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MARCH 2010

The Dwpoint

ASHRAE = FUN TIMES + GREAT FRIENDSHIPS

PRESIDENT'S MESSAGE



Rich King, PE

Shrimp, Jambalaya, Drinks and Fun!!!

The 8th Annual Shrimp Boil is here – bring your friends. This is the time in our Chapter where we get to relax and have some fun. I'd like to thank Dan Cross for his help organizing the event once again. The Shrimp Boil will be held at the Winter Park Farmer's Market on March 25th from 6pm-9pm. Who knows, you may see some ASHRAE members there that you haven't seen at our meetings all year. The Shrimp Boil does tend to be the Easter of our chapter, so if you run into someone you haven't seen in a long time, encourage them to attend our monthly meetings.

Our YEA dodgeball event was an awesome success! We had 48 players and 4 hours of fun. In the end, the team from Xnth took home bragging rights. I can't wait for next year!!

Until then, we have three special events on the horizon that present a great opportunity for both members and sponsors.

The Spring Golf Outing is on April 9th at Sanctuary Ridge. A tremendous amount of effort goes into coordinating this event, and I'd like to thank Firouz and his team for their leadership. Please register your foursomes and hole sponsorships today. More information can be found at <http://ashrae-cfl.org/events/spring-golf-tournament/>.

On May 11th, the ASPE/ASHRAE product show will be held at the Central Florida fairgrounds. ASPE has planned a "Mexican Fiesta" theme for the show this year so get your sombreros ready. Booths are available. Please visit www.ashrae-cfl.org/events/product-show/ for more information.

Most importantly, I want to remind you that at the end of the ASHRAE year, our chapter is hosting the Chapter's Regional Conference (CRC) here in Orlando. The CRC will be located at the Rosen Centre on International Drive this August. We want to make sure that we put our best foot forward for our region, and to do this we need your help. Our biggest challenge in putting this event together is sponsorships. Please consider supporting our CRC – we have some excellent sponsorship opportunities available. Please contact Mike Dillard at mdillard@msifla.com or visit the CRC website at <http://crc2010region12.org/>

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ASHRAE Society Website: www.ashrae.org

Programs

Chair:
Jason Alphonso, PE



Ahh! The month of March and the Shrimp Boil Dewpoint are finally here. Personally my favorite month! As programs chair this means “time off “for me and my hardworking team.

ASHRAE President Gordon Holness left us all smarter and wiser the night of February 9. A true test of in-depth subject knowledge is one’s ability to teach. Gordon taught us like a college professor. Slide after slide he was factual, informative and to the point. Personally, I think his true mettle and brilliance was evident right through the Q&A session. We are proud to call him our “commander -in-chief”. Gordon’s presentation is available on our chapter website.

I urge you to have fun in the month of March. We are going to be doing the same. Enjoy March Madness and come join us at the Shrimp Boil. We will not have a technical dinner meeting in March, but I promise to bring you a great speaker in early April.

Chapter Business

Your chapter nominating committee comprises of the following members,

Jason Alphonso, PE – President Elect, 2009-10 (Chair)
Rich King, PE – President, 2009-10
Wade Conlan, PE – Immediate Past President and Board of Governors, 2009-10
Bill Dillard – Past President & Board of Governors, 2009-10
Firouz Keikavousi – Past President and Board of Governors, 2009-10
Michael Sheerin, PE – Past President and Board of Governors, 2009-10
Mike Dillard – Past President and Board of Governors, 2009-10

I would like to thank the other members of this important chapter committee for helping in this very important role.

At this point the nominating committee would like to solicit nominations from the floor (chapter membership) for positions of President Elect, Vice President, Treasurer and Secretary for the ASHRAE year 2010-2011. Your nominating committee has already come up with the following nominees for these positions,

President Elect – Leonardo Rocha
Vice President – John Miller
Treasurer – Megan Tosh
Secretary – Joseph de Armas

We invite you to submit additional nominations. Please email your nominee’s name and the position to which you’re nominating this individual to jalphonso@msifla.com.

Upcoming Schedule....

Central Florida Shrimp Boil
March 25, 2010
Winter Park Farmer’s Market

Master Format 2004
April 8, 2010
Charles E. Gullidge, III, P.E.
Joint Meeting with SWE/ASME

Spring Golf Tournament
April 9, 2010
Sanctuary Ridge Golf Course

UCF Energy Symposium
April 14, 2010
Student Union, Main Campus

ASPE-ASHRAE Product Show
May 11, 2010
Central Florida Fairgrounds

Ice Fog and Psychrometrics: The Missing Link in Industrial Freezer Design
May 13, 2010
S.A Sherif, PhD
Joint Meeting with AEE

2010 Region XII CRC
August 19-21, 2010
Rosen Centre Hotel



ASPE-ASHRAE Product Show

The Product Show has been a long standing tradition between the ASPE and ASHRAE Central Florida chapters. This year in order to make the show even better by drawing out more attendees, and to make the product show more memorable, there will be a theme for the show. This year’s theme is “Mexican Fiesta”.

We look forward to seeing you at the Product Show, and maybe even with a sombrero on your head!

More information about the show, including costs and times, can be found on our website at <http://ashrae-cfl.org/events/product-show/>.



Chair:
John Davant

As many of you may remember, last year entries from the Central Florida Chapter won all 6 categories of Technology Awards in our Region! Tech awards are a great way to recognize ASHRAE members' technologically innovative designs and we are proud to have so many of our chapter members honored. Let's making winning tech awards a tradition for our chapter!

For more information on entry requirements, judging criteria and helpful hints, please visit www.ashrae.org/publications/detail/14704. Application forms, sample entries and a list of previous winners can be found at www.ashrae.org/members/page/1646. If you have any questions or to submit an entry, please contact our CTTC Chair, John Davant, at john.s.davant@jci.com. **Applications are due March 18th!**

Technical Activities

Co-Chair:
John Fabian



Understanding IPLV/NPLV

The Integrated Part Load Value (IPLV) is a performance characteristic developed by the Air-Conditioning, Heating and Refrigeration Institute (AHRI). It is most commonly used to describe the performance of a chiller capable of capacity modulation. Unlike an EER (Energy Efficiency Ratio) or COP (coefficient of performance), which describes the efficiency at full load conditions, the IPLV is derived from the equipment efficiency while operating at various capacities. Since a chiller does not always run at 100% capacity, the EER or COP is not an ideal representation of the typical equipment performance. The IPLV is a very important value to consider since it can affect energy usage and operating costs throughout the lifetime of the equipment. Energy codes such as ASHRAE Standard 90.1 specifies minimum values for the equipment.

The IPLV is calculated using the efficiency of the equipment while operating at capacities of 100%, 75%, 50%, and 25%. For the purpose of chiller equipment, the operational conditions are shown in Table 3 of AHRI Standard 550/590-2003. A water cooled chiller, for example, is required to run at a 44°F evaporator LWT with a flow rate of 2.4 gpm/ton. The condenser EWT will vary depending on the part load capacity utilizing a 3.0 gpm/ton flow rate. If a chiller is designed to operate at different conditions than specified in Table 3, including lower water temperature or different flow rate, the efficiency is called a NPLV (non-standard part load value). Both of these ratings can be calculated using the following equation:

$$\text{IPLV (or NPLV)} = 0.01A + 0.42B + 0.45C + 0.12D$$

Where:

- A = COP or EER @ 100% Load
- B = COP or EER @ 75% Load
- C = COP or EER @ 50% Load
- D = COP or EER @ 25% Load

The derivation of this equation is extensive and includes various assumptions which create a lengthy discussion. For more information refer to Appendix D, AHRI 550/590-2003.

Refrigeration

Chair:
Cameron Sherwood



Water Cooled Chillers - Open or Hermetic Drive—Continued

Last month I explored two options for motors for water cooled chillers. Here is a scenario to think about and determine which configuration is best for a project design.

An open drive 1350 ton machine will dissipate approximately 123,175 btuh to the mechanical space (according to manufacturer data). If three chillers are required for the project that is about 31 tons of cooling and about 19 tons for associated pumps and cooling tower pumps (according to some manufacturers). This is a combined cooling load of about of 50 tons of cooling load to maintain a space temperature of 80°F (from manufacturer data). To meet cooling load with an open drive chiller, a larger air handler and associated equipment would be required. With a hermetic drive chiller the 31 tons of motor heat would be transferred to the condenser water via the refrigerant, thus reducing chiller capacity. In either case, chiller motor heat reduces chiller capacity; heat is created and needs to be transferred. A task accomplished by air or liquid.

Based on my career in the Navy while operating, repairing, and maintaining several machines that would operate in extreme conditions, the open drive and the hermetic drive units are comparable from a reliability standpoint. Some of the conditions I've seen are: entering condenser water of 100° F, setting the capacity controls to 110%, start and stop a machine several times an hour (more than manufacturer recommendation), constant power fluctuation, mechanical space temperatures of 120° F, and anything else that manufacturers do not recommend. With the machines operating for several years in extreme conditions, there were no electrical motor failures or major mechanical failures. Minor failures included: open drive machine compressor shaft mechanical seals would fail and refrigerant would leak, allowing air and moisture into the refrigerant system, valves or other moving parts would freeze, and acid would be created, causing damage to the internal parts of the system. Due to power loss and fluctuation electronic control boards would fail.

Facilities owners will have manufacturer preferences, but a knowledgeable engineer can guide the owner to a more informed decision.



Our first Dodgeball Tournament was held this past weekend and it was a complete success. A total of 45 members from seven different companies of the Central Florida HVAC community participated in this event; the companies that participated in this event were:

- Thermal Tech, Inc.
- Tom Barrow Co.
- MSI
- Harper Limbach, LLC
- Peninsula Engineering
- Jacobs Engineering
- X-nth, Inc.

Our tournament consisted of a Round Robin morning session, where the different teams would test their skills in this sport. The morning session was lead by the team from X-nth with a total of 6 wins, followed by Harper Limbach, LLC and Tom Barrow Co. with 5 wins each.

The most memorable games of the morning session were the MSI vs. Peninsula Engineering, X-nth vs. Peninsula Engineering and Tom Barrow Co. vs. Jacobs Engineering.



Dodgeball Tournament Attendees



Tournament Champions, Team X-nth

2011 Central Florida ASHRAE-YEA Dodgeball Tournament.

After a well-earned lunch break, a last minute team consisting of Central Florida ASHRAE All-Stars (Richard King, Jason Alphonso, John Miller, Mason Dillard, John Guerrero and David Hanington) entered the single elimination playoff bracket afternoon session. The afternoon playoff session was a fierce competition, where only the very best at the art of dodging would advance for a chance to claim the title of Dodgeball Champions. All of the games kept the audience at the edge of their seats. Accuracy, speed, and quick thinking were the only tools needed to win every game. Every team performed at their very best, but only two would advance to the final round. The final game that would determine our champion was disputed between Thermal Tech, Inc. and X-nth. At the very end, X-nth came on top by eliminating the opposing Thermal Tech, Inc team in only 1 minute and 34 seconds, the fastest game of the entire day. Congratulations to X-nth (Matt Mikus, JC Le, Matt Hopf, Kim Hopf, Jason Jones, Tom Hoppert, and Tim Hedrick) for winning the 1st Annual Central Florida ASHRAE – YEA Dodgeball Tournament. To all of the teams who participated in this event – job well done! We are looking forward to your participation in the



Play Dodgeball!



Team Jacobs Engineering

Student Activities

Chair:
Anik Patel



Co-Chair:
Kellie Watson



Chapter Past Presidents

James A. Oberlin	1962-63
James A. Driver	1963-64
Warren L. Chase	1964-65
Kenneth E. Hayes	1965-66
Lloyd H. Boissoneault	1966-67
William C. Denson, PE	1967-68
Maynard D. Reese	1968-69
William R. Penn	1969-70
Theodore H. Brooks	1970-71
J. Wesley Floreth	1971-72
Wiley M. Cauthen	1972-73
Edwin C. Pratt	1973-74
Lyle M. Houser, Jr, PE	1974-75
Hal A. Head, PE	1975-76
Garth E. Tristram	1976-77
Raymond E. Davis	1977-78
W. Hugh Wilson, Jr	1978-79
William M. Dillard	1979-80
John D. Simmonds, PE	1980-81
Joseph K. McCarthy	1981-82
Dwayne Lorenze	1982-83
David Wassman, PE	1983-84
David Krause	1984-85
Bill Watford	1985-86
John J. Asendorf, PE	1986-87
Melvin Borczynski	1987-88
Jack Zelsman	1988-89
Kenneth L. Eiermann, PE	1989-90
Kevin K. McKenzie, PE	1990-91
Todd S. Morgan, PE	1991-92
Firouz Keikavousi	1992-93
John Elsea	1993-94
Bernard Horne	1994-95
Mark Lanier	1995-96
Larry Snyder	1996-97
Bill Leaton	1997-98
Hossein Dayi, PE	1998-99
Gary Carver, PE	1999-00
Michael Sheerin, PE	2000-01
Traci Just	2001-02
Chris Bradford	2002-03
Dan Cross, PE	2003-04
Damon Lynn, PE	2004-05
Todd Moore, PE	2005-06
Tim Citek	2006-07
Mike Dillard	2007-08
Wade Conlan, PE	2008-09
Rich King, PE	2009-

Our UCF students have been busy working away at the 2009-10 ASHRAE Student Competition.

At last month's meeting, the students gave our members an update on their progress. So far they've learned the following employable HVAC skills as they've been tasked with brainstorming a full mechanical design for Orlando's FL Hospital Ginsburg Tower.

- Load calculations / Energy Modeling
- ASHRAE Standards 55, 62, 90.1 & Appendix G
- Hand method using CLTD
- Trane Trace
- AutoDesk MEP
- How to select HVAC equipment
- Sizing duct/pipe
- Pricing
- Drafting / modeling / BIM



An example of their BIM is shown here:

The students, all UCF Senior Mechanical Engineers, are confident that they'll do well in the competition.

Golf Tournament

Chair:
Firouz
Keikavousi



Our Spring Golf Tournament is coming up on Friday, April 9th at Sanctuary Ridge. Registration information can be found on our website at www.ashrae-cfl.org/events/spring-golf-tournament/.

There will be one afternoon flight, with a shotgun start at 1pm. Lunch and dinner will be served for all golfers. Drinks will be available on the golf course, including margaritas!

All proceeds from the golf tournament go towards ASHRAE Research Promotion.

Thank you Central Florida for your support! We hope to make this golf tournament a huge success.



History

Chair:
Tim Citek



An Interview with Chris Bradford (Past President 2002-2003)



Chris Bradford is currently employed at Carrier Corporation where he had worked for over 16 years.

Question: What was the highlight or best memory of your presidency?

Chris: The biggest highlight for me was working with a exceptional team that helped us win the Region XII Best Chapter Award. Everyone gave a lot of time and effort to help the Central FL Chapter stand out from its peers.

Q: The Shrimp Boil was started under your reign. How well was the first shrimp boil attended?

C: At the time there were several well attended social events at other chapters around the region. We wanted the same for the Central FL Chapter for years to come and through many brainstorming sessions decided on the Shrimp Boil. Over 175 people attended the first annual Shrimp Boil which was well beyond expectations and a big highlight for the year. It was a huge team effort led by Dan Cross and was a blast to put together.

Q: How has ASHRAE affected your life both personally and professionally?

C: Personally, I made several life long friends. Professionally, I developed numerous business contacts, enhanced my leadership and team building skills, and have enjoyed working with many people willing to give their time freely to help promote ASHRAE.

Q: What advice would you give Young Engineers in ASHRAE (YEA) that are thinking of becoming an ASHRAE volunteer?

C: Don't hesitate, this is the quickest way to learn about ASHRAE and the industry, get exposure among the industry professionals, and have fun doing it.



Chapter Leadership



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Past President & Governor:	Wade Conlan, PE (407) 660-0088 wconlan@x-nth.com	Calling Committee:	Amy Weaver, PE (407) 661-9100 amyw@c-p.com
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YEA Activities:	Leo Rocha (407) 373-0042 lrocha@thermal-techinc.com	Refrigeration Chair:	Cameron Sherwood (407) 660-0088 csherwood@x-nth.com