BUILDING ENERGY AND SUSTAINABLE TECHNOLOGIES INC. (BEST)

IDEA

TECHNOLOGY DEMONSTRATION OVERVIEW

COMPANY
Building Energy and Sustainable Technologies Inc. (BEST)

TECHNOLOGY
Illumra self-powered wireless lighting controls

DEMONSTRATION SITE(S)
DPR Thomas Jefferson Recreation Center, 2180 1st Avenue, Brooklyn, NY

DSNY Administrative Offices (second and sixth floor), 44 Beaver St, New York, NY

DEMONSTRATION PERIOD
June 2014 – June 2015
September 2014 – September 2015

SYSTEM(S) INVOLVED
LIGHTING

TYPE OF SAVINGS GENERATED
ELECTRICITY

VENDOR'S POTENTIAL FOR SAVINGS
UP TO 30%

SAVINGS ACHIEVED IN THIS DEMONSTRATION
Estimated at
20%

SAVINGS

Technology Description

The Illumra self-powered wireless lighting controls consist of switch and relay receivers paired with occupancy sensors that allow lights to turn on automatically upon detection of motion and turn off 15 minutes after no motion is detected. Timing can be set as desired for each space application.
This wireless technology allows for easy integration of components into a central controller that uses Bacnet. This enables integration into a BMS System.

Optimum Facility Characteristics

- Spaces without prewired lighting zone controls using either a centralized circuit breaker or minimal number of lighting switches that uniformly control a group of lights.
- Facilities with plaster or hard ceilings and potential remediation sites where typical installations would be cost prohibitive.
- Significant number of intermittently occupied spaces, such as hallways, conference rooms and bathrooms.

Demonstration Results

- The estimated electricity savings of the controlled lighting fixtures was between 20% and 30%.
- The technology was installed and implemented properly, however due to communication issues with the remote wireless monitors, only two months of continuous data were available to analyze. Based on the communication interruptions, the achieved savings were estimated.

Recommendations for Implementation

- Lighting zones should be effectively scoped prior to implementation.
- Baseline calculations should be consistent between all installations, particularly within the same building.
- Savings should only be considered for fixtures that are directly controlled by the technology, and should not be extrapolated to the uncontrolled fixtures.

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SELF-POWERED WIRELESS CONTROLS™