



CASE STUDY

HOKE COUNTY SCHOOLS

"There is a famous quote from Henry Ford, 'If you always do what you've always done, you will always get what you've always got.' In other words, you will always get the same results," says Hoke Counting Schools (HCS) Superintendent Dr. Freddie Williamson.

"We were looking for new ways to better understand our energy usage in order to change our behavior to lower energy expenses," adds Williamson. To do this, HCS wanted a plug load management system aligned with the district's initiative to become a "21st Century Learning System."

Solution

Hoke County Schools chose Brady Trane, a family-owned corporation providing single-source building and energy service solutions, for a \$6.2 million performance contract. The service agreement includes the BERT® plug load management system along with new chillers, advanced environmental controls, tankless water fountains, weatherization improvements, and new LED lighting.

Due to BERT's unique ability to measure actual energy usage in real time, the district installed 638 BERT Smart Plugs in 12 of the district's schools and in the Board of Education building. According to Charles Tapp, Executive Director of Facilities at HCS, "We implemented BERT so we would have immediate visibility into the plug load usage in our schools."

After analyzing their plug load energy usage, the district used the sophisticated control software to create schedules to turn equipment off during nights, weekends, and holidays, all times when the buildings are unoccupied. Tapp says, "The real-time data lets us create optimized

Project at a Glance

ABOUT

Located near Fayetteville, N.C., Hoke County is a low-wealth, high-growth district with 14 schools.

OPPORTUNITY

HCS needed a plug-load measurement, analysis, and control solution providing real-time energy usage data and comprehensive scheduling and reporting tools.

SOLUTION

638 BERT Smart Plugs with Measurement, Analysis, Control, and Threshold

RESULTS

90,000
Annual kWh Savings

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energy saving schedules for all of our vending machines, laptop charging carts, projectors/smartboards, printers, and water coolers.”

“Another thing we like about BERT is the special threshold logic that prevents sensitive equipment like projectors from turning off before they have completed their cooling cycle,” Tapp continues.

The district plans to utilize BERT’s detailed energy savings reports to verify their plug load energy savings. Real-time energy usage data is available at multiple levels and for multiple time periods. Reports can be generated for the entire district, individual schools, groups of schools, individual devices, or groups of devices (projectors, printers, etc.). Historical information is available by hour, day, week, month, year, and user-defined report period. Up to three time periods can be compared on each report.

In addition to the financial benefits from energy savings, the district views the new systems as a way to support its STEM curriculum. “With BERT and our other energy saving upgrades, our classrooms have become natural laboratories for our students to learn about energy usage and conservation,” says Williamson.

Results

By using BERT to turn devices off during non-operational hours, HCS saves 90,000 kWh annually.

The Power of BERT

When it comes to intelligent buildings, BERT controls the small things and delivers big. BERT’s end-to-end solution typically lowers plug load expense by 40 percent.

Using patented technologies and the facility’s existing Wi-Fi network, BERT remotely measures, analyzes, and controls plug-in and hardwired loads up to 250 V and 30 A. Frequently installed as a standalone solution, BERT delivers even greater value by integrating miscellaneous electric loads into Building Automation Systems (BAS), enabling the BAS to control all building loads and to collect additional measurement, temperature, and other building data for increased efficiency and comfort.

Learn how K-12 schools, colleges, offices, local governments, and sporting venues save money and energy by visiting bertbrain.com.

BERT’s standard BertBrain software offers a robust range of functions.

CONTROL

Automatically power loads off during nights, weekends, and holidays when buildings are unoccupied. Each device, group of devices, building, or group of buildings can have unique schedules based on specific operating hours.

MEASUREMENT

Get real-time energy usage data and historical power usage by hour, day, month, year, and user-defined time-period. BERT uses measurement data to establish the Baseline Load for M&V.

ANALYSIS

BERTBrain, running on the BERTBrain Gateway, makes analysis a breeze, with a comprehensive reporting system to analyze energy consumption for schedule optimization and savings verification, and a detailed event log.

THRESHOLD

User-defined power threshold settings prevent devices from turning off until the normal shutdown cycle is complete. Every time the device is scheduled to switch off, the threshold is checked. This prevents the device from turning off until the power level falls below the threshold.

TEMPERATURE

Customers can control devices such as PTAC, AC units, and heaters using high and low temperature set points.