



CASE STUDY

CITY OF DOUGLAS WATER SERVICES DIVISION

Modernizing Municipal Water with an Open, Secure Automation Architecture

The city of Douglas Water Services Division in Arizona embarked on a strategic modernization of its Supervisory Control and Data Acquisition (SCADA) system to improve operational visibility, system reliability, cybersecurity, and long-term flexibility. Rather than reinvesting in another closed, proprietary platform, the city made a proactive decision to move toward an open automation architecture built on Schneider Electric and AVEVA technologies.

To reduce execution risk and ensure long-term success, the city partnered with Enterprise Automation (EA), a highly certified systems integrator with deep expertise in Schneider and AVEVA platforms, and Graybar, a trusted automation distributor known for its technical talent, consultative approach, and nationwide supply chain presence.

The result is a modern SCADA foundation designed to support real-time monitoring, operational efficiency, improved water quality management, and long-term resilience, without forcing disruptive rip-and-replace transitions.

THE CHALLENGE

The City of Douglas was operating with a SCADA system that was more than two decades old and had seen minimal maintenance over its lifecycle. Over time, the system had become increasingly difficult to support.

Key challenges included limited real-time visibility across wells, tanks, pumps and chlorination systems; heavy reliance on manual intervention and operator experience; aging hardware and software (including unsupported operating systems); increasing cybersecurity exposure for critical infrastructure; long equipment lifecycles combined with growing vendor lock-in; replacement parts that were difficult or impossible to source; and little tolerance for downtime during system upgrades.

In practical terms, system failures could mean extended outages while teams searched for obsolete components, in some cases relying on secondary markets for parts critical to the city's water supply.

At the same time, the city faced external pressures, including federal funding requirements and deadlines, evolving regulatory expectations and the need to improve reporting accuracy and operational efficiency.

A PROACTIVE DECISION POINT

Rather than simply replacing the existing system with a newer version of the same closed architecture, the city chose to step back and evaluate long-term options.

The city assessed the pros and cons of different automation approaches, focusing on lifecycle risk, operational continuity, and flexibility. This approach required more upfront effort, but it avoided what many municipalities experience: chasing the same problem forward with newer hardware.

After evaluating available options, the City of Douglas, working with EA and Graybar, selected an open SCADA architecture based on Schneider Electric PLCs and AVEVA Core SCADA software.

This decision aligned with the city's long-term goals by delivering interoperability with reduced downtime risk, increased hardware and software flexibility, improved cybersecurity, and cleaner data and automated reporting.

The project includes the design, installation, integration, and commissioning of a comprehensive SCADA system supporting the city's potable water infrastructure. The system is currently midway through implementation, with funding and execution aligned to meet Water Infrastructure Finance Authority (WIFA) and U.S. Environmental Protection Agency timelines expiring in 2026.

THE POWER OF THE RIGHT TEAM

EA: Systems Integration Leadership

EA, now part of Tetra Tech, served as the lead systems integrator. Known for holding some of the highest levels of certification across Schneider Electric hardware and AVEVA software, EA brought deep technical credibility to the project.

EA's role extended beyond implementation. Acting as a collaborative advisor, EA helped city stakeholders evaluate options, understand long-term implications, and make informed decisions at each stage.

EA led:

- SCADA system architecture and design
- PLC programming and AVEVA integration
- Factory acceptance testing and field operational testing
- Commissioning and calibration
- Operator training and system documentation
- 24/7 support planning for a system that must operate continuously

This consultative, transparent approach ensured the city retained ownership of decisions while benefiting from expert guidance.

Graybar: Trusted Advisor and Supplier



When it comes to partnership, trusted experience matters. Graybar supported the project as a strategic business partner, led by Dayv Marlow, sales engineer. Dayv's technical specialization, including his Schneider certifications, and hands-on approach with understanding and developing the plans for the project were a critical factor in the city's decision to adopt approve this project."

Joel Camacho, IT & Innovation Manager at City of Douglas

The city and EA benefited from Graybar's:

- Consultative support to evaluate open system architectures
- Product-agnostic knowledge
- Local inventory and national availability
- Coordination across controls, networking, power, and infrastructure

Graybar's ability to align product availability with project timelines helped minimize delays and reduce overall risk, a critical factor for federally funded municipal projects.

RESULTS AND BENEFITS

While the project is still in progress, the City of Douglas is already positioned to realize significant long-term benefits:

- Improved system reliability and uptime
- Reduced operational and maintenance costs
- Standardization across hardware and training, lowering future expenses
- Automated reporting, reducing manual errors
- Cleaner, trusted data to support better operational decisions
- A scalable platform for future analytics, machine learning, and optimization

The City of Douglas didn't use a traditional path to upgrading a SCADA System - hiring a full-service design and engineering firm to prepare design and bid documentation for procurement and implementation. Instead, they chose and trusted Graybar and EA to provide experience, consultative design, and implementation as part of the project. This alone saved hundreds of thousands of dollars.

Modernization is expected to generate millions of dollars in savings over the system's lifecycle by reducing rework, minimizing downtime, optimizing chemical usage, and enabling planned maintenance rather than reactive repairs.

In addition, cost savings are enabling the city to invest in complementary infrastructure, such as communications assets, delivering benefits beyond the water division and improving overall quality of life for residents.

A MODEL FOR MUNICIPAL MODERNIZATION

The City of Douglas project demonstrates that municipalities do not have to choose between innovation and stability. With the right business partners and a disciplined approach, open systems can be implemented responsibly, incrementally, and with confidence. As municipalities across the country evaluate SCADA modernization, the City of Douglas stands as an example of what proactive planning can achieve.

Open automation is not about technology for its own sake. It's about reducing risk, increasing resilience, and building infrastructure that communities can depend on today and into the future.