



# Wastewater Plant Streamlines Process Monitoring

In its quest to gain greater remote accessibility and increase ease of use, a progressive sewerage authority elects to think outside the traditional SCADA box.

Cherokee County Water and Sewerage Authority (CCWSA) provides high-quality water and sewer service to more than 170,000 residents in Cherokee County, GA. The CCWSA was established as a subdivision of the government of the State of Georgia by an act of the Georgia Legislature in 1955. CCWSA presently maintains and operates two wastewater facilities: Rose Creek and Fitzgerald Creek. A third plant, Riverbend, is due online this year.

## Scope

At Fitzgerald Creek, plant personnel wanted to simplify operations and facilitate access to the control panel.

CCWSA was seeking increased control of their Sanitaire ICEAS advanced sequencing batch reactor basins directly from their offices for two primary reasons. First and foremost, they were interested in advanced features that allowed them to more easily make changes to their process compared to the original control package. Secondly, plant personnel were forced to navigate a lengthy and annoying walk between their offices and laboratory and the room where the control panel was mounted. So CCWSA contacted trusted Xylem distributor, The TDH Company, for assistance.

## Solution

CCWSA was already operating their own SCADA system. However, TDH offered an enticing alternative state-of-the-art solution: Sanitaire's new customizable OSCAR process performance optimizer control system. For this project, Sanitaire would replace the existing programmable logic controller (PLC) and human machine interface (HMI) hardware and software to enable remote connectivity.

The OSCAR control system is a customizable, integrated biological process control software and hardware system that is used with Xylem's treatment equipment to help plants meet their desired performance and operating budget.

The system provides:

- Dynamic adaptability to changing conditions to optimize contaminant removal for the best effluent quality possible.



CCWSA staff are now able to access and control the plant from their offices, just as if they were standing in front of the control panel.

**Customer:** Cherokee County Water and Sewerage Authority (CCWSA)

**Challenge:** Control Package Upgrade

**Solution:** OSCAR process performance optimizer

- Energy savings and reduced chemical consumption resulting from optimized equipment operation.
- A critical operator friendly intuitive user interface and remote accessibility bolstered by transparent real-time monitoring and quickly available electronic help features built into the HMI.

The OSCAR control system enhances standard features of an HMI to provide remote monitoring that keeps CCWSA workers efficient. This enhancement allows them to send information to a central facility where a secure viewer program allows users to adjust process control setpoints and monitor tank levels, oxygen levels, flow rates, alarms, and more.

## Results

By March 2017, CCWSA had already provided its own desktop computer for the office, which was quickly set up with the new secure viewer program within 30 minutes. Replacement of the previous HMI with the new industrial computer-which features a much larger screen- took only two hours total. The previous PLC processor was replaced with a newer model that included the OSCAR system software logic. Finally, a highly secure industrial web portal was installed, which enables rapid response from Xylem's support staff engineers. All critical features typically provided by SCADA were offered with this upgrade.

Following installation, the main goal-remote control of the ICEAS basins-was quickly met. The plant's HMI was personalized to create a friendly graphical user interface (GUI), which includes a wealth of features, all accessible directly in the GUI and available remotely:

- Documentation and manuals for simple troubleshooting and optimization.
- Setpoint restore allows an operator to save up to four groups of setpoints that can be reloaded at any time. This was a particularly appealing feature to CCWSA, which is trying to optimize their ICEAS process by adjusting current setpoints. Because setpoints can now be saved, operators are more comfortable making these changes.
- Troubleshooting guides available for each alarm directly in the HMI to ensure alarms can be solved quickly and easily.
- Trending capability to simplify process overview and troubleshooting.
- Maintenance health dashboards that track core equipment and ensure timely maintenance.

OSCAR has quickly become a critical partner in optimization of the CCWSA plant. Simply put, plant personnel are now able to monitor and adjust plant operation remotely when not at the plant through the use of a computer, tablet, or mobile phone. In addition, operators have begun testing experimental process methods to increase flexibility, confident that with their new system no issues will occur.

The CCWSA is so satisfied with their decision, that the new Riverbend Treatment Facility due online this year will also feature the OSCAR control system.



Former HMI hardware and software mounted in the existing control panel



Updated HMI hardware and software includes larger screen and more intuitive graphics

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