

Benefits of a SCADA Master Plan Framework for Utilities

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ABSTRACT

Small, medium, and large water/wastewater utilities undergo continuous automation improvements as part of multiple projects by multiple consultants and contractors, each with varying levels of complexities. Individuals and entities managing and performing this work also have varying levels of automation knowledge and approach. In addition to the above, the automation scope for a water/wastewater project is typically restricted only to a certain facility and its integration with the overall SCADA system. The multitude of the above upgrades typically results in inconsistencies for several automation-related aspects within a Utility. The Utility's Management, Engineering, IT, Operations, and Maintenance staff would find it difficult to manage, operate, and maintain their ever-changing SCADA control systems.

This paper talks about a step-by-step SCADA Master Plan Framework, which is a simple solution to the above problem. The Polk County Utilities (PCU) Division in Florida identified a need for SCADA master planning to address many similar concerns identified in the above problem statement. A systematic approach for the SCADA Master Planning was developed for PCU by carefully selecting a team of Management, Instrumentation, and Automation Experts. Instead of identifying small individual automation upgrades, a big picture Framework for the Utility's SCADA system was planned. This project is currently assisting PCU to not only implement the infrastructure upgrades that are identified and prioritized, but to also come up with a revised Utility SCADA standards document for PCU's future design projects.

ABOUT THE AUTHORS



Manoj Yegnaraman, P.E. has over 10 years of experience in Instrumentation and Control System design, specifically for the Water and Wastewater Treatment Industry. He is experienced in developing SCADA Master Plans for large Utilities. He also performs I&C project management and design for Water and Wastewater Projects. Manoj has a B.E. in Instrumentation and Control Engineering from University of Madras, India, and an M.S. in Electrical Engineering from University of Alabama in Huntsville. Manoj is a

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Norman Anderson, P.E. has over 10 years experience in the design and commissioning of Process Control Systems for the Water Sector. Norman has provided secure and reliable PLC, SCADA, and Network hardware and software architecture designs and provided control system automation solutions for a range of facilities. Norman has an M.S. in EE from Iowa State University and an M.S. in Physics from the University of Florida.



Jeff Martin has over 25 years of experience in planning, design, project management, strategic planning, and business management in the areas of computer systems, instrumentation, process automation for water, wastewater, industrial, aquaculture, mining and military systems. This includes 10 years of business management and organizational development consulting experience. Jeff is known for his broad industry expertise, client-focused project management, and dedication to quality solutions for operations staff.