IDEA

TECHNOLOGY DEMONSTRATION OVERVIEW

COMPANY
US Energy

TECHNOLOGY
Building Energy Management System

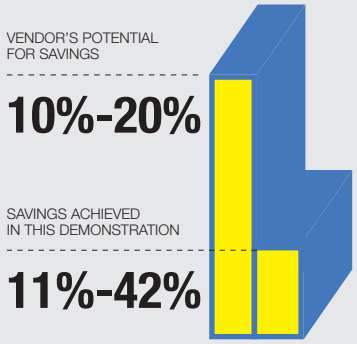
DEMONSTRATION SITE(S)
DPR Betsy Head Pool -
694 Thomas S. Boyland St, Brooklyn

DCAS Repair Shop -
390 Kent St, Brooklyn

DEMONSTRATION PERIOD
October 2014 – October 2016

SYSTEM(S) INVOLVED
HEATING

TYPE OF SAVINGS GENERATED
FUEL OIL
Reduction in boiler run time



SAVINGS

Technology Description

The Building Energy Management System (BEMS) is a device that provides boiler monitoring and control. The methodology is based on the placement of wireless indoor temperature sensors in key locations around the building in order to measure the need for heating. These temperature readings are averaged and adjusted to account for the outdoor air temperature measured by an outdoor air temperature sensor. The BEMS system then controls the boiler based on this adjusted temperature in order to cycle the boiler more efficiently, which reduces run-time and delivers the right amount of heat to keep occupants comfortable. BEMS can be monitored online and also provides alerting and reporting capabilities for historical usage and trend analysis.

Optimum Facility Characteristics

- Modulating and non-modulating boilers
- Facilities with inoperable legacy thermostat systems or partially working pneumatics
- Cooperative building operator and maintenance staff

Demonstration Results

- The technology was installed in two sites, with recorded savings of 11% and 42% respectively.
- This demonstration utilized centralized web-based monitoring which provided real time alerting and reporting.

Recommendations for Implementation

- Careful consideration should be given to building staff training and operation of the BEMS system
- Access to an internet connection is necessary for real-time monitoring
- System should be placed in bypass mode for a series of 24 hour periods, which may be used as a baseline once weather normalized
- For M&V calculations, only one mode per full day should be used (bypass and BEMS active)

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