

Process Automation Upgrade of the Gilder Creek WWTP

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FORMAT

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ABSTRACT

Renewable Water Resources of Greenville, South Carolina (ReWa) has completed a major controls upgrade at its Gilder Creek Wastewater Treatment Plant. This upgrade served not only to modernize the Gilder Creek facility and relieve growing operation and maintenance difficulties, but also as a model for the similar upgrade of ReWa's other facilities, and the ultimate networking of all facilities for supervisory control and data acquisition (SCADA).

The project consisted of retrofitting and replacing local control panels; replacing a PC-based virtual logic controller (VLC) system and obsolete local input/output (I/O) nodes with a distributed programmable logic controller (PLC) based system; and upgrading to a modern, scalable software solution for SCADA and operator interface. Through the use of existing plant network infrastructure, thoughtful selection of components and testing methods, and careful construction sequencing, impact on facility operation was minimized. ReWa staff participation in the construction process, as well as a thorough curriculum of training, will provide for optimum operations at Gilder Creek and at other ReWa facilities in the future. The project was completed in January 2014.

The presentation will explore the scope and the technical details of the upgrade design, the actual implementation of the design, and the challenges encountered in construction planning and execution.

ABOUT THE AUTHORS

Scott Whitmore, PE is an Automation Engineer working out of CDM Smith's Southeast Regional Design Center in Maitland, Florida. He graduated as Bachelor of Science in Mechanical Engineering from the University of Central Florida, and has 17 years of experience in the design and construction of instrumentation and control systems for water and wastewater treatment facilities. Scott has been an ISA member since 1994.

Sothorn Khel, PE is a Regional Manager with MR Systems in Norcross, Georgia. Sothorn earned a Bachelor of Science in Electrical Engineering at the Georgia Institute of Technology. He has 7 years of experience in

the design, installation, and integration of instrumentation and control systems, supervisory control and data acquisition (SCADA) systems, and remote telemetry systems for municipal water and wastewater facilities. His professional affiliations include membership in the Georgia Society of Professional Engineers, National Society of Professional Engineers, and he is also a member of Georgia Southern University's Industrial Advisory Board for the School of Electrical Engineering.