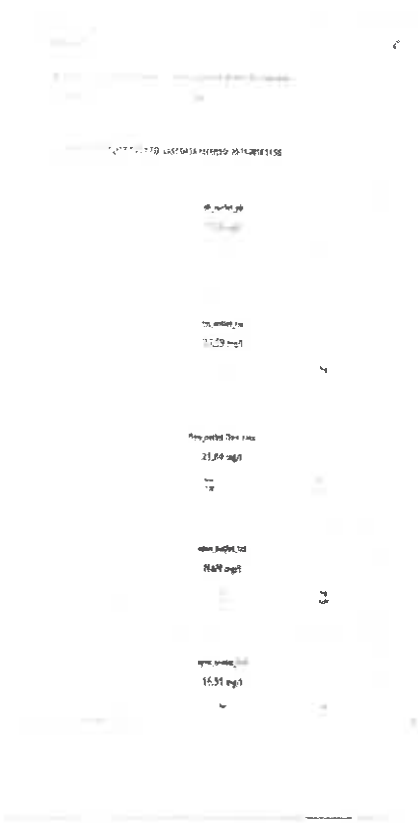


Treated water used for irrigation

by Karnal Technology Method

Online automatic effluent monitoring equipment installed at the end of ETP

Sksingh195547@gmail.com
Mob-9565458791



Sksingh195647@gmail.com
Mob-9565458791

4. Modern Bio filter installed for control of odor from rendering plant

APCS and stack installed in the B

Fitted with on line stack monitor

Silent Diesel generators

Sksingh195647@gmail.com
Mob-9553458791

Sksingh195647@gmail.com
Mob 9565458791

Solid and non-edible waste-

Bones and offal's Non edible are collected in rendering plant where they are converted to meat bone meal (MBM) which is sold to poultry farms and tallow which is sold to soap manufacturers.

Blood meal is produced from the collected blood separately and this blood meal (in powder form) is added into MBM to increase the protein content of MBM.

Blood meal Plant

Rendering plant for conversion of waste

into meat bone meal (MBM), pr

Sksingh195647@gmail.com
Mob-9565458791

Date/Time

12/5/2017 13:49
12/5/2017 13:49
12/5/2017 13:49
12/5/2017 13:49
12/5/2017 16:21
12/5/2017 16:22
12/6/2017 6:00
12/10/2017 6:00
12/11/2017 18:00
12/13/2017 18:00
12/15/2017 6:00
12/15/2017 18:00
12/19/2017 18:00

12/23/2017 6:00
12/23/2017 18:00
12/24/2017 6:00
12/24/2017 18:00
12/25/2017 6:00
12/25/2017 18:00
12/26/2017 6:00
12/26/2017 18:00
12/27/2017 6:00
12/27/2017 18:00
12/28/2017 6:00
12/28/2017 18:00
12/29/2017 6:00
12/29/2017 18:00
12/30/2017 6:00
12/30/2017 18:00
12/31/2017 6:00
12/31/2017 18:00
1/1/2018 6:00
1/1/2018 18:00
1/2/2018 6:00
1/2/2018 18:00
1/3/2018 6:00
1/3/2018 18:00
1/4/2018 6:00
1/4/2018 18:00
1/5/2018 6:00
1/5/2018 18:00
1/6/2018 6:00
1/6/2018 18:00
1/7/2018 6:00
1/7/2018 18:00
1/8/2018 6:00
1/8/2018 18:00
1/9/2018 6:00
1/9/2018 18:00
1/10/2018 6:00
1/10/2018 18:00
1/11/2018 6:00
1/11/2018 18:00
1/12/2018 6:00
1/12/2018 18:00
1/13/2018 6:00
1/13/2018 18:00
1/14/2018 6:00
1/14/2018 18:00
1/15/2018 6:00

1/21/2018 6:00
1/21/2018 18:00
1/22/2018 6:00
1/23/2018 6:00
1/23/2018 18:00
1/28/2018 18:00
1/30/2018 18:0
1/31/2018 6:00
2/1/2018 6:00
2/1/2018 18:00
2/2/2018 6:00
2/2/2018 18.00
2/6/2018 6:0

2/9/2018 6:00
2/9/2018 18:00
2/10/2018 6:00
2/10/2018 18:00
2/11/2018 6:00
2/11/2018 18:00
2/12/2018 6:00
2/12/2018 18:00
2/13/2018 6:00
2/13/2018 18:00
2/14/2018 6:00
2/14/2018 18:00
2/15/2018 6:00
2/15/2018 18:00
2/16/2018 6:00
2/16/2018 18:00
2/17/2018 6:00
2/17/2018 18:00
2/18/2018 6:00
2/18/2018 18:00
2/19/2018 6:00
2/19/2018 18:00
2/20/2018 6:00
2/20/2018 18:00
2/21/2018 6:00
2/21/2018 18:00
2/22/2018 6:00
2/22/2018 18:00
2/23/2018 6:00
2/23/2018 18:00
2/24/2018 6:00
2/24/2018 18:00
2/25/2018 6:00
2/25/2018 18:00
2/26/2018 6:00
2/26/2018 18:00
2/27/2018 6:00
2/27/2018 18:00
2/28/2018 6:00
2/28/2018 18:00
3/1/2018 6:00
3/1/2018 18:00
3/2/2018 6:00
3/2/2018 18:00
3/3/2018 6:00

3/11/2018 18:00
3/12/2018 6:00
3/13/2018 6:00
3/13/2018 18:00
3/16/2018 6:00
3/21/2018 6:00
3/21/2018 18:00
3/22/2018 6:00
3/22/2018 18:00

4/2/2018 6:00	
4/2/2018 18:00	
4/3/2018 6:00	
4/3/2018 18:00	
4/4/2018 6:00	
4/4/2018 18:00	
4/5/2018 6:00	
4/8/2018 6:00	
4/8/2018 18:00	
4/9/2018 6:00	
4/11/2018 6:00	-5.9
4/11/2018 18:00	-6.1
4/12/2018 6:00	
4/12/2018 18:00	
4/13/2018 6:00	
4/13/2018 18:00	
4/14/2018 6:00	
4/14/2018 18:00	
4/15/2018 6:00	
4/17/2018 18:00	
4/18/2018 6:00	

4/19/2018 18:00	
4/20/2018 6:00	
4/20/2018 18:00	
4/21/2018 6:00	
4/21/2018 18:00	
4/22/2018 6:00	
4/22/2018 18:00	
4/23/2018 6:00	
4/23/2018 18:00	
4/24/2018 6:00	
4/24/2018 18:00	
4/25/2018 6:00	
4/25/2018 18:00	
4/26/2018 6:00	
4/26/2018 18:00	
4/27/2018 6:00	
4/27/2018 18:00	
4/28/2018 6:00	
4/28/2018 18:00	
4/29/2018 6:00	
4/29/2018 18:00	
4/30/2018 6:00	
4/30/2018 18:00	
5/1/2018 6:00	
5/1/2018 18:00	
5/2/2018 6:00	-6.1
5/2/2018 18:00	-6.24
5/3/2018 6:00	
5/3/2018 18:00	-6.29
5/4/2018 6:00	
5/4/2018 18:00	
5/5/2018 6:00	
5/5/2018 18:00	
5/6/2018 6:00	
5/6/2018 18:00	
5/7/2018 6:00	
5/7/2018 18:00	
5/8/2018 6:00	
5/8/2018 18:00	
5/9/2018 6:00	
5/9/2018 18:00	
5/10/2018 6:00	
5/10/2018 18:00	
5/11/2018 6:00	
5/11/2018 18:00	
5/12/2018 6:00	
5/12/2018 18:00	

5/15/2018 18:00

6/8/2018 6:00
6/9/2018 6:00
6/9/2018 18:00
6/10/2018 18:00
6/11/2018 6:00
6/11/2018 18:00
6/16/2018 6:00
6/18/2018 18:00
6/19/2018 6:00
6/19/2018 18:00
6/20/2018 6:00
6/20/2018 18:00
6/21/2018 6:00
6/21/2018 18:00
6/23/2018 18:00
6/26/2018 6:00
6/28/2018 18:00

7/9/2018 6:00
7/9/2018 18:00
7/10/2018 6:00
7/12/2018 6:00
7/14/2018 18:00
7/18/2018 6:00
7/19/2018 18:00
7/20/2018 6:00
7/21/2018 6:00