



TO WHOMSOEVER IT MAY CONCERN

COMMISSIONING CERTIFICATE

To,

1. The project Manager
Bureau of Energy Efficiency
4th Floor, Seva Bhavan, New Delhi
2. The Representative
United Nation Industrial Development Organization (UNIDO)
New Delhi

Subject: Submission of letter for certifying procurement quotation and commissioning of pilot project

Dear Sir,

As per purchase order no.3000066187 dated 5/12/2018 from UNIDO for "promoting energy efficiency and renewable energy in selected MSME cluster in India" for implementation of pilot project of "ETP Expansion Technology methane Capture" at M/s AmulFed Dairy, Gandhinagar, Gujarat State, India and tri party agreement between BEE, UNIDO and M/s AmulFed Dairy, Gandhinagar (A Unit of GCMMF Ltd).

I certify that the owner completed pilot project and commissioned successfully after trial run.

I observed and inspected procurement quotation material, erection and trial run of ETP expansion methane capture and found satisfactory.

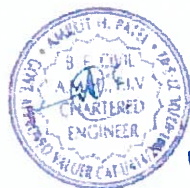
I also found commissioning data satisfactory as specified in agreement for new technology for working/in operation.

Hereby with this, I am certifying the new implemented project erection and its operation satisfactory & successful after trial run/commissioning.

Signature of Chartered Engineer

Amrut H Patel

(AM/076943/9-078/CI-AMIE)



16/01/2019



AmulFed Dairy

A UNIT OF GUJARAT CO-OPERATIVE MILK MARKETING FEDERATION LIMITED

(PREVIOUSLY KNOWN AS MOTHER DAIRY, GANDHINAGAR)

AFDG: P&U: ETP: UNIDO GRANT: ETP: INV 01

October 4, 2019

To,

UNITED NATION DEVELOPMENT ORGANIZATION

UNIDO Regional Office in India, UN House,

55, Lodi Estate, New Delhi, India, 110003.

Kind attention: V.VIJ@UNIDO.ORG

Non-commercial invoice	1
Item	Realise of First instalment of sanction grand for Effluent Treatment Plant expansion project with MBR+ICR technology of AmulFed dairy, Gandhinagar. Invoice-1
Reference	Purchase Order no. 3000066187
Amount	Rs. 7,10,478.00
Stage	Successful commissioning the project,
Total Sanction Grant Amount	Rs. 23,68,260.00
Bank Detail	Attached
GST	Not applicable as this is grant amount



Anil Bayati

General Manager

AmulFed Dairy, Gandhinagar.





AmulFed Dairy

A UNIT OF GUJARAT CO-OPERATIVE MILK MARKETING FEDERATION LIMITED

(PREVIOUSLY KNOWN AS MOTHER DAIRY, GANDHINAGAR)

AFDG: P&U: ETP: UNIDO GRANT: ETP: INV: 02

December 31, 2019

To,

UNITED NATION DEVELOPMENT ORGANIZATION

UNIDO Regional Office in India, UN House,

55, Lodi Estate, New Delhi, India, 110003.

Kind attention: V.VIJ@UNIDO.ORG

Non-commercial invoice	2
Item	Realise of Second instalment of sanction grand for Effluent Treatment Plant expansion project with MBR+ICR technology of AmulFed dairy, Gandhinagar. Invoice-2
Reference	Agreement and PO no. D410033218
Amount	Rs. 7,10,478.00
Stage	After 03 months of operation,
Total Sanction Grant Amount	Rs. 23,68,260.00
Bank Detail	Attached
GST	Not applicable as this is grant amount

(A. K. Bayati)

General Manager

AmulFed Dairy Gandhinagar.





PERFORMANCE REPORT OF DEMO. PROJECT
(ETP expansion with MBR+ICR technology)
AT
AMULFED DAIRY, GANDHINAGAR
(A GCMMF UNIT)
(GUJARAT DAIRY CLUSTER)

Summary:

- (A) Project commission by: January 2019**
- (B) Performance Summary data from Feb.2019 to Dec. 2019**

Total Biogas generation	: 613468 SCM
Equilant Natural Gas	: 440816 SCM
Present energy charges	: Rs. 30 per SCM
Total Cost Savings	: Rs. 13224470
Total water recycle	: 139929 KL
Total Reduction in CO2 emission	: 584 MT

Thaking you,

Regards

Authorised Signature,

AmulFed Dairy, Gandhinagar



Preamble

Bureau of Energy Efficiency (BEE) is implementing a BEE-SME program to improve the energy performance in 12 selected SME's clusters. Gujarat Dairy Cluster one of them.

At present there are 17 main Dairy units, 29 Chilling Centers, 08 Cattle Field plants and 1 Polymer Film Packaging plant under dairy cluster.

Installation of MBR+ICR technology in ETP expansion project was selected for providing financial support under GEF-UNIDO-BEE Project. The system has been duly installed and commissioned in January 2019.

PROJECT OUTLINE

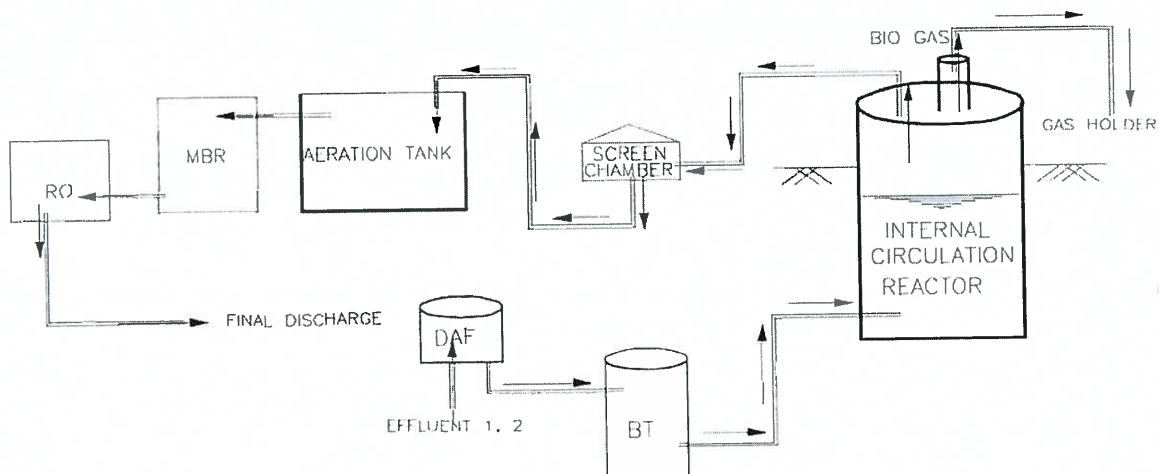
Broad system details are as under:

Sr.No.	Savings Details	Value
1	Investment in Project (Total)	600 Lacs
2	Energy Savings Data per Day	1600 m ³ /day Natural Gas
3	Water Savings per Day	700 KLD water permeate water at 350 ppm TDS at 70%
4	Cost Savings Per Annum	180 Lacs
5	Reduction of CO ₂ emission per Annum	700 MT
6	Project payback period	3.32 years

Bohary

ETP WITH MBR+ICR TECHNOLOGY-AFDG

Following figure shows a schematic of actual installation.



Project implementation mile stones are as under.

Sr. No.	Particulars	Details
1	Current status of the project	Completed and in operation
2	Commencement of project	September 2017
3	Completion of Installation work	October 2018
4	Project Commissioning	January 2019
5	System working	January 2019

OPERATING PHILOSOPHY:

Basic operational schemes include:

- Daily start-up
- Daily shutdown
- Normal operation

Daily start-up:

Baner

ETP WITH MBR+ICR TECHNOLOGY-AFDG

Normal operation:

Daily shutdown:

Safety Features:

Fuel Savings analysis:

MONITORING PROGRAM (AS PER SCHEDULE-III)

Date	Effluent Handled KL	Organic Load kg COD	RO Water Recycled KL	Biogas generation SCM
01-Jun-19	714	4448	427	1779
02-Jun-19	675	4118	347	1647
03-Jun-19	697	4287	388	1715
04-Jun-19	623	3925	395	1570
05-Jun-19	640	4378	401	1751
06-Jun-19	651	4354	356	1742
07-Jun-19	716	5108	436	2043
08-Jun-19	770	5405	454	2162
09-Jun-19	721	5191	421	2076
10-Jun-19	778	5679	498	2272
11-Jun-19	699	5312	422	2125
12-Jun-19	461	3220	284	1288
13-Jun-19	764	5201	459	2081
14-Jun-19	836	5934	517	2374
15-Jun-19	527	3605	322	1442
16-Jun-19	614	3979	452	1591
17-Jun-19	344	2064	251	826
18-Jun-19	848	5003	552	2001
19-Jun-19	805	4392	535	1757
20-Jun-19	777	4923	466	1969
21-Jun-19	766	5731	501	2292
22-Jun-19	579	4030	403	1612
23-Jun-19	826	5326	545	2130
24-Jun-19	804	5741	523	2296
25-Jun-19	754	4916	497	1966
26-Jun-19	848	4993	567	1997
27-Jun-19	860	6192	595	2477
28-Jun-19	823	6117	514	2447
29-Jun-19	837	5303	538	2121
30-Jun-19	847	5915	581	2366
Total	21604	144790	13647	57916
Average	720.1333333	4826	454.9	1930

Handwritten signature

PERFORMANCE PARAMETERS,

Since installation, the system has been working summary of Biogas generation and water re-cycle is as under:

BIOGAS GENERATION AND RO WATER RECYCLED PER FOR ALL DAYS OF CALENDAR

Month	Days of Actual Operation	Effluent Handled KL	Organic load handled kg COD	RO water recycled KL	Biogas generation SCM	Equivalent NG SCM	Saving Rs/Month	Remarks
Feb, 2019	28	19087	107268	14144	42907	30831	924953	
March, 2019	30	21111	113387	14357	45354	32590	977709	
April, 2019	30	20735	129946	12528	51978	37349	1120494	
May, 2019	29	18598	114191	10177	45676	32821	984647	
June, 2019	30	21604	144638	13647	57855	41572	1247184	
July, 2019	30	19061	159273	8284	63709	45779	1373378	
August, 2019	28	12630	94548	9200	37819	27175	815265	
Sept, 2019	29	19800	146678	13602	58671	42159	1264772	
October, 2019	30	21060	162478	14740	64991	46700	1401007	
Nov, 2019	27	19818	181533	13800	72613	52177	1565313	
Decr, 2019	30	22260	179727	15450	71891	51658	1549744	

CONCLUSION:

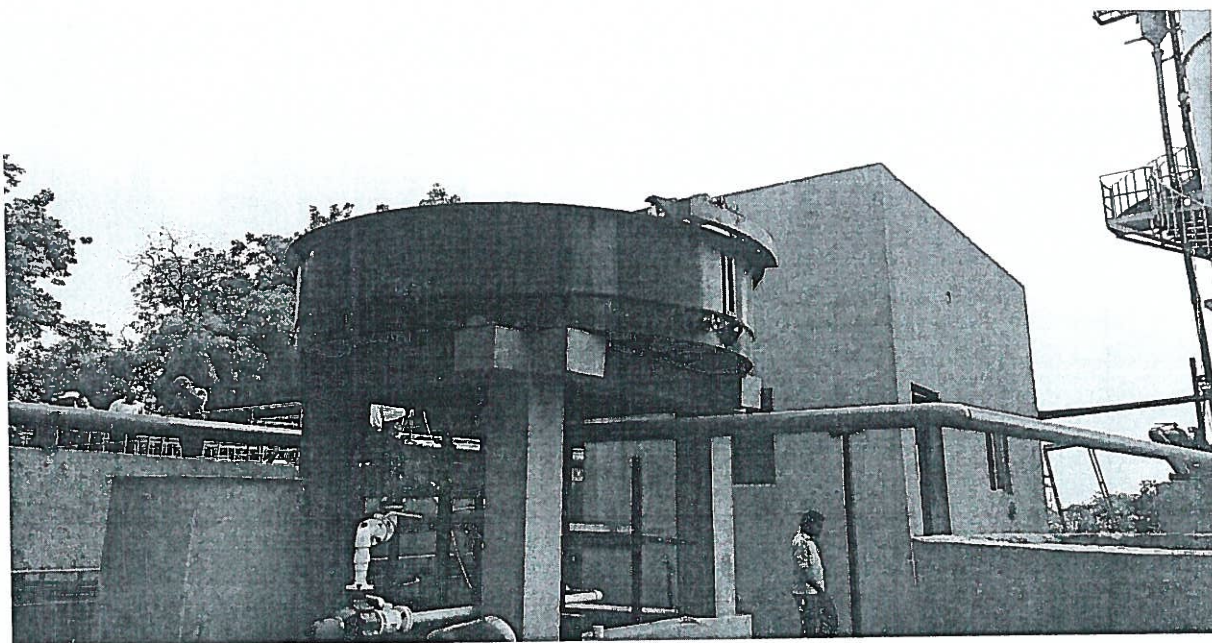
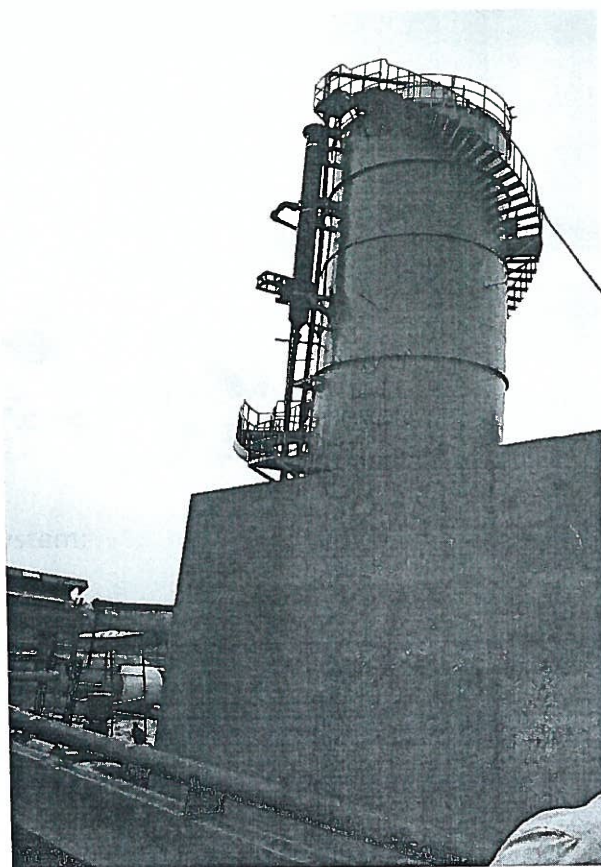
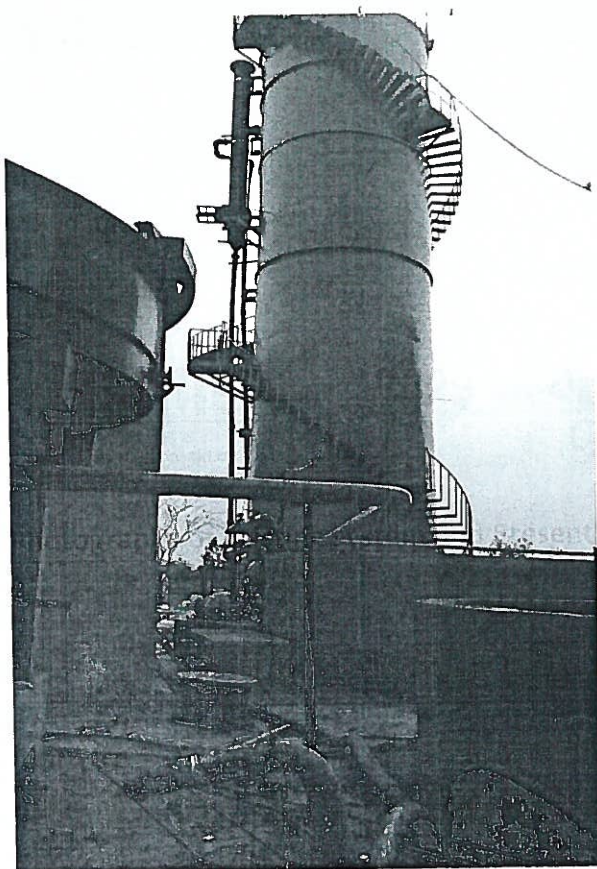
The system is fully operational and daily monitored properly by the plant operating personnel. Proper records of system parameters are maintained.

Project Erection & Commission by:

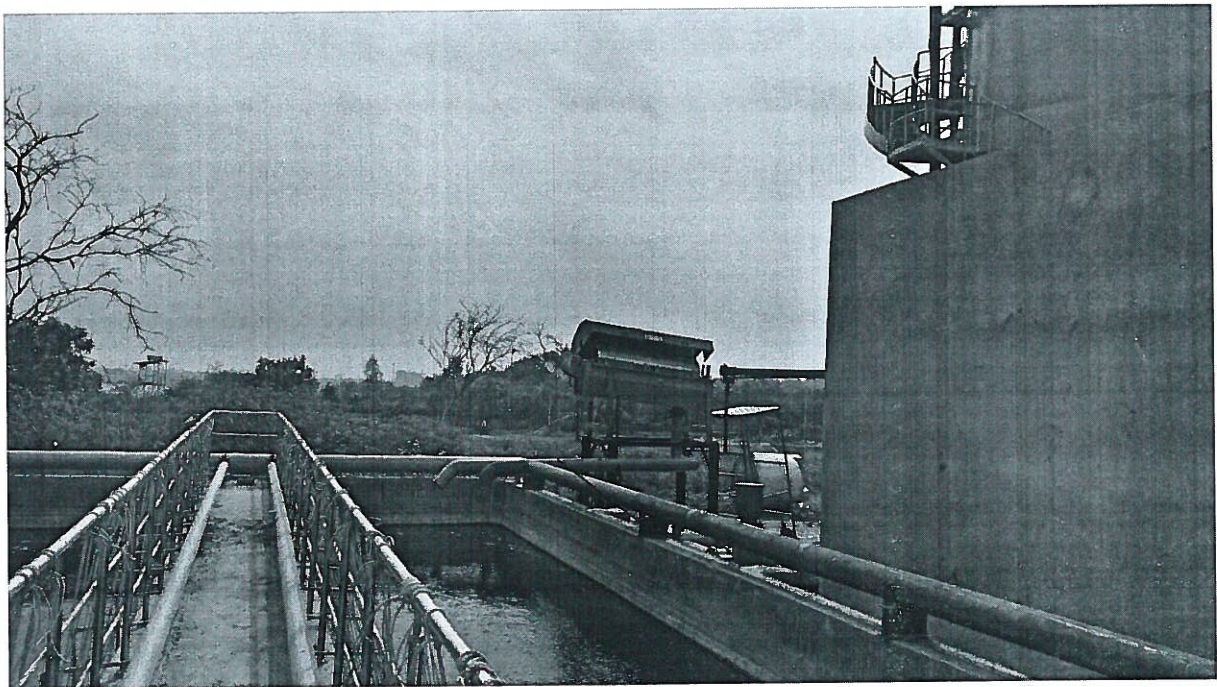
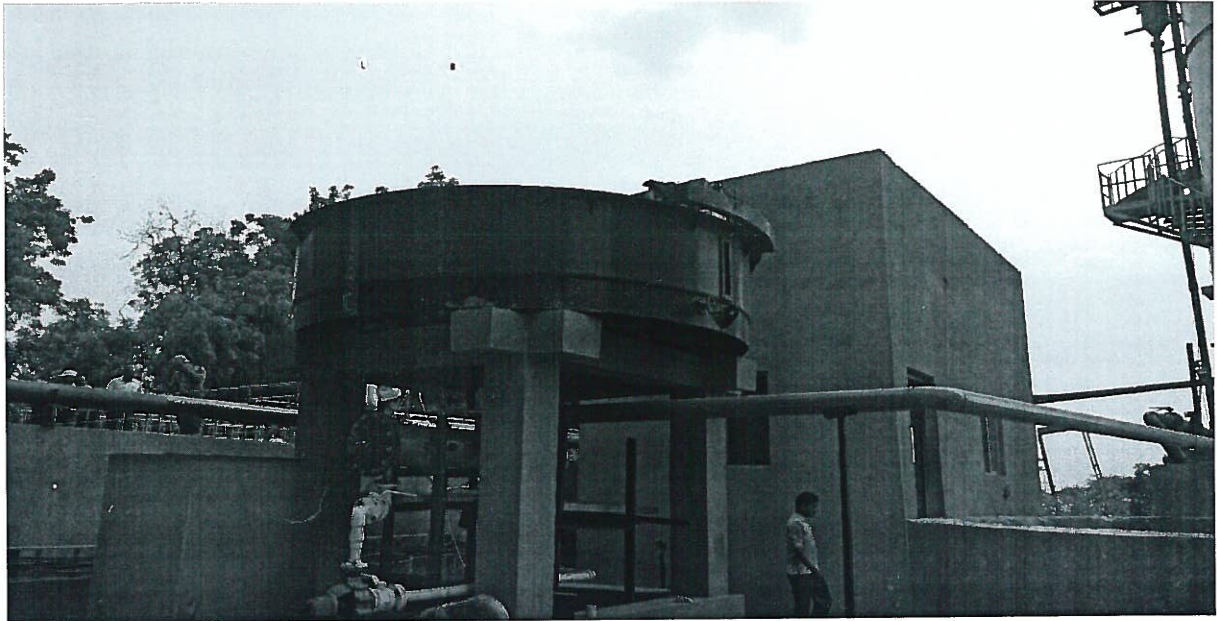
M/s Sai Enviro Engineers Private Limited

Booth

Photographs of Existing system and Present system:



Page 6



Prashant
Thanking you,

Preparation By: Prashant Sheth

Date: 31/12/2019



ALC NO: 050603/0001593
IFSC: HDFC00000006

SHRADDHA (C) / CTS-2010 280716

HDFC BANK
GROUND FLOOR, ASTRAL TOWER, NEAR MITAKALI SIX ROADS,
HAWRAIPUR, AHMEDABAD - 380 009, GUJARAT.
RTGS / NEFT IFSC: HDFC00000006

Payee
ALC Payee

Pay
Rupees only

Account No. 00060310001593
C/A

Payable at par through clearing/transfer in all branches of HDFC BANK LTD

For AMULFED DAIRY (A UNIT OF GCMMF LTD)

Authorized Signatory
Please sign above / पत्र पर हस्ताक्षर करें

Authorized Signatory
By Order

Valid for 3 months Only

डिजिटल
Date

₹

30

3802400021 9019891

