ABSTRACT for the 2012 ISA WWAC Symposium

Modernization and Improved Operations: Process Automation Upgrade of the Gilder Creek WWTP

Scott Whitmore[1]* and Blake Visin[2]

[1]CDM Smith, 2301 Maitland Center Parkway, Suite 300, Maitland, Florida, USA, 32751

(*correspondence: whitmorews@cdmsmith.com)

[2]Renewable Water Resources (ReWa), 561 Mauldin Road, Greenville, South Carolina, USA, 29607

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ABSTRACT

Renewable Water Resources of Greenville, South Carolina (ReWa) is in the process of a major controls upgrade at its Gilder Creek Wastewater Treatment Plant. This upgrade will serve 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, currently in the design phase, consists 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 new scalable software solution for SCADA and operator interface. By utilizing existing plant network infrastructure and carefully sequencing construction, impact on facility operation will be minimized. The development of selection criteria for control system integrator candidates and a curriculum of ReWa personnel training will provide for optimum operations at Gilder Creek and at other ReWa facilities in the future. The project is expected to be executed in 2012.

This paper will explore the reasons for the upgrade, the broad scope and the technical details of the upgrade path, and the challenges encountered in selection of hardware and software, integrator qualification, and construction planning.

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 15 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.

Blake Visin, MPA, is the Information Systems Director at Renewable Water Resources (ReWa). As the Director since 2008, Mr. Visin is charged with directing three departments: Information Technology (IT), Instrumentation and Electronics (I&E), and Geographical Information Systems (GIS). He graduated with a degree in Production Operations Management from the University of Wisconsin–Whitewater and has recently completed his Masters in Public Administration from Clemson University.