Renewable Water Resources: Improving efficiency and averting problems by integrating AVEVA SCADA system with remote alarm notification

Forward-Thinking Utility Knows The Value of Advanced Technology:
AVEVA SCADA system integrated with remote alarm notification software improves efficiency and averts problems.

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Greenville
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795
Square miles

530,000
Population
9 WRRFs

450 MILES OF PIPE

87 PUMP STATIONS

43 MILLION GALLONS
The history

Two-decade partnership between AVEVA and Renewable Water Resources (ReWa)

PC-Based Plant Controllers
- First PLCs introduced
- Early versions of Wonderware deployed

1990 – 2000

Wonderware chosen for SCADA Technology

2002

Major Milestones:
- First implementation of AVEVA™ System Platform, formerly Wonderware
- First Engagement with MR Systems
- First Use of 3D Graphics in Wonderware
- WIN-911 Enters the Scene

2005

Leaner workforce more dependent on technology

2012

Expansion of AVEVA 3D Graphics
Mobile SCADA Alarming
Support Leaner Workforce

2018

Completed Mobile SCADA Rollout

2021

2022

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Renewable Water Resources improves alarm visibility and improves response time by 50%

Challenge
- Reduce the amount of time required for Renewable Water Resources (ReWa) Operations staff to manage alarms due to a leaner workforce
- Finding a SCADA system that could grow seamlessly with the rapid growth of the Greenville, South Carolina area
- Utilizing the latest technology while maintaining ReWa's security standards

Solution
- Standardized on AVEVA™ System Platform for consistent operator experience
- Deployed redundant AVEVA SCADA coupled with a Mobile Alarm Notification Software

Results
- Reduced time to manage alarms from 10+ seconds to less than 2 seconds
  - Saves nearly 200 working hours per year!!
- Improved Operations response time by an average of 80%
- Increase alarm visibility across the Operations team
Challenges

Leaner workforce

More efficiently manage SCADA alarms to more quickly notify operators

Work with a SCADA system that could grow with the utility

High security protocols
Solutions Utilized

AVEVA System Platform – AVEVA™ Historian – WIN-911 Mobile App
The Project/Process

- Tech-savvy operator identified the mobile value (Initiation)
- Built secure architecture
- Piloted at a single WRRF (Iron out the kinks)
- Full deploy mode
- Nine months from start to finish
- Resource draw – 450 hours total
  - Only 40-hours for the ops team, 1-hour per person!!
"WIN-911 mobile has been an excellent addition to our operations process. The immediate notification when an alarm is activated has helped our team respond quickly and efficiently. The chat option within the app is a nice feature to have as well. It gives us the ability to communicate/inform others of issues or fixes during an alarm.
- ReWa WRRF Supervisor

"Who likes phone calls these days? Having the ability to access alarm details quickly, understand what is in alarm and acknowledge alarms without having to log into a Plant Control System is priceless."
- ReWa WRRF Operator

Benefits

- Improve operator usability
- Improve alarm response time by 80%
- Increase visibility to every alarm, day and night
Maintaining Compliance

AVEVA System Platform and WIN-911 Monitoring Software:

• Provided notice of a WRRF power outage outside normal working hours enabling personnel to quickly address the situation to avoid a Sanitary Sewer Overflow (SSO)
• Prevents SSO from pump failure during heavy rains
• Ensures mechanical bar screen rakes don’t become overloaded with rags, paper, plastics and metals, ensuring downstream equipment isn’t damaged or clogged, and proper Influent flows to prevent an SSO
• Avoids system build-up and release of Effluent Solids resulting in an SSO
Conclusion & Lessons Learned

- Application Architecture/Security
- Staying current on technologies
- Multiple alarming channels
- Standardization
Questions?
Please wait for the microphone.
State your name and company.

Thank you!

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Torsten Byrnes
Tony Jones
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