



The A.S.H.R.A.E. Newsletter

American Society of Heating, Refrigeration and Air conditioning Engineers, Inc.
Southwest Florida Chapter # 139

Voted Region XII Best Newsletter for ASHRAE Year 1998 - 1999 & 2006 - 2007

March 2008

Volume 13 Issue 7



PRESIDENT'S MESSAGE

Greetings Chapter Members,

March, is the time of year for the Christian world to celebrate Easter, the holiest day of the year. It is also, or used to be, called "the kite flying month". I have no idea why it was called the "kite flying" month. I always felt like Charlie Brown when it came to flying a kite. Charlie's kite was always eaten by the kite eating tree. Mine just went up into the air, turned and nose dived to the ground. Oh well.

This month, I have a couple of new announcements. First, Chapter Member, Patricia T. Graef, of the Munters Corporation, has been awarded the "ASHRAE Fellow" Award for her work in the evaporative cooling and humidifying. Second, Bill Malphus has been chosen to receive the Distinguished Service Award for all of his dedicated work to ASHRAE Society and Region XXII. Congratulations and thanks to the both of them from your Chapter for your dedication to our organization and to advancing the science of HVAC!

The 2008 Backwater Fishing Tournament is April 19th. It is at Rum Runners in Cape Coral again. Please visit the website www.swflashrae.org for registration information. We need Sponsors!! We need fishermen! It should be a great time!

Best to all of you.

Michael Myers

Best Regards to all of you!

Michael Myers

2007-2008 SW Florida ASHRAE Chapter President

MARCH MEETING NOTICE

Topic:

**THE (PROPOSED) ASHRAE
STANDARD 189.1: HIGH
PERFORMANCE, GREEN BUILDINGS
CEU'S AVAILABLE**

Guest Speaker:

Dr. Tom Lawrence, P.E., LEED® AP

Meeting Location:

**Magnolia Room
Town Center at Pelican Preserve
(just off Colonial Blvd.)**

Date:

March 12, 2008

Time:

**5:00 – 6:00 Board of Governors Meeting
5:45 – 6:45 Technical Session
6:45 - 8:30 Dinner, Meeting and Program**

Cost:

\$30.00

Reservations are required.

RSVP to Stacey Perkins:

(239) 275-9420

Or

Sp Perkins@trane.com

Or on line at:

www.swflashrae.org

This Month's Topic:

MAIN PROGRAM – THE (PROPOSED) ASHRAE STANDARD 189.1: HIGH PERFORMANCE, GREEN BUILDINGS

BACKGROUND: ASHRAE 189.1, being developed by ASHRAE, the Illuminating Engineering Society of North America (IESNA), and the U.S. Green Building Council (USGBC), is intended to provide minimum requirements for the design of high-performance new commercial buildings and major renovation projects. The standard addresses energy efficiency, a building's impact on the atmosphere, sustainable sites, water use efficiency, materials and resources and indoor environmental quality. The program will provide insight into the intent, purpose, goals, challenges, benefits, and basic structure of the proposed standard.

***One CEU in the form of PDH will be offered for all registered professional engineers attending this presentation.**

Dr. Tom Lawrence, P.E., LEED® AP

Dr. Lawrence is a Public Service Associate with the University of Georgia, and has over 25 years of professional experience in engineering and environmentally related fields. Currently, he is vice-chair of ASHRAE Technical Committee 2.8, "Building Environmental Impact and Sustainability", and is a member of the committee writing an ASHRAE standard on high-performance green buildings (Standard 189.1). As an ASHRAE Distinguished Lecturer, he has given presentations and workshops on green building design at venues around the world. At the University of Georgia, Dr. Lawrence teaches or has taught courses in Building Environmental Control, Green Building Design, Industrial Ventilation, Residential Building Design, Heat Transfer and Thermodynamics, and in these courses he works to bring in sustainable design concepts practices. As part of the Engineering Outreach program, he is helping to coordinate building energy reduction activities within the state university system. Dr. Lawrence is also a consultant to Commissioning and Green Building Solutions in the Atlanta, Georgia area. He is an active volunteer with Habitat for Humanity, serving as Vice-President of the board of directors for the Athens, Georgia chapter while working to introduce sustainable design practices in the houses built there.

Dr. Lawrence has a B.S. with Highest Distinction honors in Environmental Science from Purdue University (1978), a M.S. in Mechanical Engineering from Oregon State University (1982) and a second M.S. degree in Engineering Management from Washington University earned in 1989. He received a Ph.D. in Mechanical Engineering from Purdue University in the spring of 2004 researching the impacts of demand-controlled ventilation on energy consumption and indoor air quality in smaller commercial buildings. Dr. Lawrence is a member of the American Society of Heating, Refrigeration and Air Conditioning Engineers; the American Society for Engineering Education and is a Phi Beta Kappa.

Past Presidents of #139 Southwest Florida Chapter

1982 - 1983 Edward O'Neal, P.E.
1983 - 1984 Edward O'Neal, P.E.
1984 - 1985 Dennis Holland
1985 - 1986 Ross Montgomery
1986 - 1987 Jeff Dorini
1987 - 1988 Kermit Rood
1988 - 1989 Bill Malphus
1989 - 1990 Tom Delnay
1990 - 1991 Nelson Tarbox
1991 - 1992 Gary H. Griffin
1992 - 1993 Gary H. Griffin
1993 - 1994 Jeff Zenoniani
1994 - 1995 Lisa A. Duritsch
1995 - 1996 Jason Grabowski
1996 - 1997 James Faulkner
1997 - 1998 Robert Risley
1998 - 1999 Winifred Denius
1999 - 2000 Paul Martin
2000 - 2001 Don Pine
2001 - 2002 Randy Saul
2002 - 2003 Jason Allen
2003 - 2004 Mark Brant, PE
2004 - 2005 Guy Van Meulebrouck
2005 - 2006 John Pennington
2006 - 2007 Kurt Vega

Please help us update the ASHRAE email list

Email to Kurt Vega at kurt.vega@emerson.com.
Or call 239-693-7200 X 218 mail to:

Kurt Vega
Emerson Industrial Automation / Saftronics.
5580 Enterprise Parkway
Fort Myers, FL 33905

Please include the following:

Name: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

Membership # _____

Membership News

Autumn Spaulding Membership Chair

Mike Barry has advanced to member status
Congrats!!!

Welcome Gene Boyd from Boyd Brothers Service!!!

Come see me this week for advancement forms.
If you are not a member... lets make you one!

You can contact Autumn by
phone: (239) 332-4646
or by email: aspaulding@bandicontractors.com

TREASURER

Stacey Perkins

PLEASE RSVP

I know that schedules run short – believe me.
However, it is VERY important that the RSVP request be met at least 48 hours before a meeting. I have to give a set number to Pelican Preserve that I am held to when I am charged. Originally, they would go by the exact number of attendees but now they go by the amount that I tell them when I call.
The last meeting cost the Chapter instead of anything going toward it. If we can follow the RSVP process we can prevent this from happening. Please either call or email me at sp Perkins@trane.com .
I hope that we have a great turnout this month. Hope to see all of you there.

ASHRAE NEWS

International Code Council Takes Action on ASHRAE Proposals

ATLANTA – International building codes may soon incorporate requirements from a new load calculation standard from ASHRAE and ACCA under several recent proposals now under consideration. ASHRAE made 15 proposals to the International Code Council (ICC), which develops model codes that may be adopted by code jurisdictions in the United States or internationally. After a public comment period of the committee recommendations of proposals, final hearings for the code change proposals will take place in September 2008. If the proposals are accepted, they would be included in the 2009 code.

Under a proposal to both the International Mechanical Code (IMC) and the International Energy Conservation Code (IECC), references to load calculation guidance in the ASHRAE Handbook, Fundamentals, would be replaced with requirements from a new ASHRAE standard developed with the Air Conditioning Contractors of America (ACCA), ANSI/ASHRAE/ACCA Standard 183-2007, Peak Cooling and Heating Load Calculations in Buildings Except Low-Rise Residential Buildings. The standard establishes minimum requirements for building loads that are inclusive of as many procedural methods as possible while identifying core elements that impact heat loss and gains.

“The guidance in the ASHRAE Handbook was never intended to serve as a reference document to codes,” said Steve Ferguson, ASHRAE assistant manager of standards – codes. “Standard 183 provides an appropriate consensus reference standard that is appropriate for adoption in the ICC codes.”

Also approved were proposed changes regarding lighting stringency based on requirements in ANSI/ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential Buildings. These changes include:

- Adding exceptions for typical lighting requirements, which would eliminate conflicts with the code and accepted lighting design practice that are commonly applied.
- Allowing calculation of track lighting wattage, which provides an important practical application. Without this provision, users may be forced to claim more wattage than it is possible to put into the application.
- Modifying lighting power allowances, which would eliminate issues in the allowance section through appropriate and practical application of these additional allowances. While simplifying the application, it also will increase energy savings, according to Ferguson.

Also related to 90.1 was a proposal to modify chiller requirements. The proposal calls for, effective Jan. 1, 2010, an additional path of compliance for water-cooled chillers and consolidation of, and new requirements, for some of the existing categories. Also approved was a proposal from ASHRAE to add new refrigerant classifications to the IMC from ANSI/ASHRAE Standard 34-2007, Designation and Safety Classification of Refrigerants.

Standard 189.1P's Second Public Review Proposed Standard for High-Performing Buildings Open for Public Review

ATLANTA – A proposed standard that will essentially define high-performing buildings in code-intended language is one step closer to completion. Proposed Standard 189.1, Standard for the Design of High-

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Performance Green Buildings Except Low-Rise Residential Buildings, is now open for its second public review.

Proposed Standard 189.1 will provide minimum requirements for the design of high-performance new commercial buildings and major renovation projects, addressing energy efficiency, a building's impact on the atmosphere, sustainable sites, water use efficiency, materials and resources, and indoor environmental quality. It is being developed by ASHRAE, the Illuminating Engineering Society of North America (IESNA) and the U.S. Green Building Council (USGBC).

"This standard is an energy-saving stepping stone toward ASHRAE's goal of net-zero-energy buildings," says John Hogan, chair of the committee that wrote the standard. "This is a goal that IESNA and the USGBC support as well as partners in this standard's development. It also gives building owners or jurisdictions that voluntarily choose to adopt the standard a tool for constructing truly high-performing buildings that provide energy-efficient, safe and comfortable environments for occupants."

By applying the minimum set of prescriptive recommendations, Standard 189.1P leads to site energy savings ranging from 10 to 41 percent over Standard 90.1-2007, including plug and process loads and all other energy consumption for the building, with an average of 24.9 percent for all climates.

The proposed standard also provides indoor water savings of 35 percent for an office building and 26 percent for a multifamily building. The indoor air quality criteria have been coordinated with ASHRAE's IAQ Design Guide (under development), and the commissioning criteria have been more-closely aligned with ASHRAE's commissioning guidelines.

The first public review generated 900 comments.

Proposed ASHRAE standards, guidelines and addenda to standards are available only during public review periods. To read the draft standard or to comment, visit www.ashrae.org/publicreviews. The public review began Feb. 22 and ends April 7, 2008.

BACnet Unplugged: Updates Made to Building Controls Standard

ATLANTA – Advances related to the BACnet standard, including recommending public review for an addendum that would tunnel BACnet over ZigBee wireless networks, were made during ASHRAE's recent Winter Meeting.

Proposed Addendum q would lead to a significant reduction in the cost of installation at the sensor and controller level by reducing the amount of wired networking required in a building automation system,

according to Jerry Martocci, convener of the BACnet committee's Wireless Networking working group. "Marrying these two technologies seemed obvious," said Martocci. "BACnet already had the object and services model designed specifically for building automation but no wireless network, and ZigBee had the wireless capabilities but no object model for building automation. We just had to put the two together to benefit from the synergies."

The addendum recommendation began about two years ago with meetings between BACnet and ZigBee experts. "During this time we learned about ZigBee's data communications, and they learned about BACnet's networking and objects and services model," said BACnet chairman Bill Swan. "Together, we looked at a number of approaches and discussed the pros and cons of each."

For various technical reasons, battery-operated devices, including sensors, will probably be ZigBee only, but powered controllers would have BACnet/ZigBee capability. Martocci notes that the "mesh" networking among ZigBee nodes leads to self-healing networks, so that even if a link between two nodes is obstructed, the "mesh" network can route around the obstructed link, leading to reliable networks.

In other developments, the BACnet committee worked toward approval of nine additional addenda during the meeting. "Only a few of these are going out for first public review," said Swan, "but it is our expectation that these are all likely to pass without significant comments."

One such addendum is Addendum j, support for physical access control. This was drafted by the Life Safety and Security working group, comprised of BACnet and experts from the physical security industries. Public reviews of Addendum j have been announced in journals and other media serving the security industry, with long review periods to help ensure it gets the most complete review possible. Another addendum being prepared for public review is Addendum i, support for lighting applications. This addendum was drafted by the Lighting Applications working group, comprised of representatives from lighting controls manufacturers and BACnet experts. The BACnet committee continues to work on a broad range of other items, such as integrating buildings and the energy utilities, developing standard profiles for various building automation devices, CCTV control, and elevator monitoring.

Southwest Florida Chapter Member Receives Fellow Award

The Fellow Award is given to members that have made significant advancements to the science of HVAC and refrigeration.



Chapter Member, Patricia T. Graef, of the Munters Corporation with ASHRAE President Kent Peterson

Here are a few of Patricia's achievements

Development of Rigid Media Evaporative Coolers.

Evaporative cooling is a 2000 year old technology first used by the Egyptians. It never progressed very far until 1972 when Carl Munters invented the cross corrugated cellulose cooling pad. He sent it to the US to be marketed. Pat learned very quickly that it was a great product but it completely lacked installation and maintenance information as well performance data. She made it her personal goal to make rigid evaporative cooling media a product that everyone would know how to use. It has gone from a just being greenhouse cooling pad to a highly energy efficient method to humidify industrial and commercial applications.

Today, enough media is produced each year to cool more than 10 billion cfm of air using the simple evaporative process. Pat further added to the sustainability of the cooling media by developing a protective coating that reduced water usage and the need for water treatment chemicals.

Pre-Coolers for Mammoth Pacific Geothermal Facility, Mammoth Lakes, CA

Geothermal power plants burn no fuel and produce no emissions. They are considered a renewable energy source. These plants are designed to run 24/7 because they sit right on top of their power source...the geothermal reservoir. In the summer, when the air is hot, the heat rejection system is inefficient, reducing the plants power output. Pat worked with Mammoth Pacific geothermal facilities to test and qualify an evaporative cooling system to retrofit the 15 year old fan and tube heat exchangers. The new pre-coolers had a low resistance to air flow, high cooling efficiency and could use recycled waste water. The result was a 25 degree cooler air supplied to the heat exchangers and a 20% increase in power production.

A New Type of Humidifier For General Motors Assembly Plants

Precise humidity control was needed for painting cars in major automotive assembly plants. Using direct evaporative cooling is the most energy and cost effective method for humidification of the large amounts of outside air, but maintaining a precise set point is very difficult. Pat worked with the auto plants to develop a simple but effective 4-stage humidifier that resulted in approximately +/- 5% relative humidity control. General motors needed something more precise for maintaining the humidity of 2.8 million cfm of 100% outside air for their plant in Oshawa, Ontario, Canada. Pat and her project team developed, built and delivered a unique type of face and bypass humidifier that was able to control humidity to +/- 1% and it met all of General Motors stringent requirements. This humidifier has a sliding door that closes the narrow bypass section as it opens the wider humidifier section. The door slides over computer generated perforated openings that ensure that the air moves from one channel to the other without change in pressure differential.

Southern Company Combustion Turbine Inlet Cooling Retrofit

Pat was responsible for P&L and all phases of the upgrade of 8 gas turbine generators at Plant McIntosh using inlet air cooling. The inlet filter section was removed from each of the 83.8 MW gas turbine generators. The existing weather hoods were replaced with evaporative cooler sections for a total of 4.2 million CFM of air. The combustion turbines were only taken out of service for one day each to change out the inlets. The renovations increased capacity of the plant by 8% during hot weather, a total increase of more than 60 MW. Fuel efficiency was also increased.

PHOTOGRAPHS
February 13, 2008



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ASHRAE 2007-2008 Chapter Meeting Dates

Meeting Date	Program	Speaker / Representative	Location
Sep. 12, 2007	Building Commissioning	Carl N. Lawson ASHRAE Distinguished Lecturer	Magnolia Room
Oct. 10, 2007	Joint Meeting with TCSCA/AIA – Panel Discussion Featuring Architects, Engineers (Donor Recognition Night)	-	Magnolia Room
Oct, 26, 2007	Golftober	-	Pelican Preserve
Nov. 14, 2007	FPL Incentive Programs (Research Promotion Night)	Keith Ponitz, FPL	Magnolia Room
Dec. 12, 2007	Smoke Control Part II; (Membership Promotion Night)	Mike Myers, TLC Engineering	Magnolia Room
Dec 14 2007	Hockey Night	Florida Everblades	Germain Arena
Jan. 9, 2008	GREATER EFFICIENCY TODAY, BLUE SKIES TOMORROW: INNOVATION FOR A SUSTAINABLE BUILT ENVIRONMENT (Young Engineers Promotion Night)	Kent Peterson	Magnolia Room
Feb 8, 2008	Envelope Seminar	Dr. Joe	Crowne Plaza, Bell Tower
Feb 13, 2008	Joint Meeting with CSI	Colleen Smith	Magnolia Room
Mar. 12, 2008	LEED and Proposed ASHRAE Standard 189;	Thomas M. Lawrence, Ph.D., ASHRAE DL	Magnolia Room
Apr. 9, 2008	TBA	TBA	TBA
Apr.19, 2008	Backwater Fishing Tournament	Richard Brooks	Rum Runners
May 14, 2008	TBA	TBA	Magnolia Room
May, 2008	Pool Tournament	Lisa Duritsch	TBA
June, 2008	Presidents Party	Mike Myers	TBA

A.S.H.R.A.E - Southwest Florida Chapter 2007-2008 Officers and Committee Directory

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