

ALL IS WELL

A team approach and creative design solutions ensure a successful installation at the Catskill Wellness Center.

It's cozy inside the Catskill Wellness Center, located in the Catskill Mountains, N.Y., due in large part to the radiant heating system that conditions it. Not only did this project – designed by John Abularrage of Advanced Radiant Design, Stone Ridge, N.Y. – win the Radiant Panel Association's 2002 System Showcase award in the Hydronic Commercial category, it also won the Judges' Choice award for overall highest score.

"This system is absolutely wonderful," says Bill Glass, maintenance manager for the facility. Glass, who served as a key member of the project team, adds: "There are just so many beneficial features that make it very responsive. It responds to the conditions of the

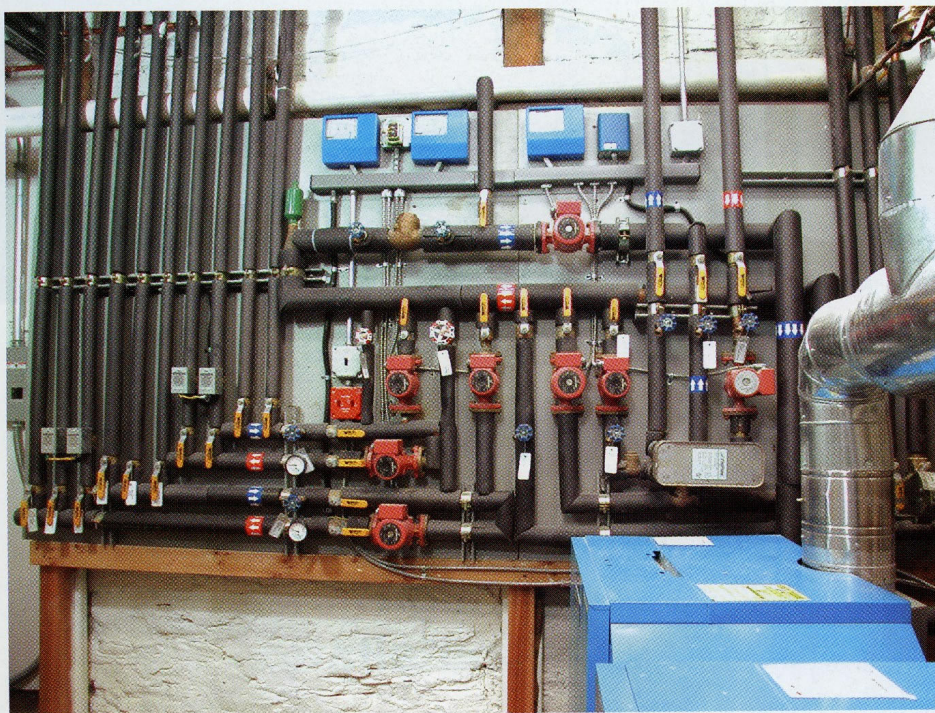
space and the needs of the occupants, and it doesn't waste energy heating areas that aren't occupied."

The 13,500-square-foot facility consists of three buildings and has 11 private guest suites along with several common areas. Overnight guests, who have interests in alternative medicine, are often present on the weekends, while occupancy varies more during the week.

The Center is a blend of old and new: two 75-year-old stone buildings are connected by a new building situated in the middle. The first floor of the new building is a reception area and meeting hall. The lower floor of one of the stone buildings consists of holistic treatment rooms, and the other consists of



The 13,500-square-foot Catskill Wellness Center consists of three buildings: two 75-year-old stone buildings on opposite sides, connected by a new building in the middle.



The control panel contains two independent mixes: one for low-temperature delivery to the slab areas, and one for the higher-temperature delivery to the areas where tubing is stapled up underneath the flooring.

living/gathering areas. The upper floors of the stone buildings house the 11 residential suites and are connected via a hallway, which is the second floor of the new building.

Construction already had begun by the time Advanced Radiant Design came aboard. When it became apparent that the job required a higher level of radiant skill than the original heating contractor could deliver, the project engineer recommended Advanced.

"We had worked together before," Abularrage says. "And since things were already in full swing, everything was on the fast track."

Advanced met with the project team – comprised of the client, architect, engineer, and general contractor – to define the scope and design criteria. From the beginning, the architect wanted a radiant system for the building, due to his experience with the comfort and efficiency benefits.

"We worked closely with the project engineer during the design phase," Abularrage says. "The design was challenging because of the varied usage of different areas and also the varied occupancy. The installation also posed challenges because of the complex multilayered framing sys-



The finished colored slab in the new building is grouted in the trowel lines to create the effect of terracotta tiles.

tems in the old buildings and because the buildings were attached by the new building and were connected mechanically via an underground tunnel. We had to work closely with the general contractor during this phase to ensure that the developing design could actually be installed and that it would coordinate properly with the other building systems."

The design comes alive

The new connecting building consists of two zones of radiant slab distribution: one for the north side and one for the south side of the building.

The radiant slabs were dyed to a terracotta color. The slabs were then troweled to form 2-by-2-foot "tiles" and grouted to complete the finish. The slabs had to be poured in diagonal quadrants to facilitate trowling.

The existing stone buildings each consist of two zones of radiant staple-up with hardwood flooring as the finished floor. Zones in each building were divided into north and south zones to account for the differences in solar gain.

The 11 guest suites on the upper floors of the stone buildings were heated with Runtal panel radiators in each bedroom and Runtal towel warmers in each bathroom fed with partially reset boiler water (the heating curve was set to give a maximum room temperature of 72 degrees Fahrenheit). Each suite is individually controlled with thermostatic radiator valves (TRVs) with remote dial actuators. The TRVs are centralized in wall cabinets in each building. The main distribution loop has a differential bypass valve to ensure proper head pressure and flow in the Runtal subsystem.

"Given the complexity of the building framing, we used ½-inch Wirsbo HePex Plus to feed the Runtal distribution from the radiator valves, reducing the installation labor by more than 50 percent," Abularrage says. "The use of Wirsbo's Propex connection system was simple, quick, and neat; it allowed us to save additional time and avoid any damage to finished walls and floors."

Two tekmar 370 house controls – one for the slab zones and one for the staple-up zones – control the radiant distribution. The controllers provide outdoor reset using variable-speed injection mixing. Additionally, the zones are controlled with room temperature units (sensors), providing indoor temperature feedback.

"This is essential given the unpredictable external variables of occupancy and usage patterns," Abularrage says.

The boiler system consists of two Buderus atmospheric LP gas boilers.

The boilers are controlled with a tekmar 262 boiler control, which stages, rotates, and resets the boiler water temperature. The 262 controller also integrates domestic hot water production, which is fed through a flat-plate heat exchanger to a 120-gallon storage tank, providing the required domestic hot water for the 11 suites and the main kitchen.

Advanced Radiant Design prefabricated the control panel in-house, as it does for all jobs. This consists of prepping, prewiring, and pressure testing, which saves time and helps ensure quality.

Advanced also provides comprehensive documentation for all jobs.

"The documentation for this project consists of system operational descriptions for each subsystem, system purging procedures, and system electrical, piping, tubing layout, TRV designation schematics, and valve charts," Abularrage says. "All control piping, valves, and wiring are labeled for clarity and cross-referenced with the system documentation."

Additionally, Abularrage trained the Catskill Wellness Center staff how to operate and maintain the system.

"He provided a thorough orientation not just once, but twice," Bill Glass says. "First alone with me, and then again with my staff and me. And if we ever have any questions, we just call John – he's very responsive."

Partnering pays off

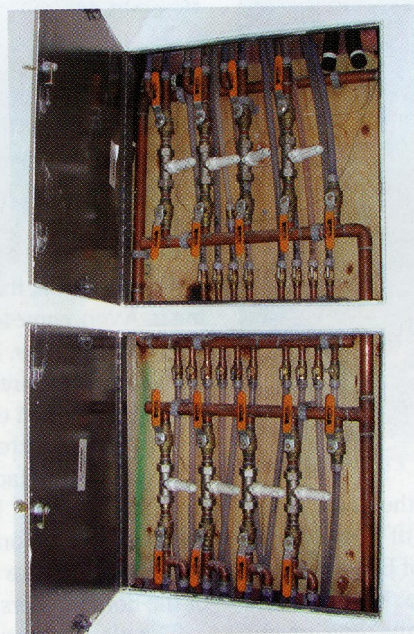
"While a team approach is important on any project, it was essential on this project," Abularrage says. "We had to make sure the installation would be accurate and take place on time to ensure that the client would be satisfied with the final system."

The approach paid off. Abularrage reports that since working with the general contractor on the Catskill Wellness Center, Advanced Radiant Design has become its radiant contractor of choice.

"They appreciate our technical expertise and installation abilities," Abularrage says. "Additionally, our communication and documentation



The 11 guest suites feature panel radiators and towel warmers in the private baths.



The thermostatic radiator valves are centrally located in wall cabinets for easy servicing.

skills free them from administrative overhead, allowing them to take care of other business. We're currently doing another 5,000-square-foot institutional radiant project with them, including two zones of snow melt."

The project engineer also has recommended Advanced as the "preferred" radiant contractor on a 50,000-square-foot radiant project with almost 10,000 square feet of

snow melt.

"We had worked with the project engineer before, but the Catskill Wellness Center was the first time we worked that closely," Abularrage says. "It really allowed us to establish ourselves as a true partner."

Bill Glass, equally impressed with Advanced Radiant Design, notes: "John is very meticulous. You can tell just by speaking with him that he keeps up with the latest in hydronic and radiant technologies. As a result, we have a system that we are highly satisfied with."

Abularrage adds: "While we take pride in building fine systems, we also focus on building relationships and strongly believe that the business relationships are just as important as the final product."

The strategy works. Advanced – which also won other System Showcase first-place awards for projects that will be featured in upcoming issues of *Radiant Living*, as well as first-place awards in 2000 and 2001 – continues to gain recognition for quality projects. For this job, all is well that ends well: the Center guests enjoy comfortable stays, and the building staff has a system that's easy to operate and maintain.

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