

**Monthly Operating Report
May, 2013
Concord Wastewater Treatment Facility
Operated by Woodard & Curran**

Date: June 17, 2013

To: Alan Cathcart, Concord Water & Sewer Superintendent

cc: Chris Whelan, Town Manager

Richard Reine, Director Concord Public Works

From: John Parkhurst and Staff

Key Activities This Month/Capital Program:

During May all treatment processes were either operational or in ready standby. Flow through the facility in May averaged 1.06 million gallons per day (MGD) and the permit critical 12-month average flow held at 1.07 MGD. This is the 1st month that the 12-month average flow held and did not move towards the 1.20 MGD limit for 12-month average flow.

Events that are more notable or tasks accomplished in May include:

May 13th, 2013: Staff continued power washing trickling filters and aerated sludge tank.



Trickling Filters after power washing.

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Health and Safety Activities or Training:

During May, all plant staff participated in a 30 minute on site safety meetings on “Electrical Training”.

Maintenance Management

The following is a brief list of a portion of maintenance items completed in May:

May 2nd, 2013: Concord WWTF lost power. Generator switched and supplied power until utility power restored.

May 3rd, 2013: Plant staff identified a noise coming from primary #2 clari-thickener drive. W&C working with town on capital project for replacement of #2 primary clari-thickener drive.

May 8th, 2013: Staff replaced two blown out bulbs on U.V. bank B.

May 13th, 2013: Staff continued power washing trickling filters and aerated sludge tank.

May 14th, 2013: Staff installed passive carbon odor control canister on the RDT filtrate sump wetwell.



May 15th, 2013: Staff repaired a leaking seal on septage pump #1.

May 15th, 2013: Staff repaired a leak on the caustic chemical pump #2.

May 19th, 2013: Staff found the plant odor control system recirculation pump tripping out. Staff added water to the basin and resumed pumping.

May 20th, 2013: Plant grit dumpster emptied by Waste Management.

May 29th, 2013: Staff identified recycle valve on Co-Mag was not fully shutting during a waste cycle. Staff cleaned the valve and it resolved the issue.

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Environmental Compliance

Parameter	Monthly Avg.	Permit Limit	Notes
Flow, MGD	1.07 MGD (12-month avg.)	1.2 MGD	May avg. = 1.06MGD Max. Daily Flow = 1.13 MG on Weds 05/01
BOD5 (mg/l)	4 mg/l	30 mg/l	98% average BOD removal in May
TSS (mg/l)	5 mg/l	30 mg/l	98% average TSS removal in May
Coliform, Geo.Mean #/100ml	14 cfu*/100ml	200 cfu/100ml	122 f-coliform counts daily max on Mon. 05/06
Phosphorus	0.1 mg/l	0.2 mg/l Apr '13– Oct '13	0.2 mg/l daily max. occurred on Tues. 05/21
Total Ammonia Nitrogen	0.76 mg/l	Report Only	1.30 mg/l daily max. on Mon. 05/13

*cfu = coliform forming unit or colony.

During May, 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 May is 0.1mg/l, thereby meeting the CWWTP's summer permit limit not to exceed 0.2 mg/l TP as a monthly average.

Additionally, during May 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. The events occur while the plant is unmanned and while both the plant's SCADA system and The *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 WWTF Off-Hours Alarm Log

Date	Time	Alarm Source	Observations/Corrective Action/Comments
May '12	NA	NA	No off hours alarms in May.
Jun. 17, '12	8:30 PM	Numerous	Plant water alarm came in. Plant staff cleaned intake screens and reset system. (All OK)
Jul. 28, '12	8:00 AM	Numerous	A very brief loss of utility power lead to a number of motor faults that required reset by an onsite operator who was performing weekend (Sat.) rounds.
Aug. 5, '12	8:00 AM	Numerous	Corridor motion detectors triggered nuisance alarms. Staff reset alarm - so far so good.
Sept. 9, '12	8:00 AM	Numerous	Intrusion alarm clarifier room south motion sensor- no apparent reason other than windy outside.
Oct. 29, '12	5:45 PM	Numerous	A loss of utility power lead to a number of motor faults that required reset by an onsite operator who was performing Hurricane Sandy coverage.
Nov. '12	NA	NA	No off hours alarms in November.
Dec. '12	NA	NA	No off hours alarms in December.
Jan. 30, '13	6:56 PM	Numerous	Plant water alarm due to break in the plant water feed line in the brick building by the effluent parshall flume.
Feb. 17, '13	7:00PM	Numerous	A loss of utility power lead to a number of motor faults that require to be reset by an on-call operator.
Mar. 03, '13	12:00PM	Numerous	A loss of utility power lead to a number of motor faults that require to be reset by an on-call operator.
Apr. '13	NA	NA	No off hours alarms in April.
May 2, '13	5:00AM	Numerous	A loss of utility power lead to a number of motor faults that require to be reset by an on-call operator.

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Septage Receiving

The Concord WWTF receives septage only from in-Town sources. A total of 173,300 gallons of septage received at the Concord WWTF in May.

WWTF Septage Receipts in gallons:

	2013	2012	2011
January	27,500	56,000	44,050
February	35,700	34,000	31,750
March	50,000	83,000	102,950
April	157,350	111,500	139,750
May	173,300	110,250	113,500
June		112,750	130,000
July		137,750	73,750
August		71,000	69,500
September		84,250	98,750
October		124,150	82,250
November		111,700	90,250
December		93,500	117,250
Annual Totals:	445,650	1,129,850	1,093,500

Sludge Production

During May, 93,570 gallons of liquid sludge, equivalent to 23.16 dry tons, transported to Upper Blackstone Water Pollution Abatement District (UBWPAD) in Millbury, Massachusetts.

	WWTF Sludge Production in gallons /dry tons		
	2013	2012	2011
January	109,811/22.44	112,896/17.12	98,309/16.78
February	82,650/17.31	62,183/11.1	72,916/13.5
March	79,918/18.48	99,452/13.71	72,617/13.89
April	103,882/23.03	97,796/11.75	81,000/14.90
May	93,570/23.16	107,500/16.66	108,000/27.85
June		116,530/18.53	108,000/19.67
July		116,141/22.36	106,060/17.69
August		113,340/18.71	135,224/18.83
September		104,302/18.64	108,008/15.10
October		123,425/20.70	141,003/23.05
November		80,786/14.44	114,905/20.28
December		80,804/16.58	105,573/18.56
Annual Totals:	469,831/104.42	1,214,155/200.34	1,251,615/205.18