

Unconventional Solutions Mean Double Production Capacity for Williams Without A Day of Downtime

An integrated natural gas company, Williams produces, gathers, processes and transports clean-burning natural gas across the United States. Williams' complex in Markham, Texas, consists of two facilities—a cryogenic natural gas processing plant and a separation and dehydration plant that removes water and condensate from natural gas.

Out-of-the-Room Thinking

Williams initially engaged GloabLogix to relocate the processing plant's control room from its location at the center of the facility, where it could potentially be unreachable during a crisis. Due to the control system's design, wiring could only be run a limited distance. On its face, this appeared to require costly relocation of the entire system in order to move the control room. Instead, GloabLogix left the server in place and applied a remote data client and LAN Ethernet connection to give operators access to the system from a satellite work station in the new control room.

As a result of GloabLogix' creative problem solving, Williams avoided the enormous expensive of moving and reinstalling its control systems. And, because GloabLogix was able to implement the remote data client in a single day, the plant experienced no downtime during the transition between control rooms. Based on this quick success, Williams engaged GloabLogix on a second project to expand the SCADA system in its cryogenic facility.

Making the Old New Again

Williams aimed to increase production capacity in its cryogenic processing plant from 200 MMSCFD to 500 MMSCFD by adding a second train. The company tapped GloabLogix to expand the existing SCADA system to monitor both trains.

A New Philosophy on Existing Equipment

GloabLogix began system design at the end by talking with the end user, the operators, to learn what they liked and didn't like about the existing SCADA system with an eye to not just duplicate the system but improve it. Throughout the SCADA system design, installation and PLC programming phases of the project, GloabLogix constantly consulted with the operators to ensure that the transition to the new system would be seamless and painless for those who would use it every day. As a result of these conversations, GloabLogix made several key improvements to the system to allow operators to improve productivity. These included adding:

- Additional summary screens to simplify operators' search for critical information, streamlining the overall monitoring of the system.
- A user friendly interface with a multiple-screen presentation, allowing users to quickly view various points of critical information and promptly obtain information they needed most.
- Automated report generation, eliminating the need for operators to manually create them each day.
- Intuitive screen navigation, speeding and simplifying system operations, which translated to increased safety and productivity.

In the end, while control of both production lines appeared the same way to the operators, GlobaLogix had created a mix of the two, implementing the former control velocity on the new equipment and extensively updating the underlying technology across both systems.

Productivity and Safety Go Up While Costs Stay Down

Williams' compounded SCADA servers were up and running as of July 2010. The upgrade was executed on schedule, on budget and without any safety incidents or downtime. The new system allows operators to manage the additional plant capacity, which more than doubled, without additional personnel. By taking on several individual projects that would ordinarily be executed by several different vendors, spanning the control room relocation, SCADA system upgrade and PLC programming, GlobaLogix' work resulted in smoother operations and fewer hiccups in testing.

GlobaLogix' work in relocating Williams' control room and expanding and updating its SCADA system led to a natural progression of the companies' working relationship. GlobaLogix is now working on designing a safety system encompassing infrared, ultrasonic leak detection, wind direction and wind speed indicators to work in conjunction with the existing SCADA systems, for substantially increased operational efficiency and HSE response.

With its recent expansion, the Markham plant stands as the most technologically advanced gas processing plant south of Houston in the United States, in terms of cryogenic gas separation and controls. GlobaLogix' proposed safety system will bring the facility's safety capabilities to the same standards maintained in all other aspects of the plant.