

**Appleton Water Treatment Plant
Operations Synopsis
April, May, & June 2023**

Performance Summary

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

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

Water Production. Compared with Q2 of 2022 (Y/Y) average production increased by over 3%. Production increased by nearly 17% from Q1 of 2023.

Raw Water Quality. Average turbidity Y/Y levels decreased by over 47% from Q2 2022.

Energy Efficiency. Applied electrical energy efficiency Y/Y increased by almost 2% from Q2 2022.

WATER PLANT PARAMETERS	Previous (Q1 2023)			Current (Q2 2023)		
	January	February	March	April	May	June
Water Treated						
Finished (million gallons), total	260.8	235.8	257.6	250.8	307.8	323.8
Finished (million gallons / day), average	8.4	8.4	8.3	8.4	9.9	10.8
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	453.4	410.9	451.3	418.6	495.2	553.1
MWH / million gallons produced	1.7	1.7	1.8	1.7	1.6	1.7
Lake Turbidity (NTU), average	1.53	1.15	1.16	7.86	5.42	8.48
Water System Microbial Quality						
Total Coliform Samples	81	81	81	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
Finished Water Quality						
Water Temperature (Degrees F)	33.8	35.15	37.29	44.42	56.7	70.93
Turbidity (NTU), average	0.04	0.05	0.05	0.05	0.04	0.04
%<0.15 NTU standard	100	100	100	100	100	100
pH (SU), average	8.8	8.8	8.8	8.4	8.4	8.3
Total Chlorine (mg/L)	2.07	2.19	2.19	2.18	2.08	2.13
Fluoride (mg/L)	0.69	0.73	0.71	0.68	0.69	0.71
Orthophosphate (mg/L)	0.62	0.63	0.65	0.76	0.69	0.75

Project Updates

- Compressor Air Systems Replacement: McMahon Associates, Inc. (McMahon) completed the public bid plans and specifications during the reporting period. Public bidding concluded on June 7, 2023. Rhode Brothers, Inc. was the least cost responsive bidder. Common Council approved contract award to Rhode Brothers on June 21st and the formal notice of award was issued on June 23rd. Construction is anticipated to begin sometime in the 3rd quarter with final project completion projected late 2023 or early 2023 depending upon equipment lead times.
- Phosphoric Acid System Addition: McMahon Associates, Inc. (McMahon) completed the public bid plans and specifications during the reporting period. Public bidding concluded on April 25, 2023 with August Winter and Son being awarded the project. Due to WDNR requirements, construction will need to be completed by May of 2024.
- Redundant Raw Water Piping Project: PTS proceeded with the construction of a second 36-inch diameter pipe from the lake station to the water plant during the reporting period. Work also included the construction of a new water transmission from the water plant extending down Manitowoc Road and reconnecting to the existing transmission line on Oneida Street.

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.
- Quarterly disinfection by-product rule monitoring with wholesale water customers (DBPR-2) was completed.

Safety

- Maintained Water Treatment Facility Safety programs by completing scheduled safety inspections, fire prevention inspections, and monthly meetings. No significant incidents to report.
- **Operations**
- Operated two UV Disinfection Reactors continuously during the quarter.
- Maintained Main Pressure Zone pressure increases as recommended by Water Distribution System Master Plan.
- North Pretreatment Basin and North Softener Inlet channel cleaned, inspected, and returned to service.
- Harrison sanitary meter replacement and calibration successfully completed at Water Plant.
- Softeners #1 and #2 were returned to service.

- Softener #3 was taken out of service for cleaning and inspection.
- Parking lot hardscape project commenced.
- 2nd Raw water line piping project ongoing.

Staffing & Training

- Staffing levels temporarily reduced by resignation of one Water Plant Operator.
- Maintained operations schedules with overtime and deferred maintenance work assignments.