

Design Assist – Not Just for Construction Projects

Using Alternative Delivery for SCADA System Replacements

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ABSTRACT

In typical SCADA projects, the Engineer designs the SCADA system including hardware and software requirements and then issues a Request for Quotation (RFQ) for a firm to procure the hardware and software and then implement the system as specified. With the complex nature of today's SCADA systems and security requirements, it is becoming infeasible for the design engineer to specify every detail that must be addressed in order to properly implement a complex SCADA system. This approach can leave the Owner stuck with increasing costs and delays while the Engineer and the successful firm submit multitudes of Request for Information (RFI), playing "paperwork ping-pong", as the firm tries to determine the intended final design details. A worst case scenario can occur, where the implementing firm blindly configures the system exactly as specified, potentially leaving huge holes in the cyber-security, or functionality since they precisely follow their own interpretation of the specification.

Ultimately, the success of the project is dependent on teamwork between the Owner, Engineer, and Implementer. If all of the members embrace this paradigm shift from traditional contracting, then the project can be extremely successful. With the Implementer, Owner and the Engineer sitting at the same table to complete the design, ideas can be vetted and a comprehensive design can be finalized for implementation. Since all interested entities are involved in every step of the process, the Engineer and Owner know they have a solid system and the Implementer knows they can build it. This collaborative effort ensures that everyone involved understands the foundation and the decisions made to create the architecture.

ABOUT THE AUTHORS



Charles Aycock has been with the City of Roseville for over 20 years. During this time he has managed numerous capital, development and technology projects for the City's water and wastewater utilities. Charles is a member of AWWA, WEF, ISA, and NFPA, and is a WEF Automation and Information Technology Committee. Contact: caycock@roseville.ca.us.



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Dave Kubel, PE has over 25 years in the management, design and implementation of plant automation and SCADA projects focused on water and wastewater systems. He has authored several publications, including the "Process Controls and Instrumentation" chapters for the 4th and 5th editions of the AWWA/ASCE Water Treatment Plant Design book. Contact: dkubel@tescocontrols.com.