



Giga-Joule

Greenville
Chapter of
ASHRAE

November 2003

Meeting Announcement

This month's meeting will be held on Tuesday, November 18, 2003 from 11:30 AM to 1:00 PM at the Roper Mountain Science Center located at the intersection of I-385 and Roper Mountain Road. For directions, please call Ryan McCleary @ 864-627-9675 ext.117 or email ryan.mccleary@york.com or visit www.ropermountain.org.

NOTE: Use Temporary Entrance on the I-385 Frontage Rd. (see website)

A Message From the President

The Greenville Chapter would like to thank Art Hutson for his presentation to us last month on "Selecting the Right Fan". There was a good turnout for the meeting, and I think everyone who attended would agree that Art's experience and knowledge of fan application was extremely beneficial.



Ryan McCleary
Greenville Chapter President

This month, I hope everyone stays awake and pays attention, because if you don't, Chris Edmondson will get you!! That's right, he's back.....and if there's one thing I'm sure of, it's that Chris will be entertaining (and maybe even a little informative).

I would also like to thank everyone that worked to put the ASHRAE Golf Tournament together. I think everyone had a good time, even though some people may have fudged on the handicaps (you know who you are!) The important thing, however, is not that we are honest and forthcoming about our average golf scores, but rather that we raised money for ASHRAE Resource Promotion. When I last spoke with Ken Clark, I believe we had raised just over \$2,000 to donate to research. Not too shabby for a bunch of hackers!

ASHRAE still needs your help. Please volunteer to serve on a committee, or bring someone new to the next meeting. Anything you can do to help the chapter will be greatly appreciated.

Come out and join us at the next meeting!

If you have any questions or comments, please feel free to contact me.

Ryan McCleary
Greenville ASHRAE President

Chapter Programs

This month we are pleased to have a visiting dignitary speak for us. The Greenville Chapter warmly welcomes and old friend in the person of Mr. Chris Edmondson. Besides his duties as President of the James M Pleasants Company, Chris is the Director & Regional Chairman (DRC) for ASHRAE Region IV and an ASHRAE Distinguished Lecturer.

If you have been working on central plant chilled water pumping systems lately, you may be aware of the pundits promoting variable primary flow as a cost savings measure. Well, Chris Edmondson will speak directly to this issue in his program: "The Primary/Secondary versus Variable Primary Flow Debate". This program will review the basic features of both systems illustrating each system's Pros and Cons. In addition, a comparison of the two chilled water applications will be presented.

Besides Chris Edmondson's excellent credentials, he is a truly dynamic speaker. Spread the word of his visit and bring a friend.

Karl Counts

Programs Chairman

Please RSVP to kcounts@onealinc.com no later than Friday November 14, 2003

Membership

Thanks for the participation in our Membership Promotion meeting last month. We had three prospects in attendance. Also, there were a couple of Applications for Advancement turned in and that is great. Welcome aboard to new member John Hall.

ASHRAE: Selecting the Right Fan by Art Hutson on 10/21/03 [1 PDH]

Attendees at the October meeting were: Steve Abernathy, Danny Atkinson, John Bindewald, James Bryan, Ken Clark, Devon Cortright, Karl Counts, Rodney Hinton, Stanley Hix, Art Hutson, Bill Knight, Greg Kyzer, Ryan McCleary, Jay McCutcheon, Robert Monaghan, Dave Roberts, Bobby Roper, Mark Schnetzka, Bob Speer, Caroll Suttles, Herb Redick, Karl Geizio, Mark Rosenfeld, Doug Peterson, Robert Carter, James McCarter, and Rob Wetmore.

Applications can be obtained at our regular meetings or call me at (864) 233-7966.

Caroll Suttles

Membership Chairman

Resource Promotion

Our November meeting will be Donor Recognition for 2002-2003 contributors. All Honor Role level contributors will receive special recognition. (Individuals: \$100 or more, Companies: \$150 or more)

Our Fall Golf Outing was a success, raising over \$2,000 for Resource Promotion! We had 50 golfers participate and although the weather started our cool and windy, Mother Nature cooperated and everyone had a good time.

Here is a recap of the Winners!

1st Place Low Gross Score of 57 (15 under par)

Bill Bowers, Lee Fowler, Tim Turner & Jerry Shamroe

1st Place Low Net Score of 35 (37 under par)

Allison Knox, Rick Nickles, Mike Pitts & Dan Stoneman

Closest to the pin: Dave Doser & Bill Knight

Longest drive: Gwenn McDaniel & Bill Knight

Special Thanks to our sponsors: Piedmont Natural Gas Company
Thermal Resource Sales
Hahn Mason Air Systems
The Copy Spot

Johnson Controls Inc.
L.R. Gorrell
Trane

Ken Clark

Resource Promotion Committee Chairman

Technology, Energy, & Government Activities

Technology Awards

Know of an innovative project that may be award worthy? If so, submit it for an ASHRAE Technology Award.

Either contact Greg Kyzer or visit the ASHRAE web-site at:

<http://www.ashrae.org/standcom/tegaward.htm> for forms and more information. Then proceed as follows:

1. Complete the "Short Form" and use it as the cover page.

2. Provide a system schematic/diagram not larger than 11" x 17" in size. In addition, attach a brief narrative (maximum of 2 pages). The narrative should include the gross and net building areas applicable to the project, a description of the major building areas (i.e., operating rooms, laboratories, computer rooms, industrial processes, offices, warehouses) and a brief discussion regarding the following five criteria (if a criterion is not applicable, state accordingly):

Energy Efficiency

Indoor Air Quality

Innovation

Operation & Maintenance

Cost Effectiveness

3. Submit your schematic, brief narrative, and completed form to Greg Kyzer, your TEGA Chapter Chair for judging at the Chapter level.

Applicants will receive recognition and have the chance to advance to Regional & Society level competition.

ASHRAE

(AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIRCONDITIONING ENGINEERS)

CLEMSON STUDENT CHAPTER

\$30 FIRST PRIZE, \$20 SECOND PRIZE

TAKE HOME QUESTION (CLOSEST TO THE ANSWER)

QUESTION: How much does 1 CFM of Conditioned Outside Air cost for a single student for a whole year?

Bonus Question: How many computers can a school buy each year from the energy savings from reducing the O.A. from 15 cfm per student to 7.5 cfm for a school of 2000 students. (Assume 1 computer costs \$400)

WHEN DUE?: Next Clemson ASHRAE Meeting on Tuesday, Nov. 18th at 6:00 in Dillard. Rob Turner will provide the answer, prize money, and a short lecture on Fresh Air issues including cost, equipment, mold, and codes.

Notes and Assumptions:

- Outdoor air (O.A.) is cooled and heated by a dedicated unit (i.e. the room air is conditioned by another unit). Unit has a refrigerant coil with an EER of 12 Btu/W-hr and a hot water coil with a boiler heating efficiency of 84%. Unit will supply air at 55 in the summer and 70 in the winter.
- Design temperatures: Winter design low temp is 18 degrees; Summer design high temps are 93db/74wb.
- Energy costs \$0.045 per KWH and \$1.00 per gas Therm.
- Assume fan power and pumping costs are negligible.
- Assume the school is occupied from 8:00 am to 3:00 pm., 5 days a week, August through May.
- Assume total cooling hours = 650 (compressor run-time); Heating hours = 160 (Boiler run-time, full fire)
- Assume a sensible heat ratio of 60%

History and Politics of Indoor Air Quality:

- When air conditioning started in the 60's, building codes adopted ASHRAE's recommendation for each student to have 15 cfm of totally fresh outside air supplied to the classroom by the air conditioner. This required a lot of compressor power, but power was cheap during the 60's.
- During the energy crisis of the 70's, the codes reduced the required O.A. per student to 5 cfm.
- Children's advocates, air quality advocates, and lawyers fought and billed many hours to increase the amount of fresh air delivered to the students.
- In 1989, ASHRAE and the building codes required a minimum of 7.5 cfm per student. This was frowned upon by owners because it costs money to air condition 1000's of CFMs of hot moist summer air (or heat 20 degree air in the winter).
- Many plaintiffs were suing the school districts and building owners over indoor air quality and mold (which ironically is caused by too much moist air in the building) as being responsible for sick children.
- The new 2000 International Building code requires 15 cfm with no exceptions.
- Today, there are more lawsuits than ever, and mold is more prevalent.

Jointly sponsored by

The S. C. Institute for Energy Studies, the Clemson School of Building Design and the Greenville ASHRAE.

Learn how this cross-disciplinary professional organization can enhance your college and professional career through scholarships,

technical competition, networking, resume services combined with opportunities for fellowship and fun!

(Faculty contact is Prof. Ray Schneider 656-6739, rkschne@clemson.edu)

Greenville Chapter ASHRAE

2003-2004 Chapter Officers

Office	Officer	Company	Phone	Fax	email
President	Ryan McCleary	York International	627-9675	627-0953	ryan.mccleary@york.com
Programs/ VP	Karl Counts	O'Neal, Inc.	298-2170	298-6330	kcounts@onealinc.com
Secretary	James Bryan	O'Neal, Inc.	298-2148	298-6330	james.bryan@onealinc.com
Treasurer	Devon Cortright	H2L	233-8844	232-2679	dcortright@h2l.com
Membership	Caroll Suttles	Piedmont Natural Gas	233-7966	233-6104	caroll.suttles@piedmontng.com
Resource Prom.	Ken Clark	Thermal Resource Sales	250-2822	250-0585	trskan@bellsouth.net
Student Activities	Rob Turner	Wade Crow Engineers	585-9903	585-4528	rt_wcengineer@bellsouth.net
TEGA	Grey Kyzer	Arcadis G & M	241-5106	235-9062	gkyzer@arcadis-us.com
Historian	Steve Abernathy	Piedmont Natural Gas	233-7966	233-6104	steve.abernathy@piedmontng.com

Tentative Meeting Dates 2003-2004

November 18, 2003

December 16, 2003

January 20, 2004

February 17, 2004

March 16, 2004

April 20, 2004

May 18, 2004



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Technology for a Better Environment

**Greenville Chapter of
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