

**Appleton Water Treatment Plant
Operations Synopsis
April, May, and June 2021**

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 2021 (Q/Q) average production increased by over 11% consistent with seasonal demand variation. Compared with Q2 of 2020 (Y/Y), average water production also increased by over 11% likely owing to depressed demand during the initial period of COVID lock-down.

Raw Water Quality. Average Q/Q lake turbidity increased slightly consistent with seasonal change. Y/Y levels also increased but not outside the range expected during the spring.

Energy Efficiency. Applied electrical energy Q/Q improved by nearly 3% and Y/Y efficiency declined by 4% consistent with increased plant discharge pressure.

WATER PLANT PARAMETERS	Previous (Q1 2021)			Current (Q2 2021)		
	January	February	March	April	May	June
Water Treated						
Finished (million gallons), total	259.5	241.9	265.4	253.6	291.3	317.1
Finished (million gallons / day), average	8.4	8.6	8.6	8.5	9.4	10.6
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	475.7	442.1	484.2	454.2	501.7	584.0
MWH / million gallons produced	1.83	1.83	1.82	1.79	1.72	1.84
Lake Turbidity (NTU), average	2.21	1.43	4.70	7.91	5.30	11.98
Water System Microbial Quality						
Total Coliform Samples	81	81	81	81	82	82
Compliance with Standard	100%	100%	100%	100%	100%	100%
Finished Water Quality						
Water Temperature (Degrees F)	34.2	35.6	37.4	48.4	60.0	72.9
Turbidity (NTU), average	0.02	0.02	0.02	0.02	0.02	0.02
%<0.15 NTU standard	100	100	100	100	100	100
pH (SU), average	8.9	8.8	8.9	8.8	8.8	8.7
Total Chlorine (mg/L)	1.96	1.97	1.99	1.95	1.97	1.87
Fluoride (mg/L)	0.72	0.71	0.69	0.74	0.66	0.68
Orthophosphate (mg/L)	0.60	0.63	0.60	0.64	0.70	0.71

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 Disinfection By-Products Rule (DBPR) sampling requirements. Provided support to consecutive customers with shipping of DBPR2 samples.
- In support of OCCT demonstration project, completed daily samples and orthophosphate analyses along with stagnant / flowing samples and related water quality analyses.

Safety

- Maintained WTF Safety programs by completing scheduled safety inspections, fire prevention inspections, and monthly meetings. No significant incidents to report.
- Applied appropriate COVID-19 countermeasures as directed by city policy.

Operations

- Operated two UV Disinfection reactors continuously during the quarter. Completed lamp replacements as scheduled.
- Continued construction phase for the Lake Station mechanical/electrical rehabilitation. Began work associated with the intake bells and chemical/sample piping replacement. Completed work associated with replacement of Stand-By Generator controls and installation of piping and valve actuators for the second transmission main.
- Continued the testing phase for Optimized Corrosion Control Treatment (OCCT) pipe loop testing apparatus.
- Resumed gradual Main Pressure Zone pressure increases as recommended by Water Distribution System Master Plan.
- Completed cleaning #3 Softener. Continued cleaning #4 Softener.
- Completed cleaning and 5-year regulatory inspection of the Matthias Elevated Tower.

Staffing & Training

- No changes in staffing levels occurred during the quarter.
- Maintained normal staff schedules and work assignments.