In 2014, Butts County Water and Sewer Authority deployed an innovative remote monitoring technology to help resolve a water quality challenge at their largest industrial water customer at a remote point in the distribution system saving both capital and O&M costs.

Butts County, GA

Pressure & Water Quality Early Warning – Event Detection System

Portable Hydrant Monitoring of Turbidity, Chlorine Residual, pH, Temperature, and Pressure Transients

Background

The Butts County Water and Sewer Authority (BCWSA) is located 30 miles southeast of Atlanta and supplies water to the customers of Butts County including the cities of Jackson and Jenkensville. BCWSA works 24-hours a day to deliver high quality water to its customers and has received the Gold Award for compliance at both treatment plants by the Georgia Association of Water Professionals (GAWP).

BCWSA also works proactively to ensure water quality within the water distribution system meets or exceeds all regulatory requirements. BCWSA recently completed a Unidirectional Flushing (UDF) program as part of a proactive effort to ensure water quality for its customers. UDF is recognized as the industry standard approach of routinely flushing water mains at high scouring velocities to prevent biofilm & sediment build-up to improve overall water quality.

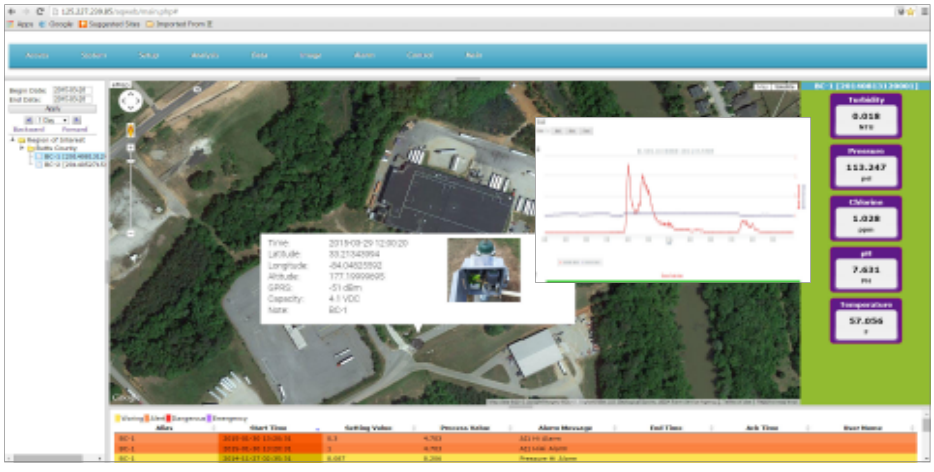
Challenge

In 2014, one of BCWSA's largest industrial customer observed higher than normal turbidity levels on several occasions. Having performed UDF on the large cast iron main that supplied the facility, BCWSA performed additional manual hydrant flushes and collected additional grab samples but did not see a correlation with high flows and increased turbidity. To determine where the turbidity event was originating (BCWSA or within the customer facility), BCWSA decided to install a remote water quality monitoring station near the facility. BCWSA investigated various multi-parameter water quality panels on the market with estimated total project costs exceeding $50,000 including facility and SCADA integration capital cost.

Solution

BCWSA contacted Smart Water Services to provide a solution that was more cost effective than traditional remote water quality monitoring stations. The SWIMM-Monitor (hydrant unit) was deployed with the following sensors and features: turbidity analyzer, pressure transient module (100 cycles per second), a low maintenance free chlorine residual analyzer (self-cleaning with no buffers, membranes or reagents), pH compensation, and temperature. Data is uploaded every 10-30 minutes over the CDMA cellular network (Sprint/Verizon) to the SWIMM-Connect website application or instantly during alarm conditions. Alarm thresholds were programmed into the application to alert BCWSA and their industrial customer via email and SMS text message so they can make process adjustments to avoid costly shutdowns and so BCWSA can address the turbidity event.

The portable nature of the SWIMM-Monitor has also allowed BCWSA to install it at a nearby pump station to study pressure transients and to continue to search for possible sources of the turbidity events. Overall the SWIMM-Monitor has saved BCWSA tens of thousands of dollars and provides a more powerful and flexible alternative to traditional water quality remote monitoring panels using traditional SCADA integration.



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