



Savings, Sustainability, and Reliability at St. Andrews University

For over 50 years, St. Andrews University in Laurinburg, North Carolina, has fostered a “community of learners” for the benefit of its students. The University’s goal is that “what you learn both inside and outside the classroom creates a sense of intellectual and social engagement that will empower you to make a difference in your community, in your profession, and in the world.”

The administration and staff of St. Andrews take pride in their students, academics, athletics, and student organizations. They also strive to maintain the beauty and functionality of the college’s 500-acre campus and physical facilities. A recent campus prioritization exercise drew their attention to the needs of their central utility plant.

Challenge

The university’s central utility plant was showing its age and became a top priority for campus improvements. Of particular concern was the unreliable domestic hot water (DHW) system. As described by Mr. Glenn Batten, V.P. of Administration for St. Andrews, “the DHW boiler was running 24/7 regardless of demand, leading to excess hot water storage and thermal loss.” The boiler also broke down with increasing regularity, and one of the two storage tanks became inoperable. Equipment reliability, energy use, and

repair costs had reached a critical level. The college implemented a stop-gap measure by using their large 14,645,000 BTU per hour heating boiler to heat water in a large DHW storage tank and then called on Brady to help them design and implement a new DHW system.

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*Glenn Batten,
V.P. of Administration*

Solution

The university needed a new DHW system that would meet their needs both now and in the future. As Mr. Batten clearly described, the new system “needed to be reliable, energy efficient, and cost efficient.” In addition, the university’s future plans include decentralizing the mechanical systems from a central plant to individual campus buildings. Thus, the new system must be able to meet the demand at



each campus building. Brady used these criteria to design a modular system for St. Andrews.

The new system consists of two skids, each with four domestic boilers that connect to a storage tank. Each boiler provides 200,000 BTUs per hour, and the storage tanks each hold 257 gallons of hot water. Each skid has a cascading control system that stages the boilers on and off as needed to efficiently meet the domestic hot water demands of the campus. Brady also installed a new recirculation pump for the DHW line, replacing the existing pump that was nearing its end-of-service point. The new system easily fits within the footprint of the old, and the existing piping was modified to fit the new equipment.

Brady worked with the facilities team to schedule the work during periods of low hot water demand. The old equipment was removed and the new system installed with minimal impact on hot water availability on campus. “Students didn’t even realize when the change occurred” says Mr. Batten.

The Brady project manager was on-scene during the installation to ensure any potential issues were quickly identified and addressed. “He was on top of things, anticipating potential issues and coming to me with a solution and a timeline,” reports Batten. “They were very innovative, especially given the age of some of the equipment.”

The installation was completed quickly thanks to this proactive and collaborative approach. “It’s a wonderful thing, when I’m doing a project, and I don’t have to worry about the completion because I have someone on our team who is solution-oriented and on top of things” attests Batten.

Results

The staff and students of St. Andrews University are reaping the benefits of their new DHW system, whether they realize it or not! The reliability of the new system has given the facilities team peace-of-mind, and the administration is saving money thanks to the efficient on-demand system—savings that will recoup the cost of the system within just a few years.

The university has also gained intangible benefits. The energy-efficient system helps them make strides in sustainability thanks to greatly decreased natural gas use by the new boilers. In future, the system will accommodate the university’s plans to decentralize its mechanical systems. When that time comes, the boilers can be pulled off the skids and installed individually at each campus building.

“The system is working really well,” say Mr. Batten. “Brady is a great partner, very dependable, very accessible, with good communication.” To keep it running smoothly for years to come, St. Andrews retained Brady to conduct routine preventive maintenance on the system. Brady always keeps the client’s budget in mind when designing a project and addressing real-time issues. “They understand our needs and are very creative in helping us solve the issues with the budget in mind,” Batten says.

Brady—helping advance higher education and resource conservation through innovative solutions!

