



# Westgate Casino Energy Efficiency Project Engineer of Record

## PROJECT INFORMATION

### CONCORD DIVISION

Commercial

### PROJECT LOCATION

Las Vegas, NV

### MARKET

Gaming

### SERVICES

Energy Efficiency

## PHASES 1-3

### PROJECT OVERVIEW

Total Completed  
Contracts \$4,220,800

Rebates and Incentives  
\$651,580

Annual Savings  
\$1,361,018

Internal Rate of Return  
38%

Investment Recapture  
Period 2.6 Years

10 Year Positive Cash  
Flow \$10,071,533



## PROJECT SUMMARY

Considered to be the largest hotel in the world until 1990, consisting of 3,100 guest rooms, a large casino gaming floor, several restaurants, meeting rooms, expansive convention spaces and the city's newest and biggest Sport Book venue. The property is owned by Westgate Timeshare Resorts from Orlando, FL.

Rich Energy Solutions proposed a multiple phased partnership approach to reduce the energy costs in the building over a 3-year period using the energy savings, rebates and maintenance savings to pay for future phases over time.

A building survey found there were 204 large air handling units being controlled by 7 outdated building management systems. Some of them were DOS based with only temperature readings and localized control.

Concord Engineering and Rich Energy Solutions identified the largest HVAC pieces of equipment in the building and developed a comprehensive plan to migrate the units one at a time onto a new web based open protocol platform. The casino floor and convention spaces received an LED lighting retrofit with more than 20,000 Philips LED lamps and fixtures. A chiller plant optimization software package was installed to control the 6 chillers that would all run 24/7 in the summer season based on the way the system had always run in the past. The optimization software has saved an average of 2,000-tons of chiller operation using algorithms to modulate the systems equipment based on occupancy, outdoor air temperatures and demand.