

Convention center food service reduces energy use and earns utility rebate



Result

- The San Diego Convention Center lowered its energy usage, enhanced system efficiency and was awarded a rebate check in the amount of \$5,000 from the San Diego Gas & Electric Energy Efficiency Rebate program
- Replacement of multiplex system with individual compressors boosted reliability and reduced the chances of complete system failure
- Move to more eco-friendly refrigerant R-404a and reduced energy use supported strong commitment to sustainability

Application

Food storage coolers and freezers

Customer

The San Diego Convention Center is a 2.6 million square foot facility that spans eight city blocks, employs 550 and has hosted over 5,500 events since its opening in 1989. As one of San Diego's strongest economic engines, the SDCC was one of the first convention centers to adopt the EPA's *Reduce, Reuse, Recycle* policy, well ahead of most other convention centers in the U.S.

Challenge

Food service is one of the cornerstones of any convention center's operations. The San Diego Convention Center houses two kitchens to provide food service. The original kitchen, the West kitchen, houses walk-in coolers and freezers with individual condensing units; these units are serviced and replaced as needed. The East kitchen – commissioned in September 2001 – includes three walk-in coolers and one walk-in freezer that were controlled via a multiplexed condensing system. While this arrangement worked well early on, it became more problematic as condensing unit failures occurred, presenting the potential for catastrophic



*Copeland Scroll™ Outdoor Refrigeration Unit
X-Line Series*

system failure. As the newer kitchen, the East kitchen is the more used of the two; as such, potential system failure of the coolers and freezer in this operation created unwanted risk.

Solution

When the Center's operations staff learned of the potential increased energy savings and uptime as well as an energy rebate from the local utility, it began to explore condensing unit replacements for the East kitchen coolers and freezer. Working with Emerson Climate Technologies, Inc., it was determined that Copeland Scroll™ Outdoor Refrigeration Units X-Line Series could replace the existing multiplex system and deliver the desired results.

Installation took place over seven days. While the East kitchen coolers and freezer was down, food was moved onto refrigerated semi trailers on the loading dock. In addition to the condensing unit replacement, the Center's operations and maintenance staffs upgraded the electrical systems for the kitchen.

The Center's operations staff expects that the new condensing units will provide an added benefit in terms of their rugged construction and corrosion resistance. As the Convention Center is located just 100 feet from the Pacific Ocean, the salt air caused considerable corrosion issues on the old system's aluminum fins.



Summary

The Copeland Scroll Outdoor Refrigeration Unit X-Line Series provides the highest energy efficiency available in a standard unit. Available in sizes from 1.5 to 6 HP, the X-Line Series combines the latest Copeland Scroll compressor technology, variable speed fan motor control, large condenser coils and a high efficiency fan blade design. This allows operators of walk-in coolers and freezers to realize up to 40 percent higher annual energy efficiency when compared to standard offerings.

The slim profile, lightweight design and wall mount capability of the X-Line Series provide additional benefits such as crane rental savings, flexible location option, ease of installation, service savings and compliance with noise ordinances.

X-Line units feature standard CoreSense™ Diagnostics to provide key information to field technicians. This allows fast and accurate troubleshooting to lower maintenance costs and avoid nuisance service calls. It also offers built-in compressor protection to extend equipment life.



Resources

For more information to achieve similar benefits in your application, contact:

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