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

Date: May 14, 2010

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

From: Michael Thompson and Staff

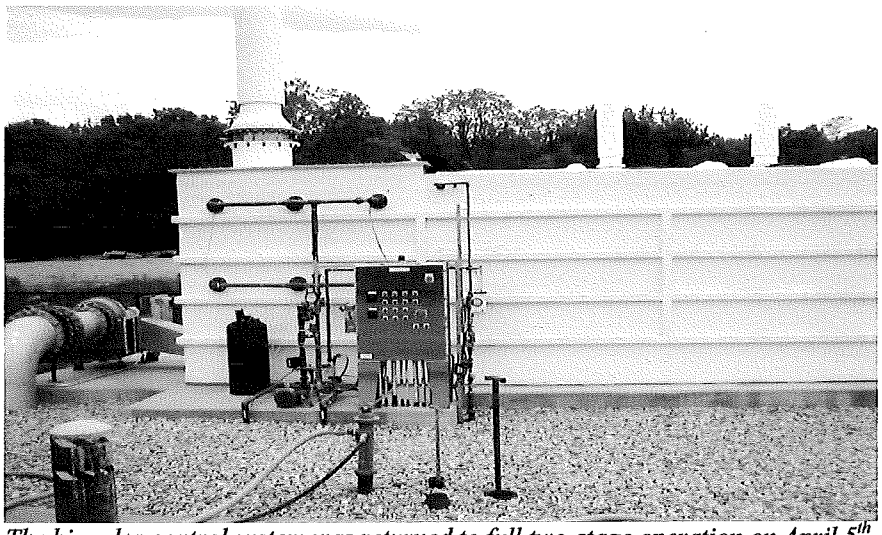
Key Activities This Month/Capital Program

During April all treatment processes were either operational or in ready standby. Flow through the facility in April averaged 1.89 million gallons per day (MGD) and the permit critical 12-month average flow increased to 1.15 MGD from the March 12-month average of 1.09 MGD. The 12-month average flow permit upper limit is 1.2 MGD. Daily flows at the start of April were close to 3 MGD, however by the final week of April daily flow has subsided close to 1.2 MGD. This drop in flow coincides with a significant drop in precipitation, whereas 15.04 inches of rain fell in March, only 1.83 inches of rain fell in April.

April also marked the beginning of another season of intensified phosphorus removal. The season runs from April to the start of November when the WWTF permit requires final effluent not to exceed 0.2 mg/l total phosphorus as a monthly average. The monthly average total phosphorus for this April came in at 0.2 mg/l thus not exceeding the permit limit. We strive to balance meeting this permit limit while also optimizing the use of chemicals necessary to remove phosphorus from the plant flow.

More notable events or tasks accomplished in April include:

1.) The project to resolve chronic boiler performance issues concluded in April. Kirkland and Shaw, mechanical contractors out of Burlington, and Combustion Services Company of New England, wrapped up re-plumbing fuel supply lines, performed firebox cleaning, and tested the facility's two boilers. Two weeks of trouble free follow-up testing by plant personnel lead us to believe that this system's faulty operation has now been resolved. Critical measures included the placement of a foot-valve and properly tensioned anti-siphon valve at the outside fuel tank and proper fuel pressure-regulator settings downstream of the fuel transfer skid in the boiler room.



The bio odor control system was returned to full two-stage operation on April 5th.

Maintenance Management

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

a) completed boiler fuel supply project that includes new anti-siphon valve and fuel line reconfiguration and boiler cleaning and testing.
b) re-plumbed odor control water supply lines and re-installed and calibrated the pH probe on the biological odor control unit.
c) dismantled and cleaned the rotary drum thickener polymer solution makeup unit.
e) cleaned distributors and nozzles and lubricated the center bearings on both trickling filters.

Environmental Compliance

Parameter	Monthly Avg.	Permit Limit	Notes
Flow, MGD	1.15 MGD (12month avg)	1.2 MGD	April avg. =1.89 MGD
BOD5 (mg/l)	4 mg/l	30 mg/l	98% average BOD removal in April
TSS (mg/l)	2 mg/l	30 mg/l	98 % average TSS removal in April
Coliform, Geo.Mean #/100ml	1 cfu*/100ml	200 cfu/100ml	Daily max. of 6 cfu/100ml on Tue. 4/6
Phosphorus	0.20 mg/l	0.2 mg/l Apr. – Oct. '10	0.28 mg/l daily max. on Thu. 4/8
Total Ammonia Nitrogen	.62 mg/l	Report Only	0.67 mg/l daily max. on Wed. 4/8

**cfu =coliform forming unit or colony.*

During April, 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 April is 0.20 mg/l, thereby meeting the CWWTP's summer permit limit not to exceed 0.2 mg/l TP.

Additionally, during April 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.

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

Septage Receiving

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		150,900	135,150
June		151,450	126,450
July		138,500	117,000
August		137,750	142,400
September		203,750	219,950
October		172,400	262,900
November		155,400	165,300
December		109,600	104,050
Annual Totals:	441,500	1,523,000	1,636,000

Sludge Production

During April, 135,000 gallons of liquid sludge, equivalent to 23.57 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		170,670/24.27	107,000/19.74
June		153,000/20.83	98,500/17.76
July		126,000/20.57	117,000/20.98
August		76,376/11.81	99,000/16.51
September		126,000/21.65	98,000/16.82
October		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:	404,000/71.64	1,421,546/223.58	1,241,851/215.88