

**Appleton Water Treatment Plant
Operations Synopsis
January, February, March 2016**

Summary

The table below presents selected water production and quality performance metrics for the current and previous reporting periods. All compliance parameters met or exceeded regulatory requirements. During the quarter, average water production remained virtually unchanged from the previous quarter consistent with a winter season demand profile. Average raw water turbidity decreased by about 80% consistent with Lake Winnebago ice-over. The average electrical energy “wire-to-water” ratio for the quarter increased by 2.8% due to concurrent operation of UV disinfection equipment and ultrafiltration.

WATER PLANT PARAMETERS	Previous (Q4 2015)			Current (Q1 2016)		
	October	November	December	January	February	March
Water Treated						
Finished (million gallons)	266	250.6	255.3	263.1	250.3	262.3
Finished (million gallons / day)	8.6	8.4	8.2	8.5	8.6	8.5
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	540.3	530.6	563.1	587.3	536.3	569.9
MWH / million gallons produced	2.03	2.12	2.21	2.23	2.14	2.17
Turbidity						
Lake (NTU)	30.9	35.3	41.3	10.4	2.9	8.0
Finished (NTU)	0.02	0.02	0.02	0.02	0.02	0.02
Finished (<0.15 NTU standard)	100%	100%	100%	100%	100%	100%
Water System Microbial Quality						
Total Coliform Samples	81	81	82	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
Disinfectant Contact Time						
Minimum CT Ratio Required	1.0	1.0	1.0	1.0	1.0	1.0
Minimum CT Ratio Achieved	7.4	5.8	8.7	6.4	7.7	7.9
Hardness						
Lake Total / Calcium (mg/L)	195/110	203/110	201/112	209/119	217/117	204/118
Finished Total / Calcium (mg/L)	97/12	103/17	112/17	111/26	110/30	108/26
Finished Water Quality						
Total Chlorine (mg/L)	2.26	2.35	2.32	2.10	2.23	1.84
pH	8.5/8.8	8.5/8.7	8.6/8.9	8.5/8.8	8.7/8.9	8.5/8.8
Water Temperature (Degrees F)	56.5	45.5	36.1	33.6	34.3	36.9
Fluoride (mg/L)	0.52	0.69	0.72	0.70	0.70	0.70
Orthophosphate (mg/L)	0.72	0.70	0.66	0.69	0.69	0.67

Laboratory

- In support of plant operations, staff conducted analyses according to method protocols for pH, turbidity, alkalinity, hardness, free/total chlorine, ammonia, phosphorus, and fluoride.
- In support of distribution operations, staff performed required 81-82 monthly Coliform bacteria analyses along with heterotrophic plate count (HPC) testing.
- Staff collected and processed raw and finished water samples to comply with LT2 and DBPR2 sampling and analysis requirements.

Safety

- WTF Safety programs were maintained by completing scheduled safety inspections. There were no significant incidents to report.
- Annual safety, CPR, and first aid training sessions were held.

Operations

- #3 Sodium Hypochlorite bulk tank was returned to service following installation of a horizontal access hatch and replacement of the interior veil. All sodium hypochlorite bulk tanks have been rehabilitated.

RUPIP

- Two UV Disinfection reactors have been in continuous service during the quarter.
- The design engineer provided Operator training during the previous quarter.

Softener Recoating Project

- #4 Softener recoating and new fiberglass weir installation was nearly complete at the end of the quarter.
- Work on #3 Softener will begin in the second quarter with completion expected in July 2016.

Glendale Water Tower

- Work progressed on schedule during the quarter as weather permitted.
- Painting and bowl raising are expected in April.
- Final completion is expected late summer 2016.

Staffing & Training

- All Water Treatment Facility vacancies have been filled.