

## Managing Successful SCADA Retrofit Projects

P. Hunter Vegas<sup>1\*</sup>

<sup>1</sup>Avid Solutions, Inc., 2875 Ridgewood Park Drive, Winston-Salem, North Carolina, 27107, USA,  
(\*correspondence: hvegas@avidsolutionsinc.com, telephone: 336.970.4033)

### FORMAT

30 minute presentation

### KEYWORDS

Automation, SCADA, Project Management, Risk Management, Case Study

### ABSTRACT

SCADA (supervisory control and data acquisition) and Automation are challenging in their own right, but managing a SCADA retrofit project in the municipal water/wastewater sector is particularly difficult. The combination of tight budgets, very short outages, and competing and contradictory requirements from Upper Management, Operations, and Maintenance will challenge even the most experienced Project Engineering Team.

This presentation identifies the myriad of problems posed by automation retrofit projects, and provides numerous suggestions to minimize risk and insure that the project comes in successfully, on time, and on budget. Areas for discussion include:

- Identifying the stake holders and understanding their needs
- Evaluating your available automation control system options and making an informed control system choice
- Techniques for handling wiring cutover to minimize outage time and reduce risk
- Methods to handle different I/O types – including digital busses and communication networks.
- Red Flags to look for when evaluating the existing system.
- Methods for documenting existing logic, and converting it to the new system
- Quality Control methods to insure the programming is error free and ready for start up
- Operator training methods to insure start up is as smooth as possible
- Possible process improvement options that can dramatically improve operations
- Cutover strategies

When executed correctly an automation retrofit project can go smoothly and pay for itself in weeks or months. If poorly planned, a project can generate interminable start up delays, lingering quality problems, and get you fired. This presentation is designed to help you make your project a success and keep your employment intact.

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**About the Author:**

**Hunter Vegas, PE** was born in Bay St. Louis, Mississippi, and received his BSEE degree from Tulane University in 1986. Upon graduating, he joined Babcock and Wilcox, Naval Nuclear Fuel Division in Lynchburg, Virginia, where his primary job responsibilities included robotic design and construction and advanced computer control. In 1987, he began working for American Cyanamid (now Cytec Industries) as an instrument engineer. In the ensuing 12 years his job titles included Instrument Engineer, Production Engineer, Instrumentation Group Leader, Principal Automation Engineer, and Unit Production Manager. In 1999, he joined a specially-formed group to develop next generation manufacturing equipment for a division of Bristol-Myers Squibb. In 2001, he joined Avid Solutions, Inc. as an engineering manager and lead project engineer, where he works today. He lives in Kernersville, North Carolina.

Hunter holds Louisiana and North Carolina Professional Engineering licenses in Electrical and Controls System Engineering, a North Carolina Unlimited Electrical Contractor's License, and an MBA from Wake Forest University. He has executed nearly 2000 instrumentation and control projects over his career, with budgets ranging from a few thousand to millions of dollars. He is proficient in field instrumentation sizing and selection, safety interlock design, electrical design, advanced control strategy, and numerous control system hardware and software platforms. He has also recently authored a book, "101 Tips to a Successful Automation Career".