Townsend Filter Plant SCADA Replacement –Standardization Matters!

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FORMAT

6-12 page paper plus 30-minute presentation

KEYWORDS

SCADA, PLC, System Integration, Industry Standards, Water Filter Plant, Collaboration, Alarm Management, Optimization

ABSTRACT

The City of Greensboro's Water Supply Division uses supervisory control and data acquisition (SCADA) to monitor and control the City's 30 million gallon per day (mgd) Townsend Filter Plant (Plant). After several years of continues process treatment improvements and filter plant modifications, several different changes were made to the Plant SCADA application. These changes were made by several different contractors, each of which applied slightly different methodologies and approaches for programmable logic controller (PLC) programming and SCADA integration. As each capital project was completed at the Plant, software upgrades were implemented and the existing PLC programming and SCADA integration was carried over to the newer software versions.

As more projects were completed and new PLC programming and integration was added to the existing SCADA system, City staff observed that the existing SCADA application became more and more unstable and system crashes became more prevalent with each new project.

To address the instability issues, the City decided to replace the existing SCADA with the vision to improve the existing system that would follow industry standards and best practices for process monitoring and control. The City and Brown and Caldwell used a collaborative approach to provide a SCADA product that would satisfy needs for plant operations, maintenance, management and engineering tasks.

This paper will discuss development process and importance for SCADA standardization including alarm management, screens and templates development, use of trending tools and training approach. The presentation will show how other systems are being connected to the SCADA application and how the data are being shared. The SCADA now provides a strong foundation for other systems that rely on it like reporting services, CMMS databases, etc.

Lessons learned from the standards development and implementation of a new SCADA system will help illustrate how to engage staff and ensure an optimized system that is sustainable into the future.

ABOUT THE AUTHOR

Pavol Segedy *is a South East SCADA Automation Group Leader at Brown and Caldwell. Typical projects include project management, design, specification, SCADA development, on-site startup, construction support and inspections. He also provides consulting services, support for completed projects as well as troubleshooting services to resolve issues in established plants. He is a member of ISA, AWWA and IEEE, and serves as a treasurer at ISA Tarheel Capital Section, membership chair at ISA Water Wastewater Industry Division and program committee member for 2014 ISA Water/Wastewater and Automatic Controls Symposium.*