Newberg, Oregon

THE ALLISON INN AND SPA

CHALLENGE

Prove sustainability can be synonymous with quality and comfort in high-end hospitality

SOLUTION

CITY MULTI® VRF zoning system with heat recovery

RESULT

Ultra-quiet operation, exceptional individual comfort control for guests and energy efficiency contributing to LEED® Gold certification

Located 25 miles southwest of downtown Portland, Ore., on 35 lush acres in Willamette Valley wine country, the Allison Inn and Spa (Allison) is the only member of Preferred Hotels® & Resorts in the state of Oregon and one of only 22 hotels in the world with LEED® Gold certification, according to the U.S. Green Building Council (USGBC). In 2010, the USGBC also recognized Allison as one of the top "notable newly certified projects" in the U.S.

The Allison features 85 deluxe guest rooms (including 20 suites with fireplaces, terraces or balconies and spa-like bathrooms) and a world-class spa. The 15,000-square-foot Allison Spa offers 12 treatment rooms, a swimming pool, a whirlpool bath and a fitness studio. JORY, the hotel's 100-seat signature restaurant, showcases Oregon Wine Country cuisine, featuring a 5-acre working vineyard and an acre dedicated to the chef's vegetable garden.

The hotel's owner, Joan Austin, CEO of Springbrook Properties, Portland, had always envisioned a hotel that would be a model of energy-efficiency for the hospitality industry. "That's just the way we think about things in Oregon," she said. As Austin attests, the thinking in Oregon is not always conventional. This is perhaps why she chose an unconventional architecture firm, GGLO, Seattle, as the designer of the hotel and spa.

"The Allison was designed to change traditional thinking about hospitality design—to prove that sustainability can be synonymous with quality and comfort," says Alicia Daniels Uhlig, GGLO's director of sustainability.

A SHOWCASE FOR GREEN INITIATIVES: SCORING 49 LEED POINTS

Thanks to judicious planning for sustainability, Allison scored 49 points (out of a possible 69) for New Construction, with high scores in the following categories:

- Sustainable Sites (9 out of 14)
- Water Efficiency (3 out of 5)

The sustainability initiatives of the Allison include high-efficiency plumbing equipment; solar powered hot water and electricity; double pane, low-E windows; energy-efficient lighting and a VRF zoning system from Mitsubishi Electric, selected because it provides superior efficiency compared to typical hospitality HVAC systems.

- Energy & Atmosphere (15 of 17)
- Materials & Resources (7 of 13)
- Indoor Environmental Quality (10 of 15)
- Innovation and Design (5 of 5)

Specifically, these green initiatives included vegetated open-cell pavement; 10,000 square feet of planted roof; water conservation; high-efficiency plumbing equipment in bathrooms and kitchens; solar powered hot water and electricity; double pane, low-E windows with south-facing orientation to reduce heating loads; energy-efficient lighting and a Variable Refrigerant Flow (VRF) zoning system from Mitsubishi Electric, selected because it provides superior efficiency compared to typical hospitality HVAC systems.

VRF ZONING SELECTION COMPLEMENTS HIGH-END LOOK AND FEEL

"When Apollo Mechanical, Inc., Portland, Ore. was awarded the full mechanical scope of work for the Allison project, final selection of the equipment and manufacturers had not yet been determined," said Mark Daskalos, general manager, Apollo, Oregon Division. "Based on our strong relationship with our distributor Thermal Supply Portland, Ore. and the Mitsubishi Electric engineering support group, as a team with Glumac Engineering Portland, Ore., we chose the VRF zoning system from Mitsubishi Electric. I am convinced we made the best decision for many reasons. "The product delivery, installation and startup support from Thermal Supply was top notch," Daskalos continued. "Of utmost importance to the owners was the high-end look and feel of the facility. The Mitsubishi Electric units went in cleanly, operate quietly and integrate well with the state-of-the-art house controls system."

Daskalos went on to say that the systems have been running smoothly for 2 1/2 years, warranty call-backs and operational problems have been minimal, and there are no equipment issues.

VRF ZONING TECHNOLOGY BEST FIT FOR AN UPSCALE DESTINATION RESORT

James Thomas, P.E., LEED AP, mechanical partner for the Portland office of Glumac Engineering, said that during concept design it became clear that the owner was aiming for the highest level of comfort and acoustic performance for Allison guests. "While conventional hydronic indoor units and heat pumps were evaluated along with VRF zoning systems, Glumac's previous experience with VRF zoning technology through the Mercy Corps World Headquarters project as well as site visits to the Deluxe Hotel in Portland convinced us that VRF zoning systems and Mitsubishi Electric were the best fit for an upscale destination resort." Thomas emphasized that the critical factors included quiet non-compressorized indoor units for minimal acoustic issues in occupied spaces, automation controls integrated into the product rather than applied by a third party, and Mitsubishi Electric's modular system design, which was best suited for the wide variety of needs demanded by the Allison's sophisticated accommodations and amenities.

In conjunction with the VRF zoning system for cooling and heating, fresh air ventilation was provided using natural ventilation in guest rooms. In the spa, business center, restaurant and event center, the VRF zoning system was combined with a dedicated outdoor air system. The outdoor air system delivers 100 percent fresh air through heat recovery air handlers to a VRF zoning distribution system. The system offers superb indoor air quality while minimizing the energy use that might be found in a constant volume makeup air system or a traditional Variable Air Volume (VAV) mixed-air system.
Roughly 14 percent of projected facility energy use is anticipated to be provided by the solar electric and thermal systems, including 35 percent of the considerable domestic water heating load typical for a hospitality facility.

"THIS VRF SYSTEM IS AWESOME"

"Before the discovery of Mitsubishi Electric's VRF technology and systems, I had experience with only two types of HVAC installations—Package Terminal Air Conditioner PTAC units [common in most hotels] and a VAV four-pipe system," said the Allison's Chief Engineer, Sean McClellan. "After a year-and-a-half managing the Allison's Mitsubishi Electric installation, I can honestly say I never want to work with any other system ever again."

Located in the Willamette Valley wine country in Oregon, LEED Gold Allison Inn & Spa was designed to prove that sustainability can be synonymous with quality and comfort.

McClellan said the Mitsubishi Electric VRF zoning equipment is not only very reliable and energy-efficient, but also easy to maintain and understand. "The outdoor units are almost silent, take up very little space and are good looking as well. Each guest has individual comfort controls in their room, which makes them happy, and for me, a snap to work with. This VRF system is awesome!"

PROJECT TEAM

Owner:
Springbrook Properties, Inc., Portland, Ore.

Architect:
GGLO, Seattle, Wash.

General Contractor:
Lease Crutcher Lewis, Portland, Ore.

Mech. Engineer:
Glumac Engineering, Inc., Portland, Ore.

HVAC Contractor:
Apollo Mechanical, Inc., Portland, Ore.

HVAC Distributor:
Thermal Supply, Portland, Ore.

EQUIPMENT

- (16) PURY R2-Series Outdoor Units
- (179) PEFY Ceiling-concealed Indoor Units
- (179) PAC Simple MA Remote Controllers
- (16) CMB Branch Circuit (BC) Controllers
- (4) GB-50A Centralized Controllers
- (1) BACnet® Interface