



Baltimore Marriott Waterfront Books King-Size Savings With Energy Upgrades

Just steps from Baltimore's vibrant Inner Harbor stands the Marriott Waterfront. Built in 2000, the 32-story high-rise hotel offers 750 guest rooms and two large ballrooms for events. Ensuring that the common areas—from hallways and lounges to meeting rooms—are well lit and comfortable for guests is a top concern for Nick Novella, the hotel's director of engineering. As a member of the hotel's green team, he's also charged with identifying ways that his department can help reduce energy use and costs. Two recent energy efficiency projects helped Novella achieve both of those goals and more.

The Opportunity

It started with a conversation. While attending an engineering business council meeting, Novella heard a presentation about BGE's Smart Energy Savers Program® for Business. He spoke with the BGE representative after the presentation to learn more about the technical assistance and financial incentives available to offset the cost of facility upgrades that improve energy efficiency. Heating, ventilation and air conditioning system tune-ups and upgrades, lighting and controls and commercial kitchen and refrigeration equipment are among the measures carrying prescriptive incentives, available for eligible projects without the need for complex engineering analyses.

The incentives for LED lighting and variable frequency drives (VFDs) were of particular interest. After hearing from another engineer who had installed LED lighting in the lobby of a nearby Marriott hotel, Novella reached out to BGE to discuss what could be done in his building. "My interests were twofold," Novella says. "To save on energy and save on costs."

The engineering department at the Baltimore Marriott Waterfront had been considering VFDs before Novella began working there. The idea was to install VFDs on the hotel's air-handling units, which are responsible for controlling the flow of warm and cool air into the hotel's common areas. VFDs would give the engineering team greater control over the speed of the units' motors.

"Instead of starting up at 100%, VFDs allow the motor to power up gradually," Novella says. "It's like the difference between stomping on the gas pedal in your car versus accelerating slowly. VFDs reduce the wear and tear on your equipment. I knew it would be smart for us to take advantage of the BGE incentives to make these upgrades."

"Saving on energy helps your bottom line. It'd be foolish not to do it!"

—Nick Novella, Director of Engineering, Baltimore Marriott Waterfront

Savings at a Glance

The Baltimore Marriott Waterfront used financial incentives from BGE's Smart Energy Savers Program to install LED lighting in the common areas and add VFDs to the hotel's air-handling units.

BGE Program:	Energy Solutions for Business
Total project cost:	\$256,030
Incentives paid:	\$91,980
Cost to the customer:	\$164,050
Energy savings:	1,745,004 kWh/year
Cost savings:	\$101,210/year
Payback:	1.62 years



Nick Novella, Director of Engineering,
Baltimore Marriott Waterfront



New LEDs with dimmers in the ballrooms use less energy, while enabling staff to adjust lighting levels during events.



Long-lasting LEDs installed in hallways like this one reduce the amount of time that engineers have to spend replacing expired bulbs.

The BGE Solution

To get the ball rolling, Novella contacted a BGE participating contractor specializing in commercial lighting to walk around the property and identify which LED lamps would meet the requirements for the various spaces. The contractor swapped out a small number of lamps in the ballroom with LEDs as a test to determine the right lumens for the replacement lamps.

Following an analysis of the proposed projects, coupled with a BGE estimation of the potential energy savings, Novella put the projects in front of his management team for approval. "The analysis showed how much money we could save per year if we switched to LEDs and installed VFDs," he says. "That's how I got these projects pushed through right away."

To save even more, Novella's in-house engineering staff did the lighting upgrade themselves, using a lift and working at night or when meeting rooms were empty. The existing lighting in the hallways on the first, third and fourth floors and in the ballrooms and meeting spaces was updated with high-efficiency LEDs. In total, the engineers replaced 1,968 parabolic aluminized reflectors and 307 multifaceted reflectors with LEDs, completing the job in about 2 months.

Completing the VFD installations simply meant scheduling the work around planned events, as some of the 19 air handlers to be upgraded controlled airflow to meeting spaces. Conrad Simpson, the hotel's engineering supervisor, coordinated those upgrades, which were contracted out and completed during regular business hours.

The Benefits

The biggest benefits of the upgrade projects are the energy and cost savings. The hotel expects to save \$101,000 per year on its energy costs as a result of the improvements.

The new LEDs came with a 2-year warranty. During the installation, the engineers dated each new lamp, so if any happen to fail early, the hotel will get a free replacement. "Longer life saves on labor for changing out lights and frees up the engineers to do other things," Novella says. The new LEDs also are dimmable, which was important to the hotel staff for use in setting the ambiance in the ballrooms.

In the case of the VFDs, there is the benefit of extended life on the belts that drive the motors in the air handlers. And, he adds, "With the VFDs, we can reduce airflow and slow the units down, so our guests don't hear the air gushing in through the vents. That makes a difference as far as noise is concerned."

The Baltimore Marriott Waterfront plans to explore additional energy efficiency upgrades and take advantage of more incentives. For example, the hotel has nine walk-in refrigerators. "We'd like to replace the old motors with energy-efficient motors," Novella says. "The project would cost about \$9,000, and we could get incentives worth \$1,600. So the net cost would be \$7,400. With the annual energy savings, we'd see a payback in just over 14 months."

His advice to other hotels: "Do the analysis of what it would cost, the annual savings and the incentives, and move forward. These incentives that BGE's Smart Energy Savers Program is offering can help you save energy and money."

The BGE Energy Solutions for Business program provides financial incentives and technical assistance to help businesses and nonprofit organizations maximize energy efficiency and reduce costs. Financial incentives cover up to 50% of the cost for retrofit projects and up to 75% of the cost difference between standard- and high-efficiency equipment for new construction and replacement of end-of-life equipment. For more information, visit BGESmartEnergy.com.

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