

Reliable Chloramination Reduces Maintenance and Improves Quality for Water Corporation

RESULTS

- Reduced system maintenance visits to remote locations from 16 down to 4 times
- Provided greater protection for the public
- Eliminated cost of consumable reagents – saving \$300 per system per month



APPLICATION

Chloramination water treatment for remote locations

CUSTOMER

A Victoria, Australia water corporation with many unmanned remote sites

CHALLENGE

A regional water corporation in southern Australia with many remote sites uses chloramination to assure residual water purification in its long pipe runs, which can be up to 30 kilometers. The water corporation previously used a system that required reagents, but discontinued its use several years ago. That particular reagent-based system added expenses of \$300 per system per month. In addition to the cost, the reagents had to be refrigerated and many of the remote sites did not have power sufficient for refrigeration. Maintenance personnel had to visit the sites with the refrigerated reagents on a regular basis, increasing maintenance time.

All of this was a small problem, though, when compared to the lack of consistency in measurement that the water corporation discovered with the system. The deviation was huge when compared to the measurements from grab samples. The region experiences large variations in water demand seasonally (from 10 L/second to 250 L/second at the major potable water storage facility), and the system failed to capture accurate measurements causing underdosing or overdosing of chemicals that resulted in water quality issues. Overdosing could cause an odor to be detected in the drinking water, while underdosing could lead to the growth of bacteria and other microorganisms that can pose a risk to water safety. As a result, personnel made multiple visits to the remote sites weekly to take grab samples to test water quality and assure safety for customers.

The Rosemount™ Ammonium/Monochloramine Monitoring System is reagent-free and saves not only the cost of consumables, but also the maintenance time and expense required for replenishment.

SOLUTION

The water corporation was using costly and time-consuming field-based equipment to compensate for not having a monochloramine system, so it worked quickly to remedy the problem and sought out new alternatives. The corporation selected the Rosemount reagent-free Ammonium/Monochloramine Monitoring System. The solution consisted of a free-chlorine panel with flow cell adapter, plus a Rosemount 499ACL chlorine sensor and a Rosemount S10046 ammonium sensor all controlled by the Rosemount 56 dual-channel transmitter on a pre-engineered water quality panel. The system was installed at three sites with a fourth to come.

RESULTS

The Rosemount system does not require reagents, which immediately eliminated the cost of the consumables – \$300 per system per month. It also removed the need for site trips to replenish refrigerated reagents. Most importantly, the system provided consistent and reliable measurements, with minimal deviation from grab samples, even under tremendous high-demand as well as low-demand conditions. Now the water corporation is confident in the accuracy of the system readings and has reduced remote site visits from 16 times per month to only four times per month, freeing up personnel for other important tasks.

The water corporation is extremely happy with the high accuracy and reliability of the system, which has assisted in full trihalomethane regulatory compliance, as well as lowering maintenance requirements and costs, and is considering additional units to aid in nitrification monitoring.



Chloramination monitoring at remote site

RESOURCES

ResourceHeader- Industry

emerson.com/en-us/industries/automation/water-wastewater

ResourceHeader - Product


emerson.com/en-us/catalog/rosemount/rosemount-water-quality-panels


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