



IT SOLUTIONS

LIGHTING

ENERGY MANAGEMENT

POWER QUALITY

ON-SITE GENERATION

TRAINING

Robeson Community College • Lumberton, NC

COMMERCIAL EDUCATION GOVERNMENT HEALTHCARE INDUSTRIAL

PROJECT OBJECTIVES

A series of energy audits administered as part of the Energy Solution Partner (ESP) program between the City of Lumberton, Electricities of NC, Inc., and qualified providers of energy related

services determined that Robeson Community College (RCC) could achieve significant cost savings annually by controlling its water heaters and initiating a campus-wide lighting retrofit.

CUSTOMER CHALLENGE

RCC's main campus consists of 15 buildings. Each building was audited to determine how energy was being used and what changes could be made to use energy more efficiently in an effort to reduce operating costs. In conjunction with reducing operating costs, each energy savings recommendation had to improve, or have no impact, on RCC's education environment.

The City of Lumberton is billed on the amount of electricity

being used by its customers at the time of CP&L's monthly peak demand. During this peak usage time, Lumberton can save money by using less electricity. To achieve this, Lumberton encourages its customers to reduce usage during the peak times by passing along savings to the customers. Presently, Lumberton is crediting each qualified customer's bill by \$9.25 per kW that is moved off the peak usage time.

Case Study

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Water Heaters

Each building on campus has its own water heater, or in some cases multiple water heaters. If all the water heaters operated simultaneously, they would account for over 350 kilowatts (kW) of demand on the system, however, with load diversity the actual demand is only a fraction of this. The City of Lumberton installed load management switches on the water heaters. These switches are remotely controlled to turn the units off during peak usage times and turn them back on during non-peak times. The water heaters have enough capacity to continue providing hot water during times when they are being controlled without causing inconvenience to anyone. The City of Lumberton currently credits RCC \$9.25 per kW each month for each kW moved off the city's coincidental peak.

Lighting

The buildings' lighting fixtures were state of the art for the time period in which the buildings were constructed. Newer technology, however, converts electricity to light much more efficiently while providing more light from the same number of fixtures. The following changes were made: T-12 fixtures were retrofitted with new electronic ballasts and lower wattage T-8 lamps; 400-watt metal halide lamps were replaced with 320-watt pulse start lamps, and old incandescent exit signs were replaced with new LED exit signs. By retrofitting the lights in their facilities RCC improved the quality of the lighting, improved the learning environment, and saved money. The new lighting system reduces the demand on the system and saves over 350,000 kWhs per year.

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 **ELECTRICITIES**

