



A Trane Tracer Summit™ building automation system optimizes overall HVAC system operation for guest comfort and efficiency.

The Oxford Hotel: Sustainability Efforts

The new, high efficiency Trane HVAC systems at The Oxford Hotel are only a part of the hotel's extensive sustainability program. With the ever-growing concern for energy efficiency, waste reduction and water conservation, The Oxford Hotel is building employee and guest awareness of how to protect and conserve natural resources. Sustainability programs include:

- Recycling throughout hotel offices
- Using 30 percent post-consumer recycled paper products
- Selecting environmentally and socially responsible suppliers
- Removed the hotel from all unwanted mailing lists to reduce bulk mailing waste
- Turning off all computer monitors not in use
- Using Rainforest Alliance Certified Coffee
- Using environmentally friendly bath and face tissue
- Using environmentally friendly cleaning products
- Using compact florescent light bulbs
- Providing guests with a 100 percent smoke-free environment
- Using indoor and outdoor sensor lighting to minimize light pollution
- Replaced high flow toilets with water efficient models
- Installed low-flow, water efficient aerators and showerheads
- Donating and/or recycling unneeded uniforms, linens, furniture, supplies, toner cartridges, partially used amenity bottles, etc.
- Environmentally appropriate cleaning chemical disposal
- Provide employees an annual EcoPass transit pass to encourage mass transit Promote the use of airport shuttle bus service
- Offer guests a courtesy town car for more efficient transportation for multiple parties and to reduce emissions

The Oxford Hotel

Trane HVAC Systems Upgrade • Denver, Colorado

The Oxford Hotel is a luxury and boutique hotel in lower downtown Denver. Magnificently crafted, the hotel opened its doors in 1891 as Denver's first hotel. The 80-room historic hotel boasts rooms with the finest amenities, 24-hour room service, three dining rooms and the Oxford Health Club & Fitness Center. Meeting and event spaces can accommodate groups from six to 250 guests. Since its opening The Oxford has always been on the forefront of new technologies. Even in its earliest days the hotel maintained its own power plant with an advanced system of steam heating, electricity and gas lighting. Today, the hotel maintains an extensive energy efficiency, conservation and sustainability program.

Challenge

The last time The Oxford Hotel's HVAC system was upgraded was in 1982. In 2009 the system needed replacement to not only assure continued guest comfort, but also take advantage of new, more efficient and green HVAC technology. A major concern in the upgrade project was retaining the hotel's originality and charm. Another factor in the upgrade was proper temperature and humidity control for the preservation of the hotel's extensive, famous collection of 19th and 20th century paintings of the American West.



Project Summary

Trane HVAC upgrades help luxury hotel improve guest comfort and save energy.



Ed Blair, General Manager at The Oxford Hotel said, "The Oxford opened in 1891 which meant that it was a real challenge to install a new, state-of-the-art HVAC system. The new system had to be installed in pieces. An additional challenge was our chief engineer's charge to design a system with adequate redundancy while driving energy efficiency."

Solution

Trane proposed replacing the existing chillers with two new Trane Model RTWD Series R™ helical rotary chillers manufactured in Pueblo, Colorado. Each chiller has a cooling capacity of 141 tons while consuming only .563 kW of electricity per ton of cooling at full load, and as little as .482 kW per ton at part load.

Trane also recommended installing a Trane Tracer Summit™ building automation system to optimize operation of the overall HVAC

system for maximum guest comfort and system efficiency. To further boost efficiency a plate-and-frame heat exchanger was installed in the chilled water system to provide free cooling during winter months—without the need to operate the new electric chillers.

Ed Blair added, "We chose Trane because they offered the most innovative solution, the best price and the Trane Model RTWD Series R™ chillers are manufactured in Colorado."

Results

The combination of the new, high-efficiency Trane chillers, the Tracer Summit building automation system and the free cooling feature make the new HVAC significantly more efficient than the old HVAC system.

Ed Blair says, "In addition to about \$34,000 in rebates from Xcel Energy, kW usage is down by nearly 25 percent since installing the system



*Michael Michna,
Chief Engineer at The
Oxford Hotel.*

in April. Our electric expenses since installing the system have come down as well."

Electricity costs for April, 2009, at The Oxford Hotel declined 48 percent compared to April, 2008. May, 2009, saw a 63.8 percent decline compared to May, 2008. Costs in June and July 2009 declined 54.8 and 23.3 percent, respectively, compared to the same months in 2008. Blair adds, "Some of this may be affected by the weather and rates, but not all of it. It is the new system!"

Blair adds, "We're delighted to be able to partner with Trane, whose manufacturing and service standards have earned a global reputation for quality. We look forward to the ongoing return on our investment through the significant efficiencies that the Trane system will provide, as well as to continuing to provide our guests with our signature Oxford hospitality."

Jake Sloan, Service Account Manager for Trane and an OT and LEED Accredited Professional, said of the project, "Trane is excited to work on such an interesting project in such a unique location as well as provide a solution that is aligned with The Oxford Hotel's business objectives."

Walter Isenberg, President and CEO of Sage Hospitality, the parent company of The Oxford Hotel, said, "An historic property like The Oxford Hotel presents some unique challenges as we apply green technologies for the 21st Century. Sage Hospitality is dedicated to preserving the integrity of the building and the historic charm of the structure while applying new infrastructure like this cooling system that allows us to provide a greater guest experience and create a more environmentally friendly and sustainable property."

Systems Installed

- Trane Model RTWD Series R™ helical rotary chillers
- Trane Tracer Summit™ building automation system