

**Appleton Water Treatment Plant
Operations Synopsis
July, August, and September 2019**

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 Q2 of 2019 (quarter over quarter or Q/Q), average water production increased by 9.2% consistent with seasonal demand. Compared with Q3 of 2018 (year over year or Y/Y), average water production decreased 3% consistent with this year's wet weather.

Raw Water Quality. Q/Q average raw water turbidity increased consistent with summer lake conditions. Y/Y average raw water turbidity declined significantly likely due to this year's wet weather.

Energy Efficiency. In terms of applied electrical energy, Q/Q and Y/Y efficiencies remained the same.

WATER PLANT PARAMETERS	Previous (Q2 2019)			Current (Q3 2019)		
	April	May	June	July	August	September
Water Treated						
Finished (million gallons), total	258.2	276.8	276.7	310.9	302.4	272.8
Finished (million gallons / day), average	8.3	8.9	8.9	10.0	9.8	9.1
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	433.4	457.9	470.8	555.7	494.7	440.8
MWH / million gallons produced	1.68	1.65	1.70	1.79	1.64	1.62
Lake Turbidity (NTU), average	14.7	7.5	8.6	14.7	26.8	25.7
Water System Microbial Quality						
Total Coliform Samples	81	82	81	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
Finished Water Quality						
Water Temperature (Degrees F)	42.3	55.6	67.3	77.8	75.0	68.1
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	8.7/8.9	8.1/8.7	8.5/8.9	8.7	8.8	8.8
Total Chlorine (mg/L)	1.85	1.87	1.83	1.79	1.89	1.92
Fluoride (mg/L)	0.74	0.70	0.72	0.70	0.66	0.70
Orthophosphate (mg/L)	0.66	0.77	0.90	0.74	0.70	0.63

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.

Safety

- Maintained WTF Safety programs by completing scheduled safety inspections, fire prevention inspections, and monthly meetings. No significant incidents to report.

Operations

- Completed warranty re-coating of the North Reservoir.
- Completed the annual calibration of the Harrison Utilities sanitary meter.
- Completed drain-down inspection and disinfection of the South Clearwell.
- Completed code-mandated annual tower inspections.
- Completed annual tower cathodic protection inspections.
- Operated two UV Disinfection reactors continuously during the quarter.
- Replaced lamps in UV Disinfection reactors N-1, S-2.
- Continued design phase for the Lake Station mechanical/electrical rehabilitation.
- Completed and commissioned the Chemical Systems Upgrade Project Phase 1.
- Completed update to the Distribution System Master Plan in collaboration with DPW.
- Awarded the Lindbergh Standpipe re-coating project with staff assisting in site preparation and related minor repairs.
- Continued report development for the implementation of the plant data management and reporting system (Hach WIMS).

Staffing & Training

- Completed annual respirator fit and hearing testing.
- All staff have completed City Safety as well as Utilities Department Safety training requirements for the year.

Awards & Recognition

- The Wisconsin section of the American Water Works Association (AWWA) conferred the annual Utility Achievement Award to the Appleton Water Utility. The award formally recognized the Regulatory Upgrade and Process Improvement Project (RUIP) for maintaining high water quality while substantially reducing operations and maintenance costs.