

**Appleton Water Treatment Plant
Operations Synopsis
October, November, and December 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 Q3 of 2019 (quarter over quarter or Q/Q), average water production decreased by 12% consistent with seasonal demand profile. Compared with Q4 of 2018 (year over year or Y/Y), average water production decreased slightly by about 1%.

Raw Water Quality. Q/Q average raw water turbidity decreased consistent with winter lake conditions. Y/Y average raw water turbidity for Q4 also declined likely due to early ice cover.

Energy Efficiency. In terms of applied electrical energy, Q/Q efficiency remained the same while Y/Y efficiency improved by nearly 2%.

WATER PLANT PARAMETERS	Previous (Q3 2019)			Current (Q4 2019)		
	July	August	September	October	November	December
Water Treated						
Finished (million gallons), total	310.9	302.4	272.8	263.0	252.5	261.6
Finished (million gallons / day), average	10.0	9.8	9.1	8.5	8.4	8.4
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	555.7	494.7	440.8	435.3	433.0	464.3
MWH / million gallons produced	1.79	1.64	1.62	1.66	1.71	1.66
Lake Turbidity (NTU), average	14.7	26.8	25.7	25.4	11.5	6.5
Water System Microbial Quality						
Total Coliform Samples	81	81	81	80	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
Finished Water Quality						
Water Temperature (Degrees F)	77.8	75.0	68.1	54.2	35.7	33.5
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	8.8	8.8	8.9	8.9	8.9
Total Chlorine (mg/L)	1.79	1.89	1.92	1.94	1.90	1.95
Fluoride (mg/L)	0.70	0.66	0.70	0.75	0.68	0.71
Orthophosphate (mg/L)	0.74	0.70	0.63	0.71	0.60	0.72

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 robotic inspection and videography of the North Clearwell.
- Operated two UV Disinfection reactors continuously during the quarter.
- Continued design phase for the Lake Station mechanical/electrical rehabilitation.
- Re-coated the Lindbergh Standpipe interior, exterior, and appurtenances.
- Successfully tested data upload for the monthly operating report to WDNR.
- Submitted state mandated testing plan for Optimized Corrosion Control Treatment (OCCT) program for approval.
- Dewatered and cleaned Softeners #1 & 2.

Staffing & Training

- All staff have completed City Safety as well as Utilities Department Safety training requirements for the year.