



CASE STUDY: ARIZONA CHARLIE'S

Economizers Cut Cooling Costs For Hotel & Casino

At 57,000 square feet, the casino facility at Arizona Charlie's Decatur includes a gaming area, race and sports book, multiple restaurants, buffet, back-of-house areas, a large bingo hall, ballroom, office spaces, various retail shops, and hotel registration. Cooling is provided 24 hours a day using chilled and hot water coils, variable-air volume terminal boxes and 31 packaged rooftop air conditioners (RTUs). The RTUs represent a significant portion of the facility's total energy consumption.

With expert guidance from NV Energy, Arizona Charlie's chief engineer decided to upgrade the facility's most energy-intensive RTUs. The hotel installed dry bulb economizers on 28 RTUs, which were all larger than 7.5 tons. Economizers allow RTU compressors to run less by using free outside air for cooling when temperatures are below a certain threshold. Arizona Charlie's also implemented energy management system (EMS) programming to control the operation of the economizer dampers.

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More about this project...



Project Summary

Economizers are especially beneficial in facilities like Arizona Charlie's that operate 24 hours a day because they can take advantage of free cooling at night. Las Vegas, and communities in similar climates, experience a significant number of nights with cooler temperatures during the peak cooling seasons of summer, spring and fall. Economizers could save anywhere from 15%-80% of the energy used for cooling in these climates. They also can extend the life of cooling equipment by decreasing the use of the RTUs' compressors.



Energy-saving Equipment

Based on a projected annual energy reduction of 200,657 kWh, this project earned a cash rebate of \$6,000 from NV Energy. It is also estimated to save more than \$16,000 in annual energy costs. With the rebate and projected savings on electric bills, Arizona Charlie's expects a return on its investment in 2.5 years.



Project Results

Building Type: Hotel/casino

Project Type: Retrofit

Measures: Installation of economizers on 28 RTUs and EMS programming to control operation of the economizing dampers

Incentive: \$6,000

Projected Annual kWh Savings: 200,657