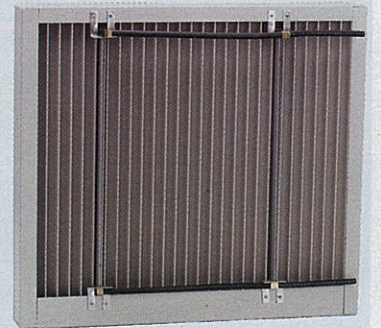


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# the NEWS



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## FYI...

A weekly roundup of industry news, events, and people

### Contractors

- **University Mechanical Contractors Inc.** (Mukilteo, Wash.) recently hired **Ted Vega**, detailer; **Kevin Coffman**, project engineer; **Mark Rosas**, detailer; **Steve Bueler**, design engineer; **James Drinkwater**, contract administrator; **Owen Welling**, project engineer; **Brandon Kappus**, HVAC detailer; **Mitch Droz**, project engineer; **Bob Hollowed**, operations manager.

### Manufacturers

- **Titeflex Corp.'s** (Springfield, Mass.) Gastite Division renovated its website, [www.gastite.com](http://www.gastite.com).
- **Emerson Network Power** (Columbus, Ohio) named **Earle Weaver** president of Liebert North America.
- **Outokumpu Heatcraft** (Grenada, Miss.) received a certificate of qualification from Underwriters Laboratories Inc. granting participation in the Client Test Data Program (CTDP).

### Distributors

- **United Rentals Inc.** (Greenwich, Conn.) opened a new contractor supply center in Edmonton, Alberta.

### Schools

- **The Building and Fire Code Academy** (Pittsburgh) is offering a class Nov. 1, on the mechanical aspects of the 2003 International Residential Code. Registration deadline is Oct. 18. For further information, call 800-488-7057.

### Software

- **Easy Street Inc.** (Lenexa, Kan.) reconstructed its website, [www.easystreetinc.com](http://www.easystreetinc.com).

— compiled by Angela D. Harris



A team of workers prepares a drilling rig for a vertical loop geothermal installation. (Photo courtesy of ClimateMaster.)

## Energy-Efficient Homes Priced Under \$60,000

**T**ULSA, Okla. — Can a home incorporate the latest technology in energy efficiency, safety, and indoor air quality (IAQ), yet be affordable for low- to moderate-income families? The answer is not just yes, but absolutely, according to Neighbor For Neighbor, a nonprofit organization that is rooted in empowering communities through affordable housing.

The organization recently presented the Millennium House in Tulsa, Okla., as a prototype of how to build an affordable home designed to offer the benefits of lower operating costs, higher energy efficiency, storm and fire resistance, and healthy IAQ for families on limited incomes.

“Low- to moderate-income families are the ones who really need the benefits of lower utility bills,” said Don McCarthy, project coordinator for Neighbor For Neighbor. “Buying a home is one thing, but being able to afford to live in it is another. The Millennium House demonstrates that it is possible to build a total

Continued on page 22

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NEWSPAPER



### software solution

Many contractors are turning to scheduling and dispatch software and wireless technology to help them make their businesses more profitable. For an example of how one contractor made the move, read the technical article “Using Industry Software To Manage And Grow Your Business.” Go to [www.achrnews.com](http://www.achrnews.com) and check out Extra Edition today.

# Casino Upgrades HVAC For Patrons, Staff

By B. Checket-Hanks  
Of The News Staff

**T**UNICA, Miss. — Many casinos share a common problem: A lot of their patrons smoke. It's a problem both for their non-smoking patrons, but perhaps even more significantly for their staff whose shifts tend to last longer than the typical patron is there. Smoke haze and odors can, however, be addressed through HVAC upgrades.

Sam's Town Resort & Casino is one of nine casino resorts pulling in more than 12 million visitors a year in Tunica, Miss. Sam's Town, located just south of Memphis, Tenn., has more than 1,000 hotel rooms, a 1,600-seat entertainment complex, restaurants, golf course, and RV Park. In its location, it also has a significant latent load.

It was originally built in 1994, but a series of additions and renovations made it necessary for the facility to upgrade its HVAC system, which now serves a 90,000-square-foot casino area. The casino's owners had two objectives:



A Sam's Town HVAC technician and director of facilities Steve Richey look at prefilters on the air cleaner section in one of 12 air handling units at Sam's Town Resort & Casino in Tunica, Miss.

1. On busy weekends, the filtration system was not meeting their expectations. In addition to the haze, the ventilation system was unable to control the humidity and maintain a set point in the gaming area.

2. With more debates over sec-



Sam's Town upgraded to electronic polarized-media air cleaners and extended their maintenance schedule more than twofold. Media is changed every six months, where previously the filters required changing every two to three months.

ond-hand smoke exposure to employees and guests, the owners wanted to be proactive in addressing this issue before it became a problem.

Per state requirements, the casino is floating in a legal sense. "Most all of the vessels here are



Trane account manager Joel Winstead (left) discusses the recent HVAC system upgrade with Steve Richey while standing in the Sam's Town Casino in Tunica, Miss.

floating in a moat that is permanently moored," explained facilities manager Stephen Richey. "We're surrounded by five feet of water. Imagine if you would, a pond with a barge in that pond, and all the way around we built hotels, restaurants, and walkways."

Therefore, you can't actually pin the high humidity to the casinos floating nature. It's just the nature of the climate. "We're in Mississippi," said Richey. "We've got all the humidity and mosquitoes you'd want. It's a low, swampy humidity area anyway."

## New Equipment, Humidity Control

Trane Mid-South, Memphis, was contracted in 2003 to handle the project at a budget of just under \$1 million. Work started in November 2003 and was completed in June of 2004. Two equipment penthouses, one on each end of the two-story casino, each have six 40-hp constant-volume air-handling units.

New equipment consisted of Dynamic® Super-V air cleaners (with electronic polarized-media technology) installed on each of the 12 air-handling units. Trane heat recovery units were installed in each of the two equipment penthouses. Variable-frequency drives (VFDs) from ABB were installed on each of the air-handling units. Add-ons to the existing Tracer Summit® building automation system provided integration.

To address the high humidity, "We installed some heat recovery, basically using the exhaust air to treat the outside air and precool it," he continued. "We lowered the outside air by about 15°."

To address IAQ specifically, Toxalert IAQ sensors were tied to the system. Vaisala humidistats located throughout the casino maintain a set point through Tracer Summit.

Air infiltration points on the outside of the casino were identified and sealed to prevent infiltration of untreated air. "When you come shore side onto the floating vessel, there's a 12-foot gap between the boat and the building, kind of like an enclosed gangplank area," explained Richey. The gangplank was covered, but there was a slight gap just before the entrance to the casino, similar to the gap travelers see between the walkway and "right before you step on the jet," Richey said. "These were areas that we tightened up quite a bit."

"Cleaner air and increased comfort levels were the goals," noted Joel Winstead, the Trane account manager responsible for the project. "Accomplishing it with an investment payback of less than five years was the challenge."

## Filtration And Heat Recovery

The V-bank filtration systems were installed in place of 4-inch pleat filters in mixing boxes on each of the 12 air-handling units. The V-banks use nonionizing active filtration with polarized media technology to remove sub-micron particles and odors from the air, the manufacturer said.

The mixing boxes were modified to allow the V-bank racks to be disconnected and rolled out for service and maintenance. Each air-handling unit was fitted with 33 V-bank air cleaners, configured in three rows of 11, with a separate control panel.

"Control of tobacco smoke is something we do very well," stated Carl Mitchell, national sales manager for Dynamic Air Quality Solutions. "Most smoke particles are under 0.3 microns in size, and that's where we excel. And the activated

carbon removes odors and volatile organic compounds (VOCs), in addition to providing the conductor for the polarized field."

Heat recovery installed in each of the two equipment penthouses consists of a coil loop between a new outside air unit and exhaust unit. The new unit provides approximately 27,000 cfm of outside air per penthouse, according to Trane.

There also were ductwork modifications. "We had to run a separate duct from the outside

wall to the entering side of the heat recovery," said Richey. "We tied the return back to the exhaust side of the heat recovery." Exhaust air was tied into the returns of each air-handling unit. VFDs were installed on both the supply (outdoor air) and exhaust fan of each heat recovery unit.

Airflow measuring stations were also installed in each of the heat recovery sections to measure the volume of outside air and exhaust air being utilized. The heat recovery units recover and

transfer leaving air temperature to the incoming fresh air.

### System Control

Temperature and pressure within the building are maintained by the building automation system (BAS) for desired indoor comfort conditions on a consistent basis. According to Trane, control is achieved using the following parameters:

- The outdoor air fan on each heat recovery unit modulates based on building occupancy.

Occupancy data, maintained in the BAS, determines the rate at which fresh air is introduced into the casino to provide a minimum of 15 cfm per occupant.

- The VFDs on each air-handling unit modulate fan speed up and down based on the temperature inside the casino that is directly dependent on the actual occupancy. IAQ sensors serve as a system safety to increase airflow at the air-handling unit and heat recovery unit if necessary, and to help ensure optimum conditions throughout the casino.

- Exhaust fans on each of the two heat recovery units are controlled by pressure inside the casino. A slightly positive pressure is maintained in the building. Pressure sensors were installed on the first and second floor of the north and south side of the casino.

### Outcome

"I knew there would be improvement," said Richey, "but we were truly amazed at the difference. The smoke and the haze are gone."

As for the comfort, Richey added, "We had difficulty maintaining a comfortable temperature and a comfortable humidity level in July and August. We've just finished the hottest summer in five or

IAQ sensors serve as a system safety to increase airflow at the air-handling unit and heat recovery unit if necessary.

six years and the new system worked perfectly. If we decide to lower the humidity 10 percent, we can do so in less than an hour. In the past, it would take us all day."

The air cleaners are polarized, so they load evenly around individual fibers rather than on the face of the filter, the manufacturer explained. "We were changing four-inch pleat filters every two to three months," said Richey. "Now we are out to six months, which has a direct impact on cost."

The story doesn't end there."

Just this year, there was a fire in a service area below the casino. Smoke damage was significant enough for the gaming operation to be closed for a day, Richey said. One remediator gave the casino's owner a six-figure estimate to pump ozone into the space. As they explored their options, the smoke odor disappeared.

"It was icing on the cake for Sam's Town," said Richey. ☺

## HARDI Leadership A WIT Legacy

THE WIT GROUP RECOGNIZES MEMBER CONTRIBUTIONS TO HARDI LEADERSHIP

WIT & Co., one of the founding buying groups in the plumbing and heating industry, recognized Randy Tice of APR Supply Company for his dedication and commitment to the Heating, Air-conditioning and Refrigeration Distributors International with his promotion to President of the HARDI organization this year. Randy was a very active participant in the creation of HARDI, and had remained active in NHRW since his early years in the industry. Randy's industry insight and dedication to recruitment has been an asset to both WIT & Co. and HARDI. WIT would like to thank Randy for his hard and dedication to the industry.

The HVAC business has always been a large part of WIT. Today it is the fastest growing segment of WIT's business. WIT's HRA division for HVAC products is attracting very successful HVAC distributors and building programs with a variety of vendor partners in the industry. "WIT helps the independent distributor remain independent," says Tice. "WIT has allowed us to be a viable and profitable company in eastern Pennsylvania, growing from four to 13 locations in a very short time."

WIT also recognizes Brian Cobble, Frank Engel, Rob Engel, Jason Lute, Scott Nicholson, Pat Geary, Russ Geary, Michelle Geary, Frankie Geary, Grace McGee and Gary Proie for their leadership and commitment on the HARDI/NHRW boards and committees to the industry. In addition, other WIT distributor principals and employees have held various other national, regional and advisory positions that truly made a difference in their membership in WIT and their support of their industry associations.

"WIT members have always been and continue to be involved and dedicated members of the HARDI organization," said Don Frendberg, HARDI Executive Vice President/COO. "HARDI's ongoing success is derived from those types of individuals who are committed in every responsibility they assume."

"HARDI is extremely fortunate to share many very committed members with WIT. Such dedication is what assures the success of any organization. HARDI and WIT are comprised of leaders in business, the HVACR industry and their local communities. Their expertise and guidance are what make our organizations strong and vibrant," adds Frendberg.

WIT & Co. is a pioneer in the plumbing, heating and cooling industry. Established in 1974, it was the first member-owned group in the industry. Members are independent wholesale distributors committed to growth – and to each other. United in action and vision they capitalize on competitive opportunities and build win-win relationships with key vendors.

**"HARDI is extremely fortunate to share many very committed members with WIT. Such dedication is what assures the success of any organization."**

- Don Frendberg HARDI EVP/COO



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