Borough of Chatham

Annual Report

2009

Madison-Chatham Joint Meeting

MADISON-CHATHAM JOINT MEETING
SUPERINTENDENT'S
2009 ANNUAL REPORT
JANUARY 2010

DEAR MEMBERS:

Happy New Year!!! 2009 has come to an end. I have been able to run the facility in an efficient, cost effective, and environmentally sound manner. The operation of the facility in 2009 has met all permit limits and requirements.

There are several new Capital Projects that will be accomplished in 2010. The main one is the Facility Improvements 2009, where the Joint Meeting has received funding through ARRA, with 50% principle forgiveness. These improvements include two capital projects from 2009, the cleaning of the secondary digester and the control chamber #1 isolation valve, as well as, demolition of an abandoned underground digester, installation of a new digester mixing system (classified as a green project), installation of a phosphorus treatment system, cleaning of digester #1, and replacement of digester piping and valves. Three additional capital projects will also be accomplished. They are the admin building control panel update, replacement of heat exchanger #2, and the replacement of two thickened feed pumps. The latter two will be installed with in house personnel.

I have attached two pages of the plant operation data summary for 2009. The data reflects the facility's operation efficiency and our permit limits. The facility averages almost two tons of dry solids daily. Also, the process produces an average of approximately 21,000 cubic feet of methane gas daily. The methane gas is utilized as fuel for the digester boilers and caterpillar engines. The heat generated from the boilers and engines are used solely for heating the two primary digesters. The engines are also used to provide diffused air for the aeration tanks, saving electricity by not running the electric blowers.

There is some carryover with Capital Projects from 2009/2008. They are asset management, one Energy Audit by the state, and SHF HVAC Replacements. The Desk and Computer Replacement is a carry over from 2007. I have also discussed some other issues or goals that I have established.

FACILITY SECURITY:

This is a budgeted capital line item. This project is 100% complete. Hughes Central Station is currently monitoring the fire and burglar alarms systems.

BISULFITE ANALYZER REPLACEMENT:

This is a budgeted capital line item. This project is 100% complete.

SLUDGE HANDLING FACILITY HVAC EVALUATION/REPLACEMENT:

This is a budgeted capital line item. The replacements of the HVAC components are taking longer than anticipated due to other projects. A new boiler will be purchased and installed this year.

COMPUTER & FURNITURE REPLACEMENTS:

This is a budgeted capital line item. The replacement of the desks is taking longer than anticipated due to other projects. This is a carry over from 2007. And, since the MCJM will be the location of all future meetings, some furniture might need to be purchased.

CLEANING OF THE SECONDARY DIGESTER

This project is included in the Facility Improvements 2009, as part of the ARRA funding.

CONTROL CHAMBER #1 ISOLATION VALVE

This project is included in the Facility Improvements 2009, as part of the ARRA funding.

ASSET MANAGEMENT

This is a budgeted capital project. The completion of the asset management is taking longer than anticipated due to other projects. This project will be completed this year.

OTHER ISSUES:

I gave a presentation to the Chatham Borough Council on February 23, 2009, regarding the **sewer use ordinance**. Madison adopted the sewer use ordinance in 2007. Chatham adopted the same ordinance on November 23, 2009.

We have counted the **Canadian geese** nests at the facility. As of April 14, 2009, we have 5 nests with a total of 22 eggs, which were addled. Addling includes oiling, shaking, or puncturing.

After some investigating, I discovered an increase in our **potable water usage** due to feeding too much water through the sodium hypochlorite feed system. After some operational changes, I was able to reduce the water usage by approximately 500 cubic feet per day, or 45,000 cubic feet per quarter.

Mr. **Frank Fabrizio** took the S-2 Wastewater License exam, for the second time. Unfortunately, Mr. Fabrizio did not pass the exam. Mr. Fabrizio is registered for a Math Refresher class for Water and Wastewater Operators in February, which focuses on common math problems on the license exams. Mr. Fabrizio will take the next exam in March 2010.

Our **laboratory technician**, Judith Romano, retired from the Joint Meeting on August 31, 2009. Ms. Romano has extended an offer to the Joint Meeting to work part-time, if needed, in 2010. All required testing, aside from a few, are currently being sent out to QC Laboratories.

We completed all phases of the **Total Phosphorus Trial**. We achieved excellent results. We were able to reach an effluent value under 0.4 mg/l. The proposed limit is 0.76 mg/l. The results of Phase IV, to see how quickly we can obtain compliance (from no treatment to full treatment) at our effluent, shows that it will take us 1 week (if we temporarily bypass the lagoon).

The Joint Meeting, as well as three other treatment facilities, has litigation pending against the NJDEP regarding **seasonal phosphorus limits** vs. year round phosphorus limits. There will be huge monetary savings, if the court sides with us.

Mr. Lasher began his employment, as a **new operator**, with the Joint Meeting, on Monday, October 19, 2009. Mr. Lasher brings many years of computer, electrical, and hands-on experience to the MCJM. Mr. Lasher learned the operator's duties in two weeks, faster than any operator. Mr. Lasher is excelling in all aspects of the operator's position. I have no doubt that he will complete his probationary status on April 19, 2010.

We are continuing with the **cross training** of MCJM support personnel with operator's duties. Since Thomas D'Ambola's retirement is tentatively slated for December 2010, I decided not to budget for a new operator.

The Madison-Chatham Joint Meeting supports any operator that would like to take wastewater classes in preparation for taking any of the **wastewater licenses** available to them. I will work with any operator and assist them where needed to accomplish this task. Mr. Lasher has expressed a strong interest in this.

I would like to take this opportunity to invite any interested council members down to the plant for a tour.

RESPECTFULLY SUBMITTED,

CHRISTOPHER MANAK
SUPERINTENDENT

2009 OPERATIONS DATA

Month	Plant Flow (MGD)	Precip. Inches	Influent BOD mg/L	Effluent BOD mg/L	% Removal	Influent S.S. mg/L	Effluent S.S. mg/L	% Removal	Effluent NH3-N mg/L	Effluent TPO4 mg/L	Effluent D.O. mg/L	Fecal Coliform #/100 ml
January	2.686	6.7	197	3.9	98.0	162	1.8	98.9	0.4	3.4	11.6	2.0
February	2.381	0.5	182	6.7	96.3	187	2.6	98.6	0.13	3.5	11.6	10.0
March	2.104	3.7	192	7.0	96.4	196	4.4	97.8	0.09	4.2	11	10.0
April	2.498	4.1	177	3.4	98.1	218	1.9	99.1	0.1	3.5	9.5	10.0
May	2.406	4.5	180	2.0	98.9	256	5.8	97.7	0.21	3.8	8.3	60.0
June	2.688	7.9	172	2.2	98.7	212	3.1	98.5	0.55	1.8	8	160.0
July	2.152	6.5	178	2.3	98.7	259	2.2	99.2	0.07	0.4	8	10.0
August	2.390	9.5	149	1.2	99.2	200	2.6	98.7	0.08	0.8	7.3	10.0
September	2.166	1.1	129	2.6	98.0	190	2.8	98.5	0.09	1.2	8	20.0
October	2.365	9.3	127	2.8	97.8	176	1.7	99.0	0.1	2.1	8.1	190.0
November	2.173	1.5	147	2.8	98.1	182	2.9	98.4	0.09	3.2	9.0	10.0
December	2.949	10.4	129	2.2	98.3	171	10.4	93.9	0.15	2.9	8.2	10.0
Total	N/A	65.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average	2.413	5.5	163	3.3	98.0	201	3.5	98.2	0.2	2.6	9.1	42
Permit Limits	3.5	NONE	NONE	8	Min 85	NONE	30	Min 85	2.0 Sum 7.0 Wint	4.4 Sum 4.0 Wint	Min 6	200

Notes: Summer is defined as May 1 - Oct 31, Winter is Nov 1 - April 3(

2009 OPERATIONS DATA - SLUDGE

Month	GPD of Sludge Pumped to Primary Digester	Equivalent Dry Tons of Sludge Pumped per Day	Sludge Removed From Plant Per Month - C.Y.	Methane Gas Produced Per Month - C.F.
January	17,522	2.0	200	710,300
February	17,391	2.3	180	680,700
March	17,758	2.1	200	903,000
April	17,805	1.9	220	915,600
May	16,756	1.7	200	896,900
June	14,973	1.5	220	670,500
July	17,370	1.4	180	488,900
August	18,177	1.3	200	456,200
September	18,038	1.6	200	505,000
October	17,306	1.6	200	475,300
November	17,305	1.6	180	337,000
December	16,439	1.5	220	518,100
Total	N/A	N/A	2400	7,557,500
Average	17,237	1.7	200	629,792