

Appleton Water Treatment Plant Operations Synopsis April, May, June 2017

Summary

The table below presents selected water production and quality performance metrics for the current and previous reporting periods. All compliance parameters met or exceeded regulatory requirements. During the quarter, average water production increased by about 6% consistent with seasonal change. The ratio of electrical energy consumption and production volume declined by about 6% indicating improved treatment energy efficiency.

WATER PLANT PARAMETERS	Previous (Q1 2017)			Current (Q2 2017)		
	January	February	March	April	May	June
Water Treated						
Finished (million gallons)	272.0	239.0	260.1	251.0	281.2	290.9
Finished (million gallons / day)	8.8	8.5	8.4	8.4	9.1	9.7
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	467.1	418.3	463.4	438.0	456.7	478.6
MWH / million gallons produced	1.78	1.75	1.78	1.74	1.62	1.64
Turbidity						
Lake (NTU)	2.7	2.3	5.9	7.7	9.2	18.9
Finished (NTU)	0.02	0.03	0.02	0.02	0.02	0.02
Finished (<0.15 NTU standard)	100%	100%	100%	100%	100%	100%
Water System Microbial Quality						
Total Coliform Samples	81	81	81	81	81	82
Compliance with Standard	100%	100%	100%	100%	100%	100%
Disinfectant Contact Time						
Minimum CT Ratio Provided	0.9	1.5	1.4	2.1	3.1	3.1
Hardness						
Lake Total / Calcium (mg/L)	204/112	210/101	201/111	193/104	193/107	186/96
Finished Total / Calcium (mg/L)	105/38	106/38	99/35	90/33	86/27	82/23
Finished Water Quality						
Total Chlorine (mg/L)	1.95	2.18	2.13	2.06	2.01	1.86
pH (SU) Min/Max	8.6/8.8	8.5/8.8	8.6/8.9	8.6/8.8	8.5/8.8	8.1/9.0
Water Temperature (Degrees F)	34.0	36.1	34.9	47.1	57.6	70.0
Fluoride (mg/L)	0.73	0.74	0.65	0.68	0.72	0.74
Orthophosphate (mg/L)	0.62	0.62	0.63	0.69	0.72	0.79

Laboratory

- In support of plant operations, staff conducted analyses according to method protocols for pH, turbidity, alkalinity, hardness, free/total chlorine, ammonia, phosphorus, and fluoride.
- In support of distribution operations, staff performed required 81 monthly Coliform bacteria analyses along with heterotrophic plate count (HPC) testing.
- Staff collected and processed raw and finished water samples to comply with LT2 and DBPR2 sampling requirements. Support was provided to consecutive customers with shipping of DBPR2 samples.

Safety

- WTF Safety programs were maintained by completing scheduled safety inspections. There were no significant incidents to report.
- Chemical unloading procedures are under review for potential improvements.

Operations

- #2 Softener was cleaned and is in stand-by.
- Database development continues for the implementation of the new plant data management and reporting system (Hach WIMS).

RUPIP

- GAC Filter and UV Disinfection demonstration testing has concluded successfully. Consequently, WDNR has officially reclassified the AWTF as a 24 MGD conventional surface water treatment plant with enhanced disinfection.
- All membrane equipment was idle during the quarter and will remain idled indefinitely.
- Two UV Disinfection reactors were in continuous service during the quarter.
- Merrick Systems continued lime system dissolver replacements and related improvements under a warranty claim.

Staffing & Training

- All staff have completed mandatory department and City safety and employee training for the year.