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ComEd Incentives **HELP CHICAGO MARRIOTT COMPLETE CHILLER** *Upgrade*

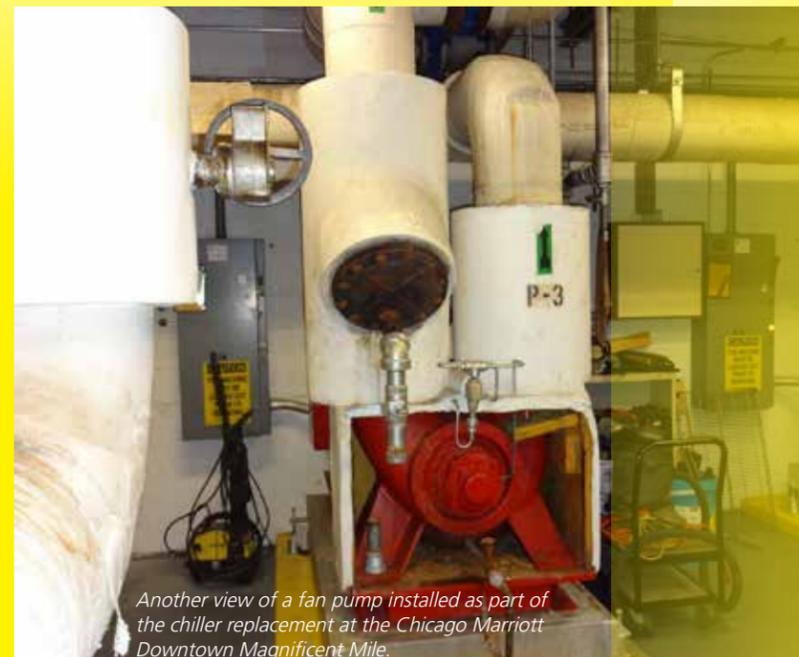
Forging Ahead with Advanced
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ComEd INCENTIVES HELP CHICAGO MARRIOTT COMPLETE CHILLER upgrade



Fan pumps at the Chicago Marriott Downtown Magnificent Mile. The chiller system services the hotel's 970,000 sq. ft.



Another view of a fan pump installed as part of the chiller replacement at the Chicago Marriott Downtown Magnificent Mile.

Marriott received over \$200,000 in incentives for its chiller replacement project because the team chose qualifying high-efficiency equipment.

PROJECT SNAPSHOT

Customer:

Chicago Marriott Downtown Magnificent Mile Hotel

Energy-saving improvements:

Tower and Chiller upgrades

Estimated first-year energy savings:

1,286,508 kWh

ComEd Energy Efficiency Program incentive:

\$205,200

Total Project cost:

\$3,795,000

Incremental cost for high-efficiency equipment:

\$637,773

Estimated annual electric cost savings:

\$102,921

Estimated payback after incentives:

6 years



Replacing the chillers at Chicago Marriott Downtown Magnificent Mile would have been a much tougher decision without the incentives provided by ComEd's Energy Efficiency Program.

The Chicago Marriott Downtown Magnificent Mile hotel occupies an enviable location along the city's Magnificent Mile, offering views of the surrounding city and Lake Michigan. To help the 970,000-square-foot hotel retain its status as a downtown destination for travelers, management is in the process of completing a range of upgrades, including an aesthetic facelift throughout its 1,200 rooms and suites.

Keeping pace with guest-facing enhancements, the hotel is giving some much-needed attention to its major mechanical systems — most recently with the installation of new chiller equipment. As Marriott learned, choosing energy efficiency equipment not only lowers operating costs but also can earn incentives from the ComEd Energy Efficiency Program. Additionally, the ComEd Energy Efficiency program offers a variety of options, including direct incentives, to help customers pay for these improvements.

Setting Sights on Improvements

For more than 40 years, the Chicago Marriott Downtown Magnificent Mile had relied on its original mechanical equipment to keep guests comfortable year round. In particular, two 1,200-ton chillers worked in concert with a cooling tower on the roof to keep the hotel's guest rooms and suites air conditioned during the hottest months of the year. Though still functioning, that original equipment was struggling to keep up with the demand. According to Ty Sanders, the hotel's director of engineering, the chillers were beyond the end of their useful lives, and it was time to explore options to bring the system up to date.

In 2011, Marriott called on a longtime professional partner to provide recommendations for replacing the old equipment. Grumman/Butkus Associates (G/BA), a consulting and engineering firm that specializes in energy efficiency and

(Continued on page 40)



The chillers at the Chicago Marriott Downtown Magnificent Mile hotel were located in one of the least accessible parts of the building. The new chillers had to be disassembled and brought through the elevator shaft.

sustainable design, completed a master survey of the hotel.

“All the equipment was doing its best, but it was coming up against age and efficiency problems,” said Eric Rosenberg, a project manager at G/BA. “Reliability was always in the back of everyone’s mind. Marriott didn’t want the equipment to fail one day. So we helped them devise a plan for making upgrades.”

G/BA presented Marriott with a report summarizing the condition of major equipment throughout the hotel and suggested ways to move forward while saving energy and money. The report provided a framework to help the hotel’s ownership to weigh funding, capital planning and anticipated operational disruptions that could play a role in project planning.

While modernizing the hotel’s interior spaces, Marriott management decided to replace the chillers during an upcoming heating season. The upgrade process involved competitive bidding among Chicago-area contractors. In the end, Marriott selected Mechanical Incorporated as the project’s general contractor.

“We faced some highly-respected competition during this process. I specifically put together a team for the build out of this job, and since we’ve worked together for 25 years, it was only right,” said Kirk Jurinek, a senior project manager at Mechanical Incorporated. “We’ve probably installed 60 to 70 chillers, so I think that was refreshing to both Marriott and Grumman/Butkus Associates.”

Bringing in Energy Efficiency

Once Mechanical Incorporated was chosen in 2017, construction could begin. One of the first and most important decisions made to improve energy efficiency was to downsize the two existing 1,200-ton chillers and replace them with three 800-ton chillers.

“They really only needed to run both chillers at full capacity a couple days of the year,” said Rosenberg at G/BA. “But be-



Adding a third chiller gave Marriott greater flexibility of temperature control throughout the property, and provided redundancy in case a backup should be needed.

cause of the chiller size, even on a mild day, they might have needed to use both of them. Smaller equipment allows for greater flexibility in switching from one to another. It’s just a better way to run the building without relying on two older pieces of equipment.”

Jurinek’s team at Mechanical Incorporated designed a three-dimensional building information model to show exactly how the new equipment would fit into Marriott’s existing layout. The model enabled contractors, engineers and Marriott staff to envision the completed installation before any equipment even arrived.

“The modeling really helped with the efficiency of the installation,” Jurinek said. “Because Marriott’s engineers know their building so well, they were able to offer helpful logistical insight throughout the project.”

Construction began in October 2017 to coincide with the hotel’s heating season. Marriott’s Sanders said this step minimized any impacts on operations, as the hotel primarily runs boilers during the colder months.

“We also had been under renovation for four years, so we were used to cycling materials in and out of the building,” he said.

Jurinek agreed that cooler outdoor temperatures made fall a prime time to start the chiller replacement. However, he described a few additional obstacles that crews worked around to prevent any disruption to hotel guests and employees.

“The chillers are tucked below the hotel’s loading dock in one of the least accessible parts of the building,” he said. “Though the new chillers are smaller than the previous equipment, they still had to be completely disassembled to be brought in through the elevator shaft.”

To coordinate all the moving pieces, Mechanical Incorporated oversaw the various trade professionals to complete the installation on time and on schedule. Grumman Butkus worked diligently to help Marriott secure thousands of dollars in incentives through the ComEd Energy Efficiency Program.

Negligible interruption to daily operations confirmed Marriott’s decision to make this energy efficiency upgrade a



Back view of the fan pumps at the Chicago Marriott Downtown Magnificent Mile.

priority. The availability of incentives from ComEd made the chiller replacement a no-brainer.

“The rebates were a nice bonus to move the project forward,” said Sanders. “They made the approval process go smoothly.”

Marriott received over \$200,000 in incentives for its chiller replacement project because the team chose qualifying high-efficiency equipment.

“The ComEd program is particularly nice because it has prescriptive options where you can almost check the box. If you install this piece of equipment, you’ll get this incentive amount,” Rosenberg said.

Everything from high-efficiency heating and cooling equipment to LED lighting and variable frequency drives for motors and fans can qualify for incentives.

“And the utility also offers custom options if you’re doing something a little more involved,” Rosenberg added. “If you have an idea that reduces electricity use, the custom program is there to provide incentives to move the project forward.”

ComEd’s custom incentives are based on the actual kilowatt-hour savings achieved by a project in the first year after it is completed. Qualifying projects can earn incentives up to \$0.07 per kWh saved in the first year.

“It’s a great way to get people to think beyond the cheapest approach,” said Rosenberg. “With greater energy efficiency and better products moving forward, customers can save even more on energy costs over time.”

Recognizing Multiple Benefits

Following a seamless approval and installation process, Sanders said the hotel has achieved numerous benefits from the new cooling equipment.

“Our energy savings from the chillers add up to approximately \$100,000 per year,” he said. “Our guests and employees are more comfortable. From a maintenance perspective, we’ve received fewer service calls, and the new equipment allows us to operate more efficiently during periods between the heating and cooling seasons.”

The addition of the third chiller also gives Marriott more flexibility to control the temperature in spaces across the hotel. “With the old equipment, if they had to shut down one chiller during the summer, they could run into issues,” Jurinek said. “Now they have the luxury of energy savings, with greater options for operations and maintenance.”

Investments in energy efficiency also can yield benefits that last for years to come. “People used to look at their energy bills and say, ‘We’ve got to do something to lower them,’” Rosenberg added. “Now, many people think beyond that and try to make things better not only for themselves, but also for future generations. There is a nice ripple effect with reduced energy consumption.”

Building for the Future

Sanders described Marriott’s chiller replacement project as a complete success and encourages other businesses to pursue energy-saving options. “Not only will these upgrades help preserve our natural resources, but the cost savings are an immediate benefit to our ownership,” he said.

Rosenberg applauds Marriott’s leadership and approach in replacing outdated equipment before experiencing major issues from a failed system. He advises other businesses to take a similar route.

“If you can plan for upgrades and get started before it becomes an urgent need, you’ll be able to find the best long-term solutions for your business,” Rosenberg said. “With incentives offered through the ComEd Energy Efficiency Program, you can save even more on the upfront cost. Now is a great time to invest in improving your energy efficiency.”

For more information on incentives available for energy efficiency upgrades and how ComEd can help, visit ComEd.com/BizIncentives, call (855) 433-2700 or email BusinessEE@ComEd.com for businesses, or PublicSectorEE@ComEd.com for public sector customers.

Terms and conditions apply.

Actual savings will vary by customer’s energy usage and rate.

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The ComEd Energy Efficiency Program is funded in compliance with state law.



Not an easy install: chiller at the Chicago Marriott Downtown Magnificent Mile.