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PROBLEMSOLVER

By Daniel Kernan

Phoenix, St. Joseph's

Hospital and Medical Center provides a wide range of services, with special advocacy for the poor and underserved. With tens of thousands of annual admissions, emergency room visits and outpatient/inpatient surgeries each year, the water demand at St. Joe's is critical to

St. Joe's was recently in need of a way to maintain the availability of hot water pressure in its growing complex of buildings. Like all health care facilities, the system needed to be operational 24 hours a day, and down time had to be minimal. As the hospital expanded over the years, the water service for new facilities was tied into the existing lines supplied by two outdated sets of pumps—one each for cold and hot water service.

medical center operations.

With the increase in water service requirements, the hot water booster in the medical center had problems A HOT WATER
Silvalion

A medical center uses pumps and an intelligent control system to solve its hot water pressure problem

keeping up with the cold water booster in terms of water pressure. Depending on the varying needs during the day, the hot water system pressure fluctuated so much that it was causing damage to multiple showerheads and valves. In addition, maintenance on the existing pumps was becoming intolerable.

"They were having to do quite a bit of maintenance to the old pumps," said Michael Marquez, technical sales representative for Quadna, Inc., a Phoenix-based distributor for ITT and a fluid-handling solution provider. "Additionally, the medical center maintenance people would sometimes have to be sent to the booster set to turn on another pump to maintain hot water pressure."

Plug-and-play system needed

The medical center needed a booster pump system that could keep up the pressure for the hot water, regardless of the facility's requirements. Quadna's team of application specialists proposed a design specifically for the hospital that would achieve these goals and serve as a

drop-in replacement. The replacement system also needed to be functional quickly, as the medical center could not be without hot water for more than four hours.

To effectively accommodate the hospital's fast-paced growth, Quadna selected ITT's Goulds Pumps brand SSV high pressure, vertical multistage pumps combined with ITT's PumpSmart PS200 control system. Quadna manufactured a custom-designed booster pump skid to house the three pumps and PumpSmart systems. The pumps, which are combined to optimize their capabilities, offered the medical center optimal high pressure in a space-saving design.

The new system connected efficiently with the medical center's existing piping system and had the correct proportions to make it through doorways and onto elevators. When the skid was installed in February 2007, the plug-and-play system became fully functional in a couple of hours, minimizing the amount of time the hospital was without hot water. Additionally,

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the pump system included a design to handle variable pressure drops. PumpSmart also adjusts to changes in system conditions automatically.

PumpSmart system provides intelligent control

Equipping each pump with the PumpSmart control system helped meet the medical center's demand for low total lifecycle costs. PumpSmart utilizes a smart variable frequency drive controller and proprietary control software to provide advanced process control, enhanced reliability through failure prevention, reduced lifecycle costs and up to 65% lower energy costs.

The system offers process control and pump protection in one package for virtually every industrial process. With preprogrammed applications such as pressure, flow and level control, setup is designed to be quick and easy. The system is capable of coordinating efforts between other PS200 controllers as well as existing constant speed pumps.

"This skid, equipped with ITT's PumpSmart system, will allow the customer to cut down on management and maintenance," Marquez said. "The customer will not have to send maintenance people to the pumps to change the pressure, which is what they had to do previously. PumpSmart will also rotate the pumps out as needed, automatically."

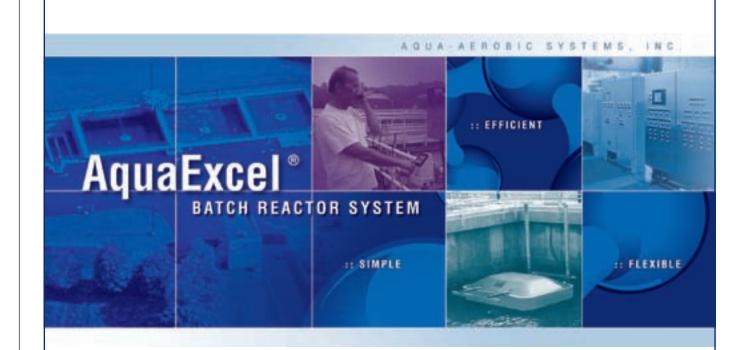
With the PumpSmart-equipped pumps providing low total lifecycle costs, St. Joe's can now face a future of expansion plans and the varying demands of patient care without worrying about providing adequate water service.

Daniel Kernan is product manager for PumpSmart ITT Monitoring & Control. He can be reached at 315/568-7874 or by e-mail at dan.kernan@itt.com.

For more information, write in 1118 on this issue's Reader Service Card.

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