City of Shreveport, Louisiana

Efficiency rises and costs fall with city's leading-edge water treatment facilities

Shreveport's historic building houses state-of-the-art water treatment technology

The City of Shreveport, Louisiana's third largest city, has been a leader in managing water treatment facilities for over 100 years.

When the Thomas L. Amiss Water Treatment Plant, built in 1929, needed updating, the City of Shreveport decided to preserve the beautiful, historic building while providing the control center with the latest technologies. Today, the T.L. Amiss Plant provides 90 million gallons of safe drinking water to over 70,000 Shreveport residents.

Its control solution is used to monitor the level indicators, flow meters and historical trends of a distribution system consisting of 1,049 miles of water mains, 11,400 water main valves and 6100 fire hydrants.

The Challenge

The City of Shreveport needed to upgrade its Supervisory Control & Data Acquisition (SCADA) system used to monitor and control the collection, treatment and distribution of water and wastewater. Shreveport was faced with difficulties common to the water/wastewater treatment industry, including the use of multiple plant and RTU controllers, many of which were nonfunctional or obsolete. In addition, the existing RTUs were supplied by a defunct company, which made obtaining upgrades or support impossible.

The different SCADA platforms at each plant created maintenance difficulties, as well. Each plant was isolated, with no ability to exchange data. The various communication protocols and hardware configurations created intermittent connectivity problems and system lockups within the plants. Long communication delays and slow network response made it difficult for operators to detect equipment failures in a timely fashion.

The Solution

Valued integration partner, Edison Automation, in partnership with local professional services experts, was initially awarded a contract with the city to install a CitectSCADA system to monitor and control the

The Challenge

Replace an obsolete SCADA system with disparate remote terminal units (RTU) and stand-alone HMI nodes, with an integrated CitectSCADA system to access and monitor all control locations and RTUs.

The Solution

A CitectSCADA solution was successfully implemented and subsequently expanded to the other plants to create a single system that monitors the city's entire water and wastewater treatment facilities.

The Benefits

Authorized users can now access all control plant and RTU data from any screen. The integrated system simplified and enhanced site monitoring; enabled the city to reduce training and overtime costs; and easily integrated cost-effective security devices.

By standardizing on an open architecture CitectSCADA system that enables all operations to work as a single system, the City of Shreveport is upholding its legacy as an innovative leader in municipal water treatment and protecting its IT investment long into the future.

New control room at the T.L. Amiss treatment plant

water treatment process, the water distribution system and the wastewater collection system.

The long-range goal was to establish consistent technical guidelines and specifications by standardizing on a CitectSCADA platform so the plants and remote sites could function as a single, consolidated system. Built on CitectSCADA's open architecture, the system, would also easily permit future improvements in control and data management.

As a result of the project's success, the T.L. Amiss Water Treatment Plant became a prototype for defining the control system infrastructure standards for future upgrades at other plants. The CitectSCADA system was then expanded to both the Lucas Wastewater Plant and North Regional Wastewater Plant to complete the city-wide system.

Benefits

The CitectSCADA solution easily and inexpensively eliminated one of the largest issues facing the City of Shreveport - namely the high number of disparate systems. It also addressed the issue of reliability as any system failure would result in inaccurate information and large overtime costs. CitectSCADA's redundant servers act as immediate back ups in case of a failure.

Prior to implementing the CitectSCADA system, users had to either visit each site or access remote sites one at a time over the network. Now, users can monitor multiple sites immediately from anywhere in the system, reducing travel time and costs and improving efficiency.

By standardizing all operations on a CitectSCADA platform, users now also enjoy a consistent look and feel. With the same screens used at various locations, training costs and learning curves have been greatly reduced. Additionally, the new web-based reporting system facilitates regulatory reporting by allowing reports to be viewed in a web browser independent of the SCADA systems.

Security is also a top priority at Shreveport. Monitoring and controlling remote equipment and resources can be an expensive and challenging undertaking. Access control and intrusion detection were simplified by coordinating security devices with the CitectSCADA system. Inexpensive IP-based web cameras at all sites that provide video frames of remote locations are easily linked to the CitectSCADA system. Their photos are rapidly transmitted across the network, allowing operators to monitor all sites from a single location.

This centralized visibility reduces security costs and tightens control of the perimeter and remote sites.

All in all, the City of Shreveport is now running a much more innovative and integrated control system across its multiple sites. As a result, efficiencies have increased and costs continue to be minimized.

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