

**Appleton Water Treatment Plant
Operations Synopsis
April, May, June 2018**

Performance Summary

The table below presents selected water production and quality performance metrics for the current and previous reporting periods.

Treated Water Quality. All compliance parameters met or exceeded regulatory requirements.

Water Production. Compared with Q1 of 2018 (quarter over quarter or Q/Q), average water production increased by nearly 9% consistent with seasonal demand. Notably, compared with Q2 of 2017 (year over year or Y/Y), average water production increased by nearly 5%.

Raw Water Quality. Average raw water turbidity increased Q/Q by about 167% as expected due to Lake Winnebago seasonal effects. Average raw water turbidity decreased Y/Y by 30%.

Energy Efficiency. In terms of applied electrical energy efficiency, Q/Q performance increased by nearly 5% but was flat Y/Y.

WATER PLANT PARAMETERS	Previous (Q1 2018)			Current (Q2 2018)		
	January	February	March	April	May	June
Water Treated						
Finished (million gallons)	275.9	242.4	268.1	258.1	302.5	302.6
Finished (million gallons / day)	8.9	8.7	8.6	8.6	9.8	10.1
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	480.4	426.0	472.5	432.1	503.1	507.5
MWH / million gallons produced	1.74	1.76	1.76	1.67	1.66	1.68
Turbidity						
Lake (NTU)	3.8	3.1	2.5	9.0	5.9	10.2
Finished (NTU)	0.03	0.02	0.02	0.02	0.03	0.02
Finished (<0.15 NTU standard)	100%	100%	100%	100%	100%	100%
Water System Microbial Quality						
Total Coliform Samples	85	81	82	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
Disinfectant Contact Time						
Minimum CT Ratio Provided	1.2	1.3	1.8	1.4	2.2	4.6
Hardness						
Lake Total / Calcium (mg/L)	206/113	208/114	204/111	191/101	182/94	172/88
Finished Total / Calcium (mg/L)	98/35	100/38	98/36	92/33	78/26	76/20
Finished Water Quality						
Total Chlorine (mg/L)	1.58	1.63	1.63	1.64	1.75	1.92
pH (SU) Min/Max	8.5/8.7	8.5/8.8	8.2/8.7	8.5/8.8	8.3/8.7	8.2/8.7
Water Temperature (Degrees F)	35.2	37.4	39.9	38.7	61.7	72.3
Fluoride (mg/L)	0.67	0.67	0.67	0.65	0.67	0.70
Orthophosphate (mg/L)	0.61	0.63	0.61	0.56	0.59	0.59

Laboratory

- In support of plant operations, staff conducted analyses according to method protocols for pH, turbidity, alkalinity, hardness, free/total chlorine, ammonia, phosphorus, potassium permanganate, 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 DBPR2 sampling requirements. Provided support to consecutive customers with shipping of DBPR2 samples.
- Continued Unregulated Contaminant Monitoring (UCMR4) sampling for the quarter.

Safety

- Maintained WTF Safety programs by completing scheduled safety inspections and monthly meetings. No significant incidents to report.
- Staff completed required First Aid / CPR training as per Confined Space Entry policy.

Operations

- Operated two UV Disinfection reactors continuously during the quarter.
- Placed #3 and #4 Softeners in service.
- Continued database development for the implementation of the new plant data management and reporting system (Hach WIMS).
- Began assessment/concept design phase for the Lake Station upgrade and Second Intake project.
- Completed minor coating-system warranty repairs on the Glendale Tower.
- Began update to the Distribution System Master Plan in collaboration with DPW.
- Completed installation and testing of variable frequency drives for #3 and #6 High Service Pumps.
- Met with WDNR representatives to discuss potential revised compliance framework for distribution system Optimized Corrosion Control Treatment (lead/copper rule).

Staffing & Training

- Staff completed annual mandatory department and City safety and employee training planned for the quarter.