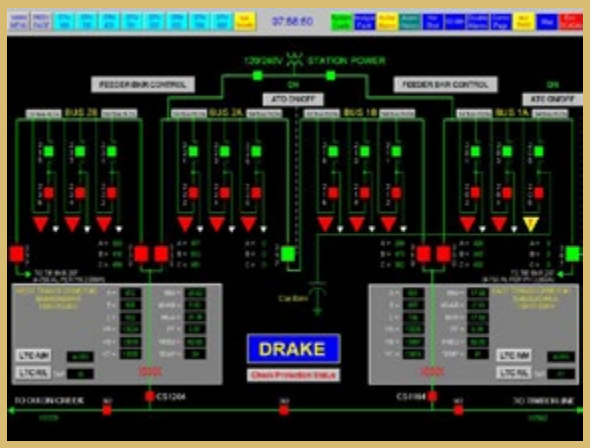
A Fort Collins Utilities Monitored Substation

Customer Success Story

Fort Collins Utilities
Fort Collins, Colorado



Substation Monitoring and Control

About Fort Collins Utilities

Fort Collins, Colorado, located 60 miles north of Denver, is a town of approximately 130,000 residents and is home to Colorado State University. Money magazine named the town the "Best Place to Live" in 2006. The town's electric utility currently serves over 65,000 customers over a 22 square mile service territory. Its five substations have a combined transformer capacity of 600 MVA.

ICONICS Software Deployed

Fort Collins Utilities - Light & Power selected ICONICS GENESIS32™ OPC Web-enabled HMI/SCADA suite during recent system upgrades.

Project Summary

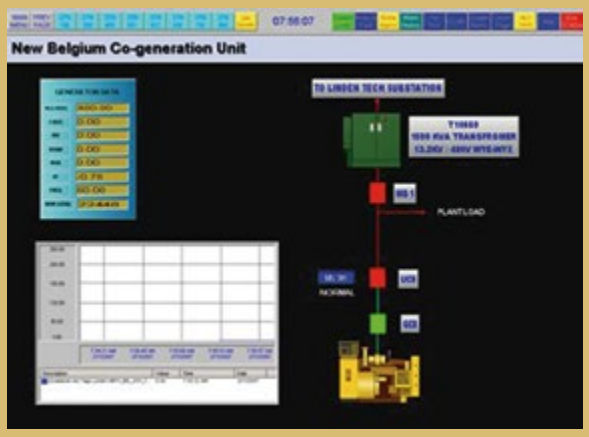
Fort Collins Light & Power had a number of specific goals in mind before upgrading its SCADA system. The SCADA software itself needed to support five substations and 2,600 data and control points using OPC communications standards. The HMI would need to interface with multiple applications including system power quality and security, to name a few. Fort Collins also planned to establish a dedicated GIG Ethernet fiber loop to each of its substations, as well as to the utility's Drake Water Reclamation Facility, to provide a high-speed secure data highway for SCADA and future applications such as distribution automation.

The utility also planned upgrades to all substation remote terminal units (RTUs) and power quality meters (involving both hardware and software). Ethernet communications were to be established to all substation devices via TCP/IP, thereby eliminating outdated modem technology, and all SCADA and fiber equipment were to be connected to uninterruptible power supplies. Once the new system was up in running, it would be run in parallel with the old system during 1000 hour acceptance testing. The new system would also share some aspects of the older one so as to minimize in-house training time and costs.

Fort Collins Light & Power required software that they would be able to test before making any purchase decision and that wouldn't require any proprietary custom software drivers or protocols. They had decided to move to the OPC standard to provide for an easily scalable, proven client/server architecture that can interface to a wide range of intelligent electronic devices, RTUs, PLCs, cameras, etc. An additional requirement was ODBC con-

nectivity to the company's multiple databases, including Microsoft Access, SQL Server and Oracle. The utility's selected HMI component would be counted on to support full graphical automation with instant Edit/Runtime functionality and robust graphical editing, alarm management, trending and data historian abilities.

Currently, Fort Collins Light & Power utilizes ICONICS' GENESIS32 HMI/SCADA suite to enforce a manual load shedding requirement, allowing the utility to select feeders rather than the G&T utility tripping substation transformers. The new system is also used in proactive power quality event/system disturbance notification via paging or other system alarms. Substation data, controls, security alarms, reference materials and cameras were all incorporated into the single HMI/SCADA solution.



Co-Generation Monitoring at Fort Collins Utilities

Power Quality Event Reporting

Benefits of the System

Fort Collins Light & Power saw multiple advantages in upgrading to ICONICS' OPC-based GENESIS32 HMI/SCADA suite, including:

- An HMI solution that can handle multiple uses
- Standard industry OPC architecture, which allows for vendor independent alarm servers, trending, data historians and HMIs
- Flexibility to communicate via multiple protocols using OPC servers
- Capability to easily add functionality
- Scalability from small to large point counts

Conclusion

The total cost over time of Fort Collins Light & Power's most recent SCADA system upgrade, which includes ICONICS industrial automation software as well as related hardware, training and development, is comparatively low compared to systems installed in 1979 (later upgraded in 1986) and 1998. ICONICS solutions have proven to be a powerful asset for this utility customer.

Product Highlight

GENESIS32 is available as a suite (collectively known as GENESIS32), or individual components (known as the ICONICS Open Series).

ICO-CSS-047