ABSTRACT for the 2015 ISA WWAC Symposium

Making the Case for SCADA Master Planning

Raluca F. Constantinescu[1]*

[1]AquaR, Inc., 111 South De Lacey Avenue, Pasadena, CA 91105
(*Email: Raluca@AquaRdesign.com and Phone: 530-945-2680)

SUBMISSION TYPE

30 minute presentation

KEYWORDS

Plant Upgrade, SCADA, Program Management, Master Plan, Condition Assessment, Cyber security

ABSTRACT

This presentation will provide information on the development and benefits of a SCADA master plan based on "hands-on" experience at several water and wastewater utilities on the West Coast of the United States. The framework involves strategic planning, long-range SCADA goals and implementation concepts. The presentation will emphasize relationships between SCADA master planning, capital planning and program management. The presentation will also provide examples of key planning issues, including: organization mission, growth, SCADA standards and policies. These key issues are linked logically in six steps:

1. Define system needs
2. Assess system condition
3. Develop concepts
4. Plan for change
5. Estimate costs
6. Document the master plan.

The identification and engagement of stakeholders will lead to the development of a "wish list" of system wants, followed by determining a "most needed" list, for which the SCADA master plan team will prepare costs, schedules and the implementation sequence with priorities.

The presentation will conclude with SCADA upgrade examples, featuring a collection of projects comprising the SCADA master plan and SCADA upgrade program with the purpose of optimizing the reliability of the overall SCADA system. The SCADA upgrade program includes:

1. SCADA design and programming standards
2. Preliminary and final designs
3. Pilot projects
4. SCADA hardware and software upgrades
5. SCADA communications network upgrades
6. SCADA cyber security approaches

7. Integration and business use of SCADA historical data
8. SCADA data validation
9. Electronic system log
10. Disaster recovery/business continuity
11. Alarm remediation
12. Lessons learned
13. SCADA asset management framework

ABOUT THE AUTHOR

Ms. Raluca Constantinescu *is an experienced project manager and lead engineer in instrumentation, control and electrical disciplines who has led more than 100 fast-track design and system integration projects as an employee of reputable consulting engineering firms such as CH2M HILL and Parsons. An advocate of high-quality and efficient design, she blends hands-on plant experience with a solid theoretical background. She offers concrete know-how in controls and SCADA system design and master planning for water and wastewater industries. Raluca served as the Electrical/Instrumentation Session Chair for the California Water and Environment Association's Northern Training Conference in 2007 and 2009 and is a co-author of Automation of Water Resource Recovery Facilities, 4th Edition, having authored Chapter 14 – Process Controllers, WEF Manual of Practice #21. Contact: Raluca@AquaRdesign.com.*