

The Whistle

FHEA

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SPRING 2008



### *Welcome to Spring 2008!*

Recently while walking to my office from the parking lot at work, I was reminded of something. The birds were chirping, the air was crisp, fresh, and suddenly I was reminded that it most definitely was spring time. Looking around I thought of something else as well. (I do have some of my more enlightening thoughts and ideas walking from my vehicle to the office.) Taking in the environment around me I also noticed it was “green”.

Now, speaking of green, many of you, I am sure, are in the midst of some type of planning

## *The President's Corner*

**DAVE PALMER, CHE, PRESIDENT**

or implementation in your facilities with regard to “going green”. Why should we be concerned with this? We must concern ourselves for the simple survival of our ecosystem, the future generations, and for the planet. This year undoubtedly will be a “green year” for us all. Whether we become involved in simple recycling, or taking a closer look at environmentally friendly companies we do our business with daily, it becomes everyone’s responsibility. It is imperative we do all we can to sustain the planet and become stewards for the environment.

As we move forward mark your calendars for upcoming events. Our 24th Spring Meeting is May 9th at Embassy Suites Tampa-USF/Busch Gardens. I am excited about our education program “Optimizing the Healthcare Environment.” Skip Gregory will be there with updates on “New Design and Construction Standards.” Everyone should have received the program and registration so you can understand the reason I am excited about this. I hope all of you will be able to attend and take part in this important and informative program.

The ASHE 45th Annual Conference and Technical Exhibition will be held at the Gaylord National Hotel and Convention Center in Washington, D.C. I am proud and look forward to

representing FHEA as your President at the conference. I am hoping that many of you will also be able to attend.

ASHE always presents informative educational programs. The networking opportunity with those in attendance from across our country and International Colleges is always enjoyable and beneficial.

I want to thank John Willingham for preparing our ASHE Platinum Award for 2007. I also would like to take this opportunity to thank the members of the Board for their continued support throughout the year.

So, stop and smell spring in the air, look at the “green” in your environment, and get ready for an exciting year for FHEA.

# Welcome New Supporting Members

The following have joined our growing ranks since our last newsletter.

## ANTHONY M. COLELLA

*Sales Manager*  
Creative Power Solutions  
Groveland, FL 407/404-3828  
acolella@creativepowersolutions.us

## LARRY BLAKE

*Vice President*  
Creative Power Solutions  
Groveland, FL 352/255-1496  
l.blake@creativepowersolutions.us

## JIM MILTON

*EPG Sales*  
Ring Power Corporation  
St. Augustine, FL 904/201-7578  
jim.milton@ringpower.com

## JOHN FISCHER

*Director of Business Development*  
Danis Construction  
Jacksonville, FL 904/724-6045  
jfischer@danis.com

## ROBIN SHAFFER

*Branch Manager*  
Abatix Corporation  
Jacksonville, FL 800-998-2116  
rshaffer@abatix.com

## BRIAN HOLIDAY

*Senior Facility Consultant*  
Comfort Systems USA (Southeast), Inc.  
Pensacola, FL 850/484-4999  
brian.holiday@comfortsystemsusa.com

## N. DENNIS WHERRELL SR.

*Senior Account Executive*  
Comfort Systems USA (Southeast), Inc.  
Gainesville, FL 352/377-7772  
dwherrell@csusasoutheast.com

## JEFF PLANT

*Operations Manager*  
Comfort Systems USA (Southeast), Inc.  
Gainesville, FL 352/377-7772  
jplant@comfortsystemsusa.com

## JONATHAN MCKINNIS

*Sales Representative*  
Ingersoll Rand  
Longwood, FL 407/571-2004  
jonathan\_mckinniss@msn.com

## TRACEY FRILEY

*Project Manager*  
JSA  
Jacksonville, FL 904/353-5581  
tfriley@jsainc.com

## CURTIS A. RAY, JR., CPD

*Principal*  
Phoenix Engineering Group, Inc.  
Tampa, FL 813/931-0108  
cray@phoenixeng.us

## TODD GRAY

*Project Sales Engineer*  
Westbrook Services  
Orlando, FL 407/948-9413  
toddg@westbrookfl.com

## MICHAEL TEBOR

*Operations Manager*  
Air Duct Aseptics, Inc.  
Pompano Beach, FL 888/707-7763  
airduct@att.net

## GLENN L. SIMPSON

*Director of Marketing*  
Kossen Equipment, Inc.  
Clinton, MS 601/922-4444  
gsimpson@kossenequipment.com

## JERRY CAREY

*Contract Comm. Sales Rep. Specialist*  
Wheeler Distributors -Div. of J.J. Haines  
Hudson, FL 727/418-5988  
jcarey@wheelerfloors.com

## LAURA COPE

*Manager*  
Wesco Distribution  
Pompano Beach, FL 954/974-4010  
lcope@wesco.com

## CHRISTOPHER P. DUBOIS

*Account Executive*  
McQuay Factory Service  
Orlando, FL 407/948-8925  
chris.dubois@mcquay.com

## MARK HERTZ

*Mechanical Department Manager*  
McVeigh & Mangum Engineering, Inc.  
Jacksonville, FL 904/483-5200  
mhertz@mcveighmangum.com

*CORRECTION: We printed Premier's phone number incorrectly in our last issue:*

## THOMAS BRANDVOLD

*President*  
Premier Water & Energy Technology, Inc.  
Jacksonville, FL 904/268-1152  
noscale@premierwater.com

## STEVEN SCHUETZ

*Regional Account Manager*  
Anacom-Medtek  
Anaheim, CA 800-955-9540  
sschuetz@anacom-medtek.com

## JACK SHEPARD

*VP Sales*  
Griswold Filtration  
Orlando, FL 407/234-5106  
jshep500@gmail.com

## DANIEL TROIAN

*Contract Specialist*  
Wheeler / A Division of J.J. Haines  
New Smyrna Beach, FL 386/451-5089  
dtroian@wheelerfloors.com

## BETSY K. VANDERLEY

*Vice President, Business Development*  
KZF Design  
Orlando, FL 407/298-1988  
betsy.vanderley@kzf.com

## CHUCK EVANS

*Exec. VP and COO*  
DooleyMack Constructors  
Sarasota, FL 941/921-4636  
cevans@dooleymack.com

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## FLORIDA HEALTHCARE ENGINEERING ASSOCIATION



P.O. Box 150755  
Altamonte Springs, FL  
32701-0755  
Phone: (407) 332-7767  
FAX: (407) 830-1654  
Toll-Free: (877) 235-3432  
Email: aletheav@earthlink.net  
Web Site: www.fhea.org

**Alethea Vitray**  
**Executive Director**

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# High-Performance Dehumidification for Healthcare Facilities

Concerns about indoor air quality, particularly the growth and migration of mold and mildew, continue to increase in healthcare facilities. Managers and maintenance personnel are alert for new strategies to ensure the health of building occupants while protecting the integrity of the healing environment.

In response, Trane has developed the Cool, Dry, Quiet (CDQ™) desiccant dehumidification wheel. CDQ can improve the dehumidification performance of an HVAC system, eliminating humidity more efficiently than conventional reheat processing.

## Cool, Dry, Quiet

The CDQ concept was created by Dr. Charles Cromer at the University of Central Florida. His patented design was developed by Trane and partially funded by the U.S. Department of Energy (DOE). Trane technology incorporates this unique method into its HVAC dehumidification systems.

The CDQ wheel utilizes desiccants — substances that attract water vapor from the air — whose performance exceeds alternative products in energy and cost competitiveness.

Adding CDQ enhances the dehumidification performance of traditional cooling coils. The coil does the system's conventional dehumidification work; the CDQ wheel transfers water vapor. But this transfer increases the coil's latent dehumidification capacity, without raising its total cooling capacity. Thus the system achieves a lower supply-air dew point without lowering coil temperature. Unlike a system using a cooling coil alone, a CDQ-equipped system allows the

dew point of the air leaving the system to be lower than the coil surface temperature.

How does it work? The desiccant wheel is configured in series with the cooling coil, with the regeneration side of the wheel upstream of the coil and the process side downstream. CDQ adsorbs water vapor from the downstream air, then adds it back upstream, where the coil removes it through condensation. There's no need for a second regeneration airstream. And at only 8 revolutions per hour, the wheel won't add to maintenance problems.

## System Performance: The Benefits

Most CDQ applications achieve higher latent capacity per ton of total capacity, lower achievable supply-air dew point, and reduced reheat energy.

To remove the same amount of moisture, a cool-reheat system would need more cooling capacity and require air reheating. A CDQ system saves cooling and reheat energy and may even allow downsizing of the cooling equipment.

Additionally, CDQ lowers the cooling coil sensible heat ratio (SHR) — the ratio of sensible cooling to total cooling — without reheating. This helps the unit better match building loads, especially during part load conditions. Temperature gain from the wheel is minimal, typically 3°F to 9°F, allowing the system to cool and

—continued on page 4

## Reducing Operating Costs, Improving IEQ in the Surgical Suite: A Case Study

Franklin Memorial Hospital (FMH) in Farmington, Maine, wanted the latest in HVAC technology when it renovated its operating suites in order to satisfy its surgeons, "who wanted the temperature at 62-65 degrees, while the anesthesiologists and other staff wanted higher temperatures." Moreover, excessive humidity can require resterilizing surgical kits, adding thousands of dollars of expense.

For the solution, FMH worked with consulting engineers, to design and build a new packaged HVAC system combining an IntelliPak™ air-cooled chiller with a Custom Climate Changer™ air handler and a CDQ™ (Cool, Dry, Quiet) desiccant wheel to provide superior temperature and humidity control. The system included water pumps, piping, and the Tracer Summit™ automation system and controls.

**The result:** O-R doctors love the new system because it keeps them so comfortable.



dehumidify. The CDQ system can deliver a supply-air dew point lower than the cooling coil temperature. A cooling coil can typically dehumidify air to a dew point that is 5°F to 10°F above the fluid or refrigerant flowing through its tubes.

CDQ can also improve the energy efficiency of chilled-water systems. Producing warmer water temperatures to achieve lower supply-air dew points, chillers can be more efficient. A CDQ system may also reduce pumping power, by allowing reduced chilled-water flow rates, and eliminate or minimize the need for glycol.

Finally, using CDQ cuts the infrastructure costs associated with low dew point applications. Electrical service is reduced, separate process cooling loops are eliminated, and there's no need for separate regeneration airstreams.

## Applications

The CDQ system is ideal for applications requiring humidity control, including hospital operating rooms. These are kept not only at a low relative humidity, but also at cooler temperatures. The improved latent removal capacity of the CDQ system reduces needed cooling. Additionally, the lower supply-air dew points can eliminate the need for a secondary refrigeration coil or a heat-regenerated active desiccant system. Because the latter provide hot air (which requires significant post-cool-

ing), substituting a CDQ system can produce significant energy savings. The CDQ wheel may also

- Reduce "comfort complaints" by surgeons, ultimately improving surgeon retention
- Minimize breeding grounds for mold and nosocomial infections
- Reduce condensate on surgical suite ceilings, walls, and equipment
- Minimize bleeding and improve patient outcomes driven by lower temperature and humidity
- Improve drying time of glues for proper setting of joints in orthopedic procedures

- Reduce noise, improving working and healing environments.

## Conclusion

CDQ delivers a high level of efficiency at an affordable price. The system adds value via long life expectancy and quality engineering, plus long-term customer support and parts availability.

For more information, contact: Donald Decker, Business Development Manager, Trane, Healthcare Vertical Market Team, at phone: 615-565-9449 or email: DDecker@trane.com.

## At FHEA's 24th Spring Meeting:

# "Temperature and Humidity in Today's ORs"

Please join Donald Decker, Trane's Healthcare Vertical Market Team Leader and a fellow Healthcare Engineer, at our 24th Spring Meeting, "*Optimizing the Healthcare Environment*" in Tampa.

Embassy Suites-Tampa

Friday, May 9, 2008

Donald's presentation is: 8:30 AM

At this meeting, Donald will present the CEU-eligible program "Temperature and Humidity in Today's ORs."

In his presentation, Donald will address the drivers that are causing these new conditions – as well as the trends, current options, and new technologies that Healthcare Engineers must know to satisfy both surgeons and hospital administrators.

We strongly encourage you to attend – as these issues are critical for every professional healthcare engineer.

For more information, visit <http://www.fhea.org/08FHEASpMtgbroch.pdf>



Donald Decker

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## 24TH SPRING MEETING IN TAMPA

*Optimizing the Healthcare Environment***THURSDAY, MAY 8, 2008****A.M.**

8:30 Golf Scramble - The Claw at USF

**P.M.**

2:00 Early Registration (Lobby)

4:00 Board of Directors Meeting

6:00 Hospitality Suites

**FRIDAY, MAY 9, 2008****A.M.**7:00 Registration/Table-Top Displays/  
Breakfast on your own8:15 Welcome/Announcements/Introductions  
– W. David Palmer, CHE, President8:30 **Temperature and Humidity in Today's ORs**  
– Donald Decker  
Trane9:15 **Joint Commission New Emergency  
Management Standards for 2008**  
– Fred Osborne, P.E.  
Osborne Engineering, Inc.

10:00 Break/Table-Top Displays

10:30 **Joint Commission Life Safety Management  
Standards for 2008 - continued**  
– Fred Osborne, P.E.  
Osborne Engineering, Inc.11:15 **Updates on New Design and Construction  
Standards**  
– James R. (Skip) Gregory, NCARB  
Bureau Chief, Agency for Health Care Admin.

Noon Luncheon

**P.M.**1:15 **Electrical Changes/Updates - NFPA 99  
Emergency Standby Systems - NFPA 110**  
– Dan Chisholm, President  
MGI Systems, Inc.

2:00 Ice Cream Social/Table-Top Exhibits

2:30 Questions &amp; Answers

Closing Comments/Evaluations

Door Prizes

– W. David Palmer, CHE President

3:00 Adjournment

**Faculty****Donald Decker***Vertical Market Team for Healthcare,  
Trane**10 Years in the HVAC industry  
Mechanical Engineering Degree -  
University of Tennessee.  
MBA - Vanderbilt University.  
Currently consults with the For-Profit  
hospital chains based out of Nashville.***Fred J. Osborne, P.E.***President & Owner, Osborne Engineering,  
Inc., a healthcare consulting firm**Member of Committee on Healthcare  
Safety within the Joint Commission.  
BS in Chemical Engineering and BS in  
Nuclear Engineering - Northwestern  
University.***James R. (Skip) Gregory, NCARB***Bureau Chief, Office of Plans and  
Construction, Agency for Health Care  
Administration**Masters degree in Architecture -  
Rice University.**Certified Fire Safety Inspector.  
Adjunct Professor - Univ. of Miami  
School of Engineering.***Dan Chisholm***President, MGI Systems, Inc., a firm  
providing risk assessments, commission-  
ing and evaluation services on emergen-  
cy power for healthcare facilities.**Member, NFPA Technical Committees  
for NFPA 110 and Electrical Section,  
NFPA 99.**Consultant to US Army Medical Dept.  
and Dept. of Defense.***Scramble - The Claw at USF**

Thursday, May 8

8:30 AM

Thanks to the generosity of supporting  
member companies, this event is free for  
FHEA Active Members.

If you're interested in playing,  
please contact Greg Hodgson, CHE, CHFM  
before April 25th.

727-767-8876 - Office  
hodgson@allkids.org

# 24<sup>th</sup> Spring Meeting

# SPONSORS

*We are truly indebted to RLF and State-Line Products who have generously sponsored events during this conference.*



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### The following companies will have table top exhibits at this meeting:

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*Continued from page 2*

## New Supporting Members

### DAVID DYE

*Operations Manager*  
DooleyMack Constructors  
Sarasota, FL 941/921-4636  
[ddye@dooleymack.com](mailto:ddye@dooleymack.com)

### NORBERT PELAYO

*Project Manager*  
State-Line Products of S. FL, Inc.  
Pompano Beach, FL 954/971-0791  
[npelayo@statelinefire.com](mailto:npelayo@statelinefire.com)

### HANK VOGEL

*President*  
State-Line Products of S. FL, Inc.  
Pompano Beach, FL 954/971-0791  
[hvogel@statelinefire.com](mailto:hvogel@statelinefire.com)

### STEVEN C. NAPIER

*Sr. Project Manager*  
Kaufman Lynn, Inc. Gen. Contractors  
Boca Raton, FL 561/361-6700  
[snapiers@kaufmanlynn.com](mailto:snapiers@kaufmanlynn.com)

### CHARLES OTT

*Southeast Regional Manager*  
AirTest Technologies, Inc.  
Fernandina Beach, FL 904/654-8784  
[charles.ott@airtesttechnologies.com](mailto:charles.ott@airtesttechnologies.com)

### DANIEL R. HAUPT

*Director Healthcare Division*  
Ingenuity Engineers, Inc.  
Orlando, FL 407/398-6007  
[dhaupt@ingenuityei.com](mailto:dhaupt@ingenuityei.com)

### LAURA A. LEWIS

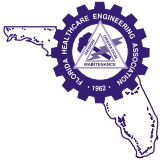
*Associate/Structural Project Engineer*  
TLC Engineering for Architecture  
Orlando, FL 407/841-9050  
[laura.lewis@tlc-eng.com](mailto:laura.lewis@tlc-eng.com)

### NEIL SILVERBERG

*President*  
Enrich Products, Inc.  
Pittsburgh, PA 800-369-7662  
[neil.silverberg@coppersilver.com](mailto:neil.silverberg@coppersilver.com)

### TREVOR LEWIS

*Business Development Manager*  
Coastal Mechanical Services, LLC  
Melbourne, FL 321/725-3061  
[tlewis@coastalmechanical.com](mailto:tlewis@coastalmechanical.com)



**FLORIDA HEALTHCARE ENGINEERING ASSOCIATION**  
P.O. Box 150755  
Altamonte Springs, FL 32715-0755

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*and mark your calendars for our*

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(Exhibitor packets will be sent out around Memorial Day)