



# Chiller plant redesign results in improved occupant comfort and efficiency; also increases occupancy by 20%

41%

Reduced energy consumption

54%

Reduced actual facility expenses

## Challenges

Due to aging, unreliable chillers — one failing — decreasing occupancy rates and increased comfort complaints, this hotel in Dallas, sought to replace the aging systems and improve customer comfort.

- Ongoing repair expenses for old and deteriorating equipment.
- Increasing cost of operation due to inefficient and outdated controls.
- Update aging HVAC and refrigeration infrastructure

## Solutions

After initial audit and evaluations CVAL was assigned to help the hotel address their equipment and high energy cost challenges. As the hotel's energy services company (ESCO), CVAL Innovations began work on redesigning the building systems. CVAL took a holistic approach to the building design, looking at the entire facility. Based on the results of the calculations and in cooperation with equipment suppliers the following solutions were implemented.

- A high efficiency chiller was selected to provide enhanced comfort for the high-occupancy hotel. The unique selection of equipment allowed for a wider Delta T, resulting in better humidity control.
- Installed high efficiency HVAC systems which eliminated significant annual equipment operation and maintenance expenses from the hotel's budget.
- Selecting the right-sized equipment, eliminated the need to tear down exterior walls for installation, saving time, materials and labor costs.
- The direct drive compressor design with only three moving parts reduces failure risk for improved reliability and lowers maintenance expenses.
- Proposed several low cost and no cost measures.

Our team spent time with the clients to understand the detailed nature of their business and based on initial consulting propose a customized solution that was beyond the conventional design and implementation practices.

ROI

**3.9 years**