Monthly Operating Report
October, 2010
Concord Wastewater Treatment Plant
Operated by Woodard &Curran

Date: November 15, 2010

To: Alan Cathcart, Concord Water & Sewer Superintendent
cc: Chris Whelan, Town Manager
Richard Reine, Director Concord Public Works

From: Michael Thompson and Staff

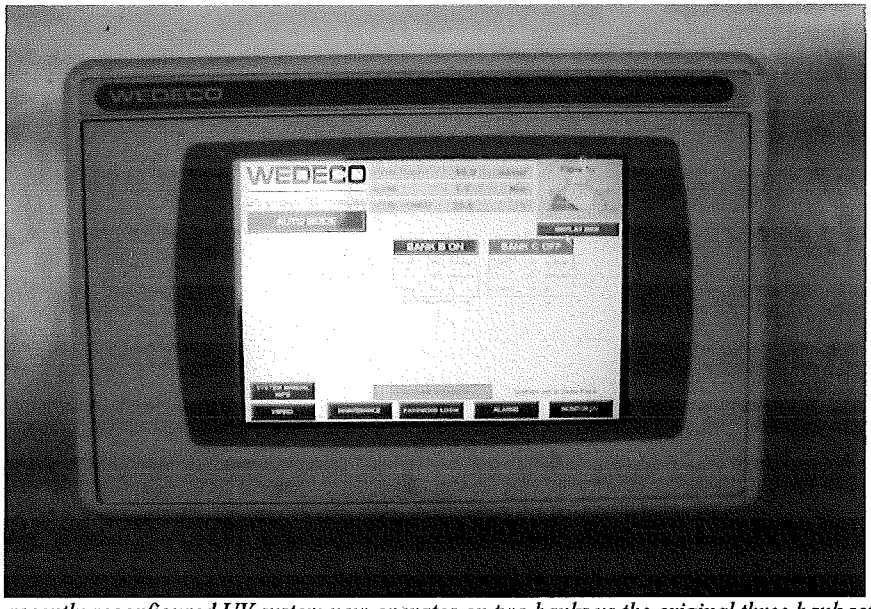
Key Activities This Month/Capital Program

During October all treatment processes were either operational or in ready standby except for the #1 secondary clarify that was offline during all of October. This clarifier remained offline for all of October to allow completion of maintenance and then to sit idle until process or flow rates require this tank returns to service. Flow through the facility in October averaged 0.869 million gallons per day (MGD) and the permit critical 12-month average flow held steady for the third consecutive month at 1.12 MGD. The 12-month average flow permit upper limit is 1.2 MGD.

More notable events or tasks accomplished in October include:

1.) The #1 secondary clarifier remained offline and empty during October. The #2 secondary clarifier easily handled all plant flow during this maintenance. Plant and CPW personnel performed touch up painting on submerged steel components and replaced failing steel hardware with new stainless steel hardware. While these repairs will bring this clarifier back to a fully operational state the overall condition of submerged steel has prompted the consideration of a more intensive sandblast and paint project within the next year or so.

2.)With the removal of the furthest upstream UV bank in September, we worked to reconfigure the UV control system in October. The goal has been to eliminate unnecessary wear and tear on one of the original three UV banks. The removed bank is now in dry storage, versus sitting underwater in storage. Thanks to engineering assistance from WEDECO via a modem/phone line to the controller, we have reduced the UV control logic to recognize and operate on a two-bank setup. For the vast majority of flow conditions only one UV bank is running at the lowest possible power setting – i.e. even in the two-bank setup approximately 75% of the total available UV output remains unutilized.



The recently reconfigured UV system now operates on two banks vs the original three bank setup.

Key Activities This Month/Capital Program cont'd

3) On Thursday 10/29, CPW staff, including Rich, Alan, and Hardik and Chief Operator Mike Thompson met with two residents to discuss their concern regarding plant visibility and odor impact upon their Great Meadows Road residences. Residents Dr. Guido Goldman and Marc Fields and property manager David Hill made it known that in recent month's odor had become a nuisance and that a spring cleanup of the WWTP back fence line had opened up sight lines to the WWTP. This meeting primarily opened communication between the plant and these residents and setup a process to help both sides track when odors occur. Additionally, there was a relatively brief discussion regarding possible landscape improvements along the back yard fence line. After this sit down meeting at the plant, the group took a cordial tour of both the plant and the residences. A follow-up meeting has been set between the two parties for mid-November.

Maintenance Management

Following is a brief list of a portion of maintenance items completed in October:

a) performed semi-annual oil change on all CoMag reaction tank mixers..
b) drained, cleaned, and began minor paint and hardware repairs on the #1 secondary clarifier.
c) installed water hammer arrestor on the plant potable cold water line.
d) clean nozzles and distributor arms on both trickling filters and lubricate center bearings.
e) remove one of three UV banks from the UV channel and remove UV bulbs and place in dry storage.

Environmental Compliance

Parameter	Monthly Avg.	Permit Limit	N MGDotes
Flow, MGD	1.12 MGD (12month avg)	1.2 MGD	October avg. = 0.87 MGD Max. Daily Flow = 0.972 MG
BOD5 (mg/l)	2 mg/l	30 mg/l	99% average BOD removal in Oct.
TSS (mg/l)	2 mg/l	30 mg/l	99 % average TSS removal in Oct.
Coliform, Geo.Mean #/100ml	1 cfu*/100ml	200 cfu/100ml	1 test on 10/28 produced 4 cfu/100ml
Phosphorus	0.17 mg/l	0.2 mg/l Apr.– Oct. '10	0.28 mg/l daily max. on Thu.10/14
Total Ammonia Nitrogen	0.95 mg/l	Report Only	1.13 mg/l daily max. on Wed. 10/6

**cfu =coliform forming unit or colony.*

During October, the Concord WWTP performed continuous two-stage total phosphorus (TP) removal using aluminum sulfate. First stage chemical TP treatment occurred in the secondary clarifiers and second stage TP treatment took place within the CoMag® advanced treatment process. The monthly average effluent TP concentration in October is 0.17 mg/l, thereby meeting the CWWTP's summer permit limit not to exceed 0.20 mg/l TP.

Additionally, during October all effluent disinfection was performed using ultra violet light.

Alarm Activity

This section provides the Town information on events that activate the facility's alarm response system. These events occur while the plant is unmanned and while both the plant's SCADA system and *Lexington Alarm* are monitoring the facility's alarm system. This report identifies alarm activity from the start of the calendar year to the present.

Alarm Activity

Concord WWTP Off-Hours Alarm Log

Date	Time	Alarm Source	Observations/Corrective Action/Comments
01/18/10	12:50 pm	Power Failure	Brief power bump resulted in a handful of drive and panel faults. The on call operator responded on site and reset equipment without incident.
2/10	NA	None	NA
3/10	NA	None	NA
4/10	NA	None	NA
5/15/10	8:45am	Intrusion	An internal motion detector went off on this quiet Saturday morning but follow-up onsite inspection by both plant staff and police found no signs of a problem- i.e. false alarm.
6/10	NA	NA	NA
7/10/10	8:35am	Intrusion	An internal motion detector went off on this quiet Saturday morning but follow-up onsite inspection by both plant staff and police found no signs of a problem- i.e. false alarm. Suspect some sort of equipment operation may have triggered this alarm– investigating.
8/23/10	1:55am	Power Failure	5 minute outage/generator run required remote SCADA access reset of numerous pieces of equipment.
8/24-8/25/10	11:50pm-3:30am	Power Failure	Roughly 4 hour outage/generator run required onsite response to deal with equipment faults and resets.
8/25	9:05am	Power Failure	10 minute outage/generator run was handled by onsite personnel.
10/12	6:34 am	Intrusion	An internal motion detector went off on this quiet Saturday morning but follow-up onsite inspection by both plant staff and police found no signs of a problem- i.e. false alarm.

Septage Receiving

The Concord WWTF receives septage only from in-Town sources. A total of 210,250 gallons of septage was received at the Concord WWTF in October.

WWTP Septage Receipts in gallons

	2010	2009	2008
January	32,500	10,500	22,750
February	25,750	41,250	60,300
March	171,750	83,250	55,550
April	211,500	168,250	152,300
May	125,950	150,900	135,150
June	184,950	151,450	126,450
July	90,800	138,500	117,000
August	173,250	137,750	142,400
September	182,250	203,750	219,950
October	210,250	172,400	262,900
November		155,400	165,300
December		109,600	104,050
Annual Totals:	1,408,950	1,523,000	1,636,000

Sludge Production

During October, 107,558 gallons of liquid sludge, equivalent to 17.31 dry tons, was transported to Upper Blackstone Water Pollution Abatement District (UBWPAD) in Millbury, Massachusetts.

WWTP Sludge Production in gallons /dry tons

	2010	2009	2008
January	89,000/15.61	107,500/16.71	112,227/20.15
February	90,000/16.81	86,000/14.13	107,124/18.35
March	90,000/15.65	99,000/17.56	98,500/17.97
April	135,000/23.57	153,000/23.94	90,000/17.98
May	97,980/15.76	170,670/24.27	107,000/19.74
June	99,000/18.28	153,000/20.83	98,500/17.76
July	99,000/16.81	126,000/20.57	117,000/20.98
August	108,000/18.61	76,376/11.81	99,000/16.51
September	106,160/17.88	126,000/21.65	98,000/16.82
October	107,558/17.31	99,000/16.03	108,000/18.54
November		99,000/16.51	80,500/12.62
December		117,000/17.79	126,000/18.46
Annual Totals:	1,021,698/176.29	1,421,546/223.58	1,241,851/215.88