

**Appleton Water Treatment Plant
Operations Synopsis
July, August, and September 2021**

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 2021 (Q/Q) average production increased by over 2% consistent with seasonal demand variation. Compared with Q3 of 2020 (Y/Y), average water production also increased by over 2%.

Raw Water Quality. Average Q/Q lake turbidity nearly tripled consistent with seasonal change. Y/Y levels also increased but not outside the range expected.

Energy Efficiency. Applied electrical energy efficiency Q/Q declined by nearly 3% and Y/Y efficiency declined by 4% consistent with increased plant discharge pressure.

| WATER PLANT PARAMETERS | Previous (Q2 2021) | | | Current (Q3 2021) | | |
|---|--------------------|-------|-------|-------------------|--------|-----------|
| | April | May | June | July | August | September |
| Water Treated | | | | | | |
| Finished (million gallons), total | 253.6 | 291.3 | 317.1 | 302.1 | 310.0 | 283.6 |
| Finished (million gallons / day), average | 8.5 | 9.4 | 10.6 | 9.7 | 10.0 | 9.45 |
| Electrical Energy (WTF) | | | | | | |
| Consumption (Megawatt-hours) | 454.2 | 501.7 | 584.0 | 549.1 | 564.2 | 527.6 |
| MWH / million gallons produced | 1.79 | 1.72 | 1.84 | 1.82 | 1.82 | 1.86 |
| Lake Turbidity (NTU), average | 7.91 | 5.30 | 11.98 | 8.02 | 30.11 | 32.93 |
| Water System Microbial Quality | | | | | | |
| Total Coliform Samples | 81 | 82 | 82 | 81 | 81 | 81 |
| Compliance with Standard | 100% | 100% | 100% | 100% | 100% | 100% |
| Finished Water Quality | | | | | | |
| Water Temperature (Degrees F) | 48.4 | 60.0 | 72.9 | 75.7 | 76.9 | 69.3 |
| 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 | 8.8 | 8.8 | 8.7 | 8.7 | 8.6 | 8.7 |
| Total Chlorine (mg/L) | 1.95 | 1.97 | 1.87 | 1.82 | 1.83 | 1.90 |
| Fluoride (mg/L) | 0.74 | 0.66 | 0.68 | 0.67 | 0.68 | 0.69 |
| Orthophosphate (mg/L) | 0.64 | 0.70 | 0.71 | 0.72 | 0.75 | 0.75 |

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.
- In support of OCCT demonstration project, completed daily samples and orthophosphate analyses along with stagnant / flowing samples and related water quality analyses.
- Completed self-assessment as required in response to a single positive bacteriological sample result on September 8. Additional investigative sampling revealed no system issues. Positive result was likely due to inadvertent sample contamination by the sampler.

Safety

- Maintained WTF Safety programs by completing scheduled safety inspections, fire prevention inspections, and monthly meetings. No significant incidents to report.
- Applied appropriate COVID-19 countermeasures as directed by city policy.

Operations

- Operated two UV Disinfection reactors continuously during the quarter. Completed lamp replacements as scheduled.
- Completed construction phase for the Lake Station mechanical/electrical rehabilitation.
- Continued the testing phase for Optimized Corrosion Control Treatment (OCCT) pipe loop testing apparatus.
- Completed gradual Main Pressure Zone pressure increases as recommended by Water Distribution System Master Plan.
- Continued cleaning #4 Softener.

Staffing & Training

- Staffing levels reduced by long-term medical absence of one Water Plant Operator.
- Maintained normal staff schedules and work assignments.