Goulds Water Technology teams up with customers to provide reliable water source to a Connecticut community

CASE STUDY

In autumn, the winding roads of New York Route 17 are popular among tourists who enjoy the scenic drive through the Catskill Mountains, taking in the beauty of changing fall foliage. It's easy to get swept up in the scenic beauty in the region, but the rolling hills present the challenge of reliably pumping water to residential areas.

Xylem's Goulds Water Technology experts teamed up with distributors, D&S Pump and Supply Co. and Foley's Pump Service, to solve repeated random pump failure issues in a nearby Connecticut community. The drive was faulting out on a phase loss, which is similar to a drive running a pump and a motor when unexpectedly one of the legs of incoming power becomes lost or disconnected.

Water is pumped uphill from a 100-foot well into large storage tanks for distribution to the community. Two, Goulds Water Technology SPD Aquavar Variable Speed Pump Controllers (SPD) were working independently, where the customer manually rotated from one drive to the other. In the event of a power failure, a backup generator kicked in.

"The environment and landscape played a role in our challenge," said David Dretel, D&S Pump and Supply Co. "The problem was difficult to troubleshoot because power loss was happening randomly. Sometimes it would only occur once a week. The power faults also would happen during certain weather conditions and peak demand – not really things we could plan for."

Since the power loss was sporadic, the team pinpointed an abnormality with the incoming power as a possible cause. Even after installing a new line filter to address this issue, failures continued. Undaunted, D&S began gathering additional data in its quest to resolve the problem. Installing the new-to-market Aquavar Intelligent Pump Controller (IPC) on the input of the SPD provided a more robust line filter (3.6 percent electrical impedance versus 3 percent). Electrical impedance is the measure of the opposition that a circuit presents to a current when a voltage is applied.

While preparing for a site visit with the local installation company, Foley's Pump Service, Xylem's applications expertise came into play when employees discovered what turned out to be the missing piece of the puzzle – the drives were running without a pressure transducer.

The system also was using a chlorinator when the drive ran full speed and was hooked up to the relay output. This meant the IPC for this site would need to be used in a different type of setup. The team was able to quickly configure the new controller before visiting the site.



While onsite at Foley's in Danbury, Connecticut, Xylem and D&S employees monitored data with the pump controllers running at full speed and again with the 3.6-percent KLR line reactor on the input. After analyzing the results, Xylem experts recommended the customer continue to use the new 3.6-percent line filter and monitor to see if the issue returned during peak usage. For the other pump and motor, they installed the IPC.

"In the event of a failure, the community could switch over from the SPD to the new controller, ensuring the customer will never be without water," said Ken Capuano, Product Specialist, Variable Speed Drives, Goulds Water Technology, Xylem Inc. "This situation was a natural fit for the advanced technology of the Aquavar Intelligent Pump Controller because of its ability to withstand incoming power issues."

After successfully setting up the new pump controllers, Xylem experts remained onsite to test the controllers and train the customers on product features, data analysis and maintenance.

"I was very proud of how our team – Xylem, D&S and Foley's – came together to solve this water challenge," Capuano said. "Faced with an atypical situation, we were able to collaborate and efficiently resolve the issue."

The customer was very pleased with the assistance and to have the issue resolved. After installing the new drives the customer has seen improved performance and is providing a reliable water supply to the residential community again.

GOULDS WATER TECHNOLOGY

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