



Giga-Joule

Greenville Chapter

January, 2011

<http://www.ashrae4greenville.com/newsletter.php>

Meeting Announcement

The January meeting will be held on Thursday, January 13th at the Roper Mountain Science Center. The details are listed on the Programs Page. For more information, please contact our Programs Chairman, Grant Wiegmann, by phone at 864-672-6105 or email at programs@ashrae4greenville.com

A Message from the President

Thanks to all who attended and participated in the December program on "Right Sizing" and a special thanks to Dennis Knight who traveled up to Greenville to mediate and get the ball rolling. We start the new year with a program on control systems and another ASHRAE Distinguished lecturer so put January 13 on your calendar.

The board is working on a chapter outing to a hockey game at the Bi Lo Center on March 31. Details are still in the planning stages, but tickets will be limited so stay tuned!

We have a new historian. John Mullis has joined the Board of Governors as the chapter historian. Welcome him aboard and give him your support. This chapter runs on the time and effort of volunteers. There are other positions that could also use your support. We are starting the planning process for the 2012 Chapter Regional Conference (RC). Yes it is more than a year away, but it takes that long to get the pieces in place and we will need the help of the chapter to bring it together.

Chapter Administration

The Board of Governors meeting for December 14 including discussion on the following:

- Finances
 - Credit card account has some possibilities and will be investigated for the 2011-2012 fiscal year. Credit card would be useful for CRC.
- Review of meeting speaker status.
 - May meeting speaker will be on VFDs and motors.
 - April speaker still outstanding.
- 2012 CRC Preliminary Planning
 - Discussion on possible downtown locations primarily Hyatt vs the Embassy Suites (2005 CRC location.)
 - Timetable discussed. Hotel contract should be in place in the next three months.
 - Necessary committees discussed.



Devon Cortright
President

president@ashrae4greenville.com

Devon Cortright
Greenville ASHRAE President
president@ashrae4greenville.com

Membership Corner

Happy New Year from your friends and colleagues of the Greenville Chapter of Ashrae!

Membership in ASHRAE – the American Society of Heating, Refrigerating and Air-Conditioning Engineers – is open to any person associated with heating, ventilation, air conditioning or refrigeration through such disciplines as indoor air quality and energy conservation, for example. Membership in ASHRAE allows access to state-of-the-art HVAC&R technology and provides many opportunities to participate in the development of that technology.



We would like to thank all members who recently joined via a Membership Promotion Meeting, a transfer in, showed up at a monthly meeting, or were invited by a friend to become a Member, we appreciate your support. As well as welcome back our existing members, we could not do this without you all.

Now...we need you to share with your friends and colleagues the benefits of being a Member of the Greenville Chapter of ASHRAE. **Invite, invite, and then invite some more...**any new potential Non-Members. Don't forget about those Young Engineers – ASHRAE offers a special membership for engineers currently under the age of 35 to encourage them to be involved...these are our future leaders.

Be on the lookout for our next Membership Promotion Meeting (SPRING) the format is generally as follows, members (in good standing) will enjoy a free lunch with their guest's completed ASHRAE Membership form ~ of course your guest will eat free as well. See me at the sign in table for applications and to answer any questions that you or they may have regarding ASHRAE Membership.

And by the way – all existing members wishing to Upgrade your ASHRAE Membership must go online to www.ASHRAE.org to complete your BIO...your membership status may be automatically updated based on the information that you supply...it's quick and it's easy ~ After all it all about YOU!

I am always available to discuss your questions and concerns, or if you have a good idea or suggestion on how we can increase membership – trust me...We are interested. We are have some exciting programs planned for 2011...make sure that you RSVP as soon as possible so that we can save you a seat.

Best Regards,
Dorothy Bertolini
Membership Chair – ASHRAE Greenville SC
membership@ashrae4greenville.com

Chapter Programs



Last month Dennis Knight traveled here from Charleston to give us a presentation on Right Sizing. We really appreciate Dennis's efforts in giving us a great presentation on a basic, yet very important topic.

This month we will have another distinguished lecturer as Bryan Lampley makes his way to Greenville for a presentation on "Open Control System or What's in a Name". Having "Open" control systems is something that is very important to many building owners today so they aren't "locked in" to one control vendor and for ease of facility expansion down the road. Please see the meeting agenda below for information on the program.

We have now filled all of our presentation slots for the 2010-2011 ASHRAE year. However we still have most of our slots open for the 2011-2012 ASHRAE year starting in September. Please send me your suggestions and I will gladly try to introduce them into our schedule.

Grant Wiegmann
Programs Chair
programs@ashrae4greenville.com

January Meeting

Program: Open Control System or What's in a Name

Presenter: Bryan T. Lampley, P.E., LEED AP

Bryan T. Lampley works as the Controls Manager for Envirotrol, an independent Controls Services company located in Greensboro, North Carolina. He received his Bachelors Degree in Electrical Engineering from the University of North Carolina Charlotte in 1994. He has worked his entire 15 year career in the field of controls as it relates to process, HVAC and Mission Critical systems. His experience ranges from hands on field engineering to systems design to overseeing implementation of Direct Digital Controls systems throughout the Eastern Seaboard.

Mr. Lampley was elected as a full member of ASHRAE in 2000. He served the local chapter in the capacity of Programs Chair, Membership chairman for two years, CT² chairman, Secretary, Treasure, Vice President, and President. While President the chapter won the prestigious Rudy Ferguson Award. As CT² chairman he won the CT² Emmy Award as well as the Society Dan Mills Technical Award. During this time he represented the local chapter at the Regional level as their representative. Mr. Lampley now represents Region IV at Society as a member of the Society Nominating Committee.

LECTURE TOPICS

Open Control System or What's in a Name:

The goal of this presentation is to discuss the myths and the reality of open control systems and their implementation. Most open control discussions become a sting of buzz words, talk on protocols, controls terminology and three letter acronyms. This presentation is in pure English and is intended for the general consumption. Those attending the presentation can expect to leave with a better idea of the meaning of open systems, the terminology of controls, how to understand, specify and ensure compliance for open controls systems. Topic and presentation will appeal to Owners, Engineers and Contractors.

Location: Roper Mountain Science Center (www.ropermountain.org)

Date: Thursday, January 13, 2011

Time: 11:30 a.m. Doors Open
11:35 a.m. Lunch Served
11:45 a.m. to 12:00 p.m. Chapter Business
12:00 a.m. to 1:00 p.m. Main Program

Cost: Lunch Program: \$10/chapter member \$15/non-chapter member (catered lunch)

Education Credit: This program qualifies for 1.0 PDH (including NC PE)

Please RSVP to programs@ashrae4greenville.com

No later than Noon Tuesday, January 11, 2010

Chapter Technology Transfer

Residential Load Calculations – Chapter 17

I have recently been studying Chapter 17 of the 2009 Fundamentals. Chapter 17 is on Residential Heating and Cooling Calculations and continues the changes that first appeared in the 2005 Fundamentals. The 2005 and 2009 Fundamentals depart from the long standing CLTD method of calculation and adopts the Residential Load Factor Method (RLF). I ran calculations using the RLF method side-by-side with the older CLTD method on a multifamily building. The results have led me to question some of the procedures and results in the RLF method. Both the old and new procedures use surface area and U factor similarly; the changes are, what I will refer to, as the effective temperature difference. Previously it was the CLTD, in the current version it is incorporated in the numerous factors that make up the Cooling Factor or CF.



**Devon Cortright
PE
Chapter Technology
Transfer Chairman**

In the RLF methodology all exterior walls are treated the same, regardless of direction. In my example the RLF method all walls ended up with an effective temperature difference of 25 degrees F. Approximately ½ of the CLTD previously used for west walls and 1.4 times the previous CLTD value for a north wall. More perplexing to me is the effective temperature difference across a ceiling or wall adjacent to a vented attic. For the multifamily example this worked out to 22.5 deg. F. using the RLF method. I know from personal experience that naturally vented attics around here regularly exceed 110 deg. F. and I have personally measured an attic temperature of 125 deg. F. on a day in the low 90's in a single family residence with natural ventilation. In my multifamily example the ceiling cooling load with the RLF method was 36% of the value obtained using the CLTD method.

While the opaque surface calculations appear to lack detail, the fenestration calculations had far more detail than the previous methodology. The RLF calculated results were 10% higher than I obtained with the previous methods. The RLF method requires the input of far more factors. With experience I may adjust to the new method and reduce some of the calculation time, but for now I question whether the added effort is justified.

On a positive note the internal load is calculated using a formula that incorporates both occupancy and floor area. The CLTD method added 1200 btu/hr for multifamily and 1600 btu/hr for single family for internal load. The magnitude of the results using the RLF method is similar, but the variability based on floor area and occupancy seems logical.

Every design professional is responsible for the accuracy of his or her calculations regardless of the methodology selected. In spite of all of the regression analysis and computer simulation used to develop this new technique, I need to feel that the basic steps and procedures are logical. Moreover, I need to feel I can explain the basic concept of the methodology used in my calculations in laymen's terms. Based on my recent analysis, if challenged by a client or attorney, I do not believe I can defend the RLF methodology, particularly as it relates to opaque walls.

Devon Cortright, P.E., LEED AP
Chairman Chapter Technologies Transfer, Greenville Region IV
ASHRAE Member Since 1982

Tentative Event Dates for 2010-2011

Thursday 09/09/2010	September Chapter Meeting: Building Leakage & Testing	Presenter: Rodney Hinton
Thursday 10/14/2010	October Chapter Meeting: Product Liability & IAQ Liability	Presenter: Ward Lambert
Friday 10/22/2010	ASHRAE Golf Tournament	
Thursday 11/11/2010	November Chapter Meeting: Humidity Control and Outside Air	Presenter: Chris Adams
Thursday 12/09/2010	December Chapter Meeting: Right Sizing	Presenter: Dennis Knight
Thursday 01/13/2011	January Chapter Meeting: Open Control System or What's in a Name?	Presenter: Bryan T. Lampley, P.E.
Thursday 02/10/2011	February Chapter Meeting: Energy Storage for a Low Carbon Future	Presenter: Mark Johnson
Wednesday 03/10/2011	March Chapter Meeting: Steam Traps	Presenter: Chris Edmundson
Thursday 04/14/2011	April Chapter Meeting: Ductless VRF System Applications	Presenter: Scott Graham
Thursday ?	ASHRAE Golf Tournament	
?	ASHRAE Webcast:	
Thursday 05/12/2011	May Chapter Meeting: What's New with Electric Motors and VFD's	Presenter: Bob Gluszik



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Region IV
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