Ignition SCADA helps modernize a Rural Water Plant:

Ignition Premier Integrator

Project Scope:

- Unlimited tags
- 60 SCADA screens
- 500 alarms
- [8] KPI Monitors, [6] Workstations, and Unlimited Clients
- Automation Direct controllers, distributed IO, and Ethernet radios via OPC-UA
- Ignition 8 Standard Architecture and Ignition 8 Perspective
- MySQL
- Unlimited rows historical data & reporting

Project Overview:

Wilkesboro is located in the foothills of the picturesque Blue Ridge Mountains of North Carolina. The Town of Wilkesboro contracted Piedmont Automation to build a system that would enable their personnel to monitor & control local plant operations, as well as their numerous remote sites.

Problem:

Wilkesboro's Water Treatment Plant & Wastewater Treatment Plant were controlled with hardwired discrete controls that required operators to manually monitor and track critical processes. Remote elevated tanks and pump stations were monitored over telephone tone-telemetry lines that were susceptible to interruptions. Real-time process monitoring consisted of local digital indicators and historical data was recorded on circular paper chart recorders. This lack of visualization and data logging failed to provide the most basic tools to monitor, control, and report this most vital consumed product – water & wastewater treatment.

Solution:

Working with the town's tight budget, Piedmont Automation was able to develop a cost-effective solution utilizing Inductive Automation products to develop a system that modernized both of Wilkesboro's treatment plants.

The foundation for control consisted of Automation Direct PLCs, Ethernet radios for remote telemetry, and a variety of instrumentation for critical process measurements, communicating via OPC UA. Piedmont Automation chose Ignition 8 for HMI visualization and the new Ignition Perspective module for mobile visualization. The Ignition 8 SCADA module with unlimited tags, clients, screens, and connections created the ideal platform for their new monitoring/control system. IA's Universal platform provided alarming, and reporting for a completely integrated system.

The Ignition Perspective Module put the power of the system in the palm of their hands with a mobile-responsive industrial application that runs natively on any of their mobile devices and web browsers. The system also utilizes a cross-platform solution used a combination of Linux OS and Windows OS on the Ignition servers and clients.

Result:

Prior to implementation, Wilkesboro operations relied on their plant personnel to manually monitor, control, and to make accurate decisions about process changes. The new SCADA system has transformed daily operations and provided the town with a reliable system that is more commonly seen in larger municipalities. The control room and process areas are alive with real-time process data that allow operators to react to dynamic process conditions. Now, remote sites no longer require personnel visits to verify distribution conditions.

Gone are the days where paper charts were analyzed and filed away for historical data. Historical data is now collected in MySQL and is used to generate state-mandated reports concerning water quality and distribution.

This interactive control system gave the operators the ability to monitor & control facility operations while on-site, and provided a virtual window into their processes while they were off-site. Ignition Perspective application not only gave personnel a mobile view of their operations, but it also gave them full control. With Ignition Perspective, a full HMI and alarm system application was developed that allowed Wilkesboro to fully control their processes, right from their phones. Ignition Perspective is totally mobile-responsive, so it automatically adapts to fit screens of any size, on any mobile device, giving Wilkesboro a personalized view into their processes on whatever mobile device they prefer.

Inductive Automation's licensing structure made this both possible and affordable. Sam Call, Director of Utilities, stated "We're very pleased with the overall implementation and performance of the Ignition SCADA system at our treatment plants. We now have web-access to operations that are critical to *reliably* supplying quality drinking water to our town. We could not be happier with Piedmont Automation's recommendation and look forward to rolling this out in our wastewater facility later this year."