

JOHNSTON COMMUNITY COLLEGE



COLLEGE FACTS

Founded in 1969

Approximately 2,000 students
enrolled per semester

BUILDINGS

Twelve campus buildings in project
364,568 total campus square feet

Buildings constructed between 1976
and 2008

Includes classrooms, offices, early
college, child care

CASE STUDY HIGHLIGHTS

Project Size: \$3.3 million

Construction Period: 1 year

Project Term: 16 years

\$317,964 guaranteed Year 1
savings

Implemented a comprehensive set
of energy conservation measures
(ECMs)

THE CHALLENGE

Several campus buildings at Johnston Community College had aging control systems and mechanical equipment that had become difficult to maintain and control for campus staff. High existing energy usage intensity (81 kBTU per square foot) versus the national average for similar type facilities (59 kBTU per square foot) provides opportunity to reduce waste within the existing utility budget to fund these much needed capital improvements.

THE SOLUTION

Piedmont Service Group completed an investment grade audit of Johnston Community College's facilities in 2017 and will complete construction by the end of 2018. The audit included analysis of existing utility consumption and cost, existing building condition surveys, and key parameter measurements used in energy models to evaluate potential savings.

Existing pneumatic controls are currently being upgraded to DDC controls with capability for remote monitoring, fault detection and diagnostics through Piedmont Service Group's BuildingSentinel analytics platform, and advanced sequences to reduce energy consumption. Chillers, boilers, and split systems for three buildings each have been replaced with new, higher efficiency equipment. Older air handling units in three buildings have been refurbished for more efficient operation and greater maintenance reliability. Variable frequency drives have been installed on multiple fan and pump motors to vary flow rates with demand to better control comfort and reduce energy consumption. Outside air ductwork is being added to one air handling unit to provide economizer cooling when outdoor air conditions are favorable.

Other campus upgrades include:

- Upgrading existing campus lighting to LED
- Lighting occupancy controls
- Recommissioning and upgrade of water fixtures
- Implementing a time of use rate schedule for more favorable energy costs
- Installing vending misers
- Installing energy efficient transformers

ABOUT THE CLIENT

Johnston Community College (JCC) has awarded certificates, diplomas, and degrees since 1969 and is a member of the North Carolina community college system. JCC serves in excess of 13,000 students annually in its credit and non-credit programs. These programs include college transfer, occupational, technical, and continuing education opportunities. JCC has several off site campuses in addition to the primary Smithfield campus. These sites include the Cleveland Center, which also received upgrades from the performance contract.

HOW CAN WE HELP YOUR BUSINESS GROW?

Piedmont Service Group makes buildings more efficient. A leader in energy services, Piedmont has expanded its core HVAC business to address the growing market demand for energy efficiency and sustainability services. The company is headquartered in Raleigh, NC and employs 168 people across seven locations in North Carolina, South Carolina and Virginia. Piedmont was founded in 1971.

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