

WN Nightlights Fuel Energy Savings and Guest Satisfaction

After learning of research on lighting usage and energy consumption in hotel guestrooms, the DoubleTree Hotel in Sacramento was eager to explore the potential for energy savings. They partnered with The Watt Stopper, Lawrence Berkeley National Laboratory (LBNL) and the Sacramento Municipal Utility District (SMUD) to sample The Watt Stopper's new WN-100 Motion Sensor Nightlight.

The project team installed the WN-100 sensors in guest bathrooms, replacing the standard wall switch. Designed to turn lighting off when the room is vacant, the sensors also feature an LED nightlight. When the sensor switches off bathroom lighting, the LED nightlight turns on.

The project, with a total of 448 WN sensors installed, was a success by any measurement. Project participants estimated annual energy savings of \$8,000, with a simple cost recovery of two and a half years.

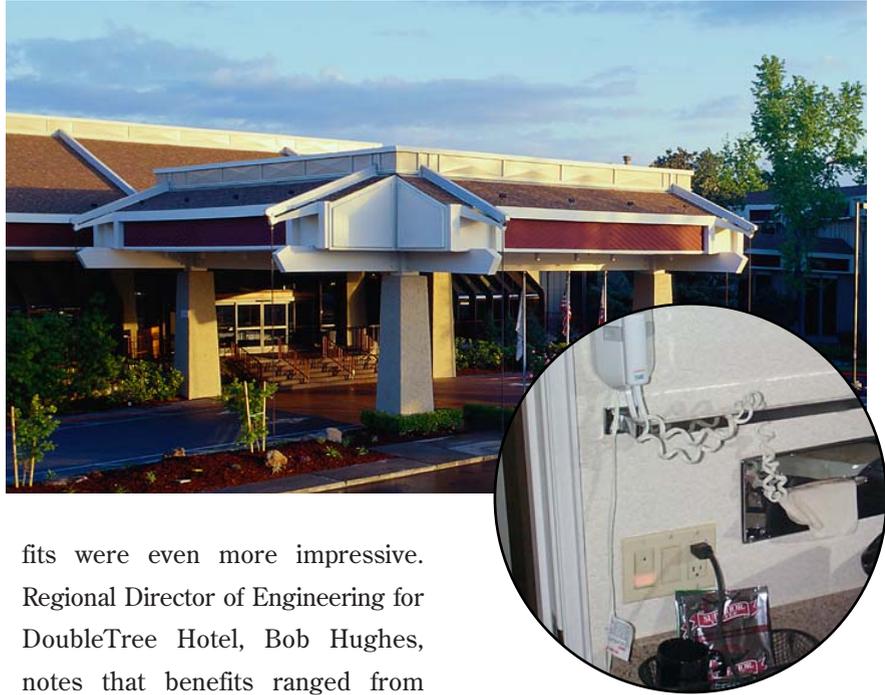
As significant as the energy savings were, other unanticipated bene-

“Combined savings in maintenance and energy costs, together with the positive response from our guests, makes this project a real win-win.”

Bob Hughes

**Regional Director of Engineering
DoubleTree Hotel**

Boykin Lodging Company



fits were even more impressive. Regional Director of Engineering for DoubleTree Hotel, Bob Hughes, notes that benefits ranged from reduced maintenance and replacement costs, to greater guest satisfaction. He describes guest complaints about bathroom lighting as the “number one or two complaint,” noting that burned-out bulbs were the primary culprit. Since implementing the WN nightlight sensor, he’s noted an initial eight percent reduction in replaced bulbs, and expects this rate to go as high as 25-30%.

Due to the decrease in bulb replacements, the hotel has also saved significantly in maintenance costs, estimated, says Mr. Hughes, to “far exceed the energy savings.” In fact, he expects savings in maintenance costs to nearly equal one maintenance employee’s annual salary.

Also down is the number of guest complaints, notes Mr. Hughes. This is due partly to the fact that there are

fewer burned-out bulbs inconveniencing guests, but also to the fact that the nightlight sensor functions seamlessly within the guest quarters. “Because the nightlight sensor operates just like an ordinary wall switch, it’s transparent to our guests. Even our most discriminating guests have had no complaints. Instead, we’ve received positive feedback from them, saying it’s easier to find their way around the room during the night or when the regular lighting is off.” Since the project began, Mr. Hughes reports no defects and no guest complaints over operation.

The project reflected some sensor design and commissioning parameters that represent the unique characteristics of the hospitality sector. For instance, guest comfort and convenience is a paramount concern. To

CASE STUDY

DoubleTree Hotel, Sacramento, California

ensure this, the sensors' time delay was set for a one hour delay. This ensured that guests utilizing the bathroom shower or tub would not be inconvenienced by the lighting turning off. The project team also developed an informational card describing the sensor, its purpose, and how it operates to ensure that guests would be aware of the night-light sensor.

As part of the project, LBNL performed pre- and -post-monitoring for six months. The findings were impressive. Use of the nightlight motion sensor reduced energy consumption by more than 50%. Some of the results supported LBNL's earlier research about the use of guestroom lighting. For instance, usage profiles revealed that some guests did in fact utilize bathroom lights as nightlights (see sidebar and illustrations below).

"We've received numerous calls from guests wanting to know how they can install the nightlight sensors in their own homes."

Bob Hughes

More unexpected to project participants was the excessive daytime

Nightlight Usage Common in Hotels

Bathroom lighting in hotels represents a substantial overuse of lighting. Not only do guests often leave lights on when checking out, they also may use bathroom lighting as a nightlight, to provide a feeling of security in the unfamiliar surroundings.

Research undertaken by WRA International, an independent marketing research firm, indicates that as many as 40% of all travelers use hotel bathroom lighting for nightlights, while an additional 16% of all hotel guests bring their own nightlights with them when they stay in hotels. Countless guides for both domestic and international travel suggest using

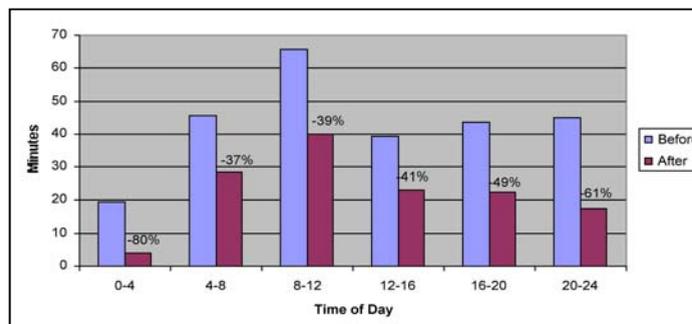
bathroom lighting as a convenient nightlight.

Recognizing the importance of this lighting need for guest comfort and security, AAA plans to include nightlights as a guideline for hotel properties that receive ratings of three diamonds or greater in its 2005 TourBook publications. While this guideline is a recommendation only, not a requirement, its inclusion in the upcoming TourBook reinforces the importance of providing this convenience for guests in an industry that continues to compete fiercely for customer loyalty.

usage, between the hours of 6 a.m. and 2 p.m. that was documented prior to the installation of the WN sensors. Based on the data gathered, project researchers concluded that some guests inadvertently left bathroom lighting on upon departure.

In summing up his observations, Mr. Hughes reflects on an additional benefit stemming from the property's commitment to energy efficiency and environ-

mental consciousness. "Given our location in the state capital, we welcome a range of political stakeholders on a regular basis. Our guests witness our commitment to environmentally conscious operating practices on a daily basis. This appeals to many of them who are committed to similar practices."



This graph illustrates bathroom lighting usage throughout the day before and after the installation of the WN-100.