



PureComfort™

Integrated Energy System in Hotel (Gas Technology Institute)

Benefits of Integrated Energy Systems

Capital Cost Reduction

Pre-engineered systems can cut CHP system capital costs by 15% to 30%.

Shorter & Less Expensive Installation

IES can reduce CHP system installation time by as much as two-thirds, and provide corresponding installation cost savings.

Replicability

System designs are suitable for multiple applications in facilities around the country.

Optimize Facility Energy Use

Pre-engineered systems allow facility operators to manage power generation, cooling, and heating to optimize energy use as well as reduce electricity use during peak periods.

Simplified Systems

The use of exhaust-fired absorption chillers eliminates the need for steam/hot water generation equipment.

Adaptability

The small size of this system means it is especially well-suited to retrofit applications and augmentation of existing systems.

Program Contact:

Therese Stovall
Oak Ridge National Laboratory
(865) 574-0329
stovalltk@ornl.gov
<http://www.eere.energy.gov/de/>

Project Overview

Gas Technology Institute (GTI), of Des Plaines, Illinois, is collaborating with a UTC Power project to install a PureComfort™ 240M system at a Ritz Carlton Hotel in San Francisco, California. The PureComfort™ system is pre-engineered to include four Capstone microturbines integrated with a double-effect absorption chiller with a rated capacity of 229 kW net electricity and 161 tons of chilled water. Partners on this project are UTC Power, Carrier Commercial Systems, and Host Marriott. Knowledge gained from this hotel installation will document first cost and energy cost savings, and create critical lessons-learned that can enable widespread replication throughout the lodging sector of the economy.

Benefits:

- Document reductions in hotel operating costs through use of combined cooling, heating, and power.
- Provide high visibility demonstration of CHP benefits in the hotel sector.
- Reduce peak electric demand through "free" waste heat generated chilled water.



Objectives

- Establish confidence in the traditionally risk adverse hotel building design community that integrated CHP systems are technically and commercially viable alternatives to traditional power and HVAC products.
- Validate building power and HVAC load integration and cost benefits of integrated systems.
- Demonstrate an integrated energy system that can be replicated throughout the Host Marriott system, as well as other hotel chains.

Project Contact:

John Kelly
Gas Technology Institute
Director, Distributed Energy Group
(847) 768-0665
john.kelly@gastechnology.org

