Appleton Water Treatment Plant
Operations Synopsis
October, November, December 2015

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 decreased significantly by about 14% consistent with decreased seasonal demand. Average raw water turbidity continued to increase from the previous quarter by about 40%. The average electrical energy "wire-to-water" ratio for the quarter remained flat.

WATER PLANT PARAMETERS	Previous (Q3 2015)			Current (Q4 2015)		
	July	August	September	October	November	December
Water Treated						
Finished (million gallons)	326	304	273	266	250.6	255.3
Finished (million gallons / day)	10.5	9.8	9.1	8.6	8.4	8.2
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	681.9	660.8	591.4	540.3	530.6	563.1
MWH / million gallons produced	2.09	2.17	2.17	2.03	2.12	2.21
Turbidity						
Lake (NTU)	17.0	23.9	37.1	30.9	35.3	41.3
Finished (NTU)	0.03	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	9.3	15.1	14.9	7.4	5.8	8.7
Hardness						
Lake Total / Calcium (mg/L)	183/93	190/102	184/94	195/110	203/110	201/112
Finished Total / Calcium (mg/L)	92/2	86/12	92/10	97/12	103/17	112/17
Finished Water Quality						
Total Chlorine (mg/L)	2.14	1.99	2.25	2.26	2.35	2.32
pH	8.3/8.9	8.5/9.0	8.5/9.0	8.5/8.8	8.5/8.7	8.6/8.9
Water Temperature (Degrees F)	76.1	72.3	70.5	56.5	45.5	36.1
Fluoride (mg/L)	0.72	0.70	0.75	0.52	0.69	0.72
Orthophosphate (mg/L)	0.72	0.78	0.76	0.72	0.70	0.66

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 meetings and inspections. There were no significant incidents to report.
- Annual respirator, SCBA fit testing, and SCBA training was completed.

Operations

- The South Softener Influent Channel was cleaned during the quarter.
- #3 Sodium Hypochlorite bulk tank was removed from service, a horizontal access hatch was installed, and the interior veil was replaced during the quarter. All sodium hypochlorite bulk tanks have been rehabilitated.

RUPIP

- Tracer testing for the CT Basins was completed in October. In December, the WDNR approved the tracer test results awarding the enlarged basins new baffle factors of 0.6, effectively quadrupling virus disinfection capacity.
- In November, the first UV Disinfection reactor began full-time operation.
- The design engineer provided Operator training during December.

Softener Recoating Project

- Project kicked off on November 11.
- #4 Softener was about 75% sand-blasted at the end of the quarter.
- Sand-blasting and recoating of #4 Softener are expected to be complete by the end of the first quarter 2016.
- #3 Softener sand-blasting and recoating are expected to be complete in July 2016.

Glendale Water Tower

- Concrete pedestal construction has been completed.
- Steel work is expected to begin in February 2016.
- Final completion is expected late summer 2016.

Staffing & Training

- All Water Treatment Facility vacancies have been filled. All mandatory training has been completed.
- Performance evaluations for all staff were completed during the quarter.