



# *Giga-Joule*

**Greenville Chapter**

**May, 2011**

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

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## *Meeting Announcement*

The March meeting will be held on Thursday, May 12th at the Roper Mountain Science Center. The details are listed on the Programs Page. For more information, please contact our Programs Chairman, Grant Wiegmann, at 864-672-6105 or email at [programs@ashrae4greenville.com](mailto:programs@ashrae4greenville.com)

## *A Message from the President*

For those that missed the April presentation by Scott Graham of Mitsubishi, he did a good job. Preparing for and presenting one of the technical sessions can be a lot of work. ASHRAE has a policy requiring these presentations be educational and not an advertisement. I believe our presenters for the past year have done a good job. Please join us this month for a presentation by one of our newest members on electric motors and variable speed drives.

The month of May marks the end of our chapter program year. In August Grant Wiegman and I will be representing the chapter at the Chapter Regional Conference (CRC). This is where matters concerning the region and ASHRAE as a whole are discussed among the chapter officers of the region with representatives from national. If you have something that you would like to see addressed, please let us know. We are there to represent you, the chapter members. One of the items discussed at the CRC is nominations for national and regional office. If you know someone that you believe would make a good candidate, share that information with us.

All ASHRAE members are invited to the CRC, which will be at the Kingston Plantation on Myrtle Beach August 4<sup>th</sup> thru the 6<sup>th</sup>. Cost of registration has not been published yet, but is expected to be in the \$350 range. Room rates are \$179/night plus 12% tax. There will be a golf tournament on Thursday. The schedule for Friday and Saturday contain officer training seminars, business meetings, and technical sessions. (The CRC technical sessions are typically very good.) We will post additional details as we get them.

Next year CRC will be hosted by Greenville at the Embassy Suites and we will need your help to host Region IV.

I want to thank the Board of Governors for their contribution and support over the last year. The chapter operates on the time and effort of the volunteers. No one can do it alone. Thank You.

Please support Grant and the incoming board as they take over on July 1<sup>st</sup>.

**Devon Cortright**  
Greenville ASHRAE President  
[president@ashrae4greenville.com](mailto:president@ashrae4greenville.com)



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**President**  
[president@ashrae4greenville.com](mailto:president@ashrae4greenville.com)

## Membership Corner

ASHRAE Greenville would like to extend a warm welcome to our newest members and as always thank our returning members for their support throughout the year.

Thank you to all who participated in our Spring Golf Tournament.

**A little bit about 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.



This month will be the **Second** of our two **Membership Promotion Meetings**. You are encouraged to bring a friend along with a completed ASHRAE Membership form and payment to the meeting and you will be our **GUEST (Greenville Chapter of ASHRAE)** for the Meeting. Any existing member who brings a potential new member, again with completed Membership form and payment will also be entitled to a **FREE** lunch at this meeting (NOTE: Forms are available by going to [www.ASHRAE.org](http://www.ASHRAE.org) or attached to this Newsletter)

Invite, invite, invite – ASHRAE is open to any person associated with heating, ventilation, air conditioning or refrigeration through such disciplines as indoor air quality and energy conservation. We offer a few different types/grades of Membership – Member, Associate, Affiliate and don't forget Students.

**Existing MEMBERS** – Ask Me about Upgrading your Membership by going online to [www.ASHRAE.org](http://www.ASHRAE.org) to update and complete your BIO...this process will automatically upgrade your membership based on the information that you supply...it's quick and it's easy ~ After all it's 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.

Drop me an email [Membership@ASHRAE4GREENVILLE.COM](mailto:Membership@ASHRAE4GREENVILLE.COM) or call me at 444-0219.

***Just a reminder:*** **Chapter Members** in good standing (paid dues) **\$10.00** per meeting – lunch included.  
**Non-Chapter Members** **\$15.00** per meeting – lunch included.

Best Regards,  
Dorothy Bertolini  
Membership Chair – ASHRAE Greenville SC  
[membership@ashrae4greenville.com](mailto:membership@ashrae4greenville.com)

## *Chapter Programs*



Last month we had Scott Graham of Mitsubishi Electric give a presentation on VRF (Variable Refrigerant Flow) systems including the benefits of VRF systems, where they are best applied, and updates on how VRF systems relating to ASHRAE 15 and ARI performance testing. Thank you Scott for a great presentation.

This month, Bob Gluszik and Derek Vigil w/ Baldor will be giving us an update on Variable Frequency Drives and electric motors, including new requirements by ASHRAE and local codes. Please RSVP soon so that we can make sure there will be enough room and food for everyone. Please see the meeting agenda below for information on the program.

**Grant Wiegmann**  
**Programs Chair**  
[programs@ashrae4greenville.com](mailto:programs@ashrae4greenville.com)

# ***May Meeting***

**Program: What's new with electric motors and VFD's?**

**Presenter: Bob Gluszik and Derek Vigil**

Derrick Vigil is a Global Account Manager for Baldor Electric Company in Greenville, SC. Derrick has 18 years of experience with motor and motor controls primarily in the power tool and HVAC industries. Previous experience includes motor design, application engineering of switches/controls, product management and sales. Since joining Baldor 5 years ago, he has work exclusively in the HVAC industry and has been a member of ASHRAE as well as an active member of TC 1.11 (Motors and Controls). Derrick earned a Bachelor of Science in Electrical Engineering and a minor in Mathematics from the University of Memphis. He also has earned a MBA from Union University in Jackson, TN. Derrick resides in Greer, SC with his wife and three boys.

Bob Gluszik is a Product Marketing Specialist for Pump and Fan VFDs with Baldor Electric Company in Greenville, SC.

Bob has been employed in the Motor and VFD industry for approximately 35 years.

His past experience has been as an Industrial/Manufacturing Engineer, Project Engineer, Operations Manager, and Field Sales Engineer with Square D, Reliance Electric, and Rockwell Automation. He attended Miami University in Oxford, Ohio and graduated with a Bachelor of Science in Industrial Technology degree. He also earned an MBA degree from John Carroll University in Cleveland, Ohio. Bob resides in Greenville, SC with his wife.

**Location:** Roper Mountain Science Center ([www.ropermountain.org](http://www.ropermountain.org))

**Date:** Thursday, May 12, 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 p.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](mailto:programs@ashrae4greenville.com)  
No later than Noon Tuesday, May 10, 2011**

# Chapter Technology Transfer

CTTC

## 62.1-2007 User's Manual

In last month's column I noted ASHRAE's announcement of the 62.1-2010 User's Manual and its associated spreadsheet. I tend to wait until forced to familiarize myself with a new standard, and a recent LED project forced me to acclimate to 62.1-2007 – learning 62.1-2010 is still in the future. The project involved the up fit of space in an existing office building with ductwork, VAV boxes, and the associated controls. This presented some “interesting” challenges since the core of the mechanical system was in place and operating; I merely needed to prepare the documentation indicating that the existing equipment, in combination with the components added via the up fit, complied with 62.1-2007. I am of the opinion that any standard that requires a users manual to understand it is far to complicated. In this case the 62.1-2007 User's Manual provided some much needed guidance with regard to the multi-zone calculations. It also provides examples of several different conditions. For instance, the User's Manual explains that “occupiable spaces” applies to normally occupied spaces. Support spaces that are occupied only occasionally do not have to be included in the critical spaces evaluation. Without this explanation one can easily find themselves with a system where the overall ventilation rate is dictated by spaces such as changing rooms, storage rooms, or other support spaces with minimal cooling load, but a ventilation requirement of 0.12 cfm/sqft.



**Devon Cortright**  
**PE**  
**Chapter Technology**  
**Transfer Chairman**

The 2007 User's Manual comes with a CD containing an Excel workbook titled “62MZCalc.” This spreadsheet is to assist in analysis of the critical spaces in multi-zone applications of 62.1-2007. My opinion of the spreadsheet contrasts with that of the User's Manual. The spreadsheet is protected and locked. Input is limited to designated fields and the formulas are hidden. There is an explanation on the bottom of the worksheet with regard to the calculations, but one is not allowed to view the formulas directly. One pull down menu associated with air distribution type has a long list of acronyms associated with the location of supply and return grilles, but no explanation on what the acronyms mean. (Anyone know what FSCRLV stands for?)

In summary, the text of the user's manual does help clarify an overly complex standard, spreadsheet helps with the analysis of critical spaces, but is inflexible. I hope the 2010 version clarifies this.

In the end I used a third party spreadsheet available when 62.1-2004 was issued in combination 62MZCalc. The old spreadsheet also has flaws, and one significant error, but is not locked or protected and allowed me to enter as many spaces as I thought appropriate and make some corrections and design notes. (The methodology used in 62.1 between the 2004 version and the 2007 version is nearly identical.)

## Technology Awards

Please review your design projects for the previous year and submit one for a technology award. The application is straight forward. Contact me for details.

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

# *History*

Some of ASHRAE history – part 4

The comments of this section of the GigaJoule for the past few months have been mostly about ASHVE; here is some information about the American Society of Refrigerating Engineers (ASRE). Who needs refrigeration when we have rivers, and lakes that freeze in the winter?

Many years back folks had learned to store frozen water from nature in containers using sawdust (a common throwaway material) as insulation; some used cork (a more difficult material to obtain (imported) but could hold it's shape better). There were several problems with using nature to freeze water; you had to be up in the very cold climate of this country for this to occur and it only happened in the winter months, you had to have a means to transfer it to points of use without too much thawing, and a lot of streams received sewage from communities that flow into rivers, etc. This latter situation did not make very good ice for domestic use. Can you imagine drinking ice tea with some unusual items floating in your glass? I will change the subject.

BTW – earlier manufacturers of ice were called “ice harvesters”. Don't you bet some of them were against the new fangled equipment called mechanical refrigeration? Another problem with using frozen rivers, etc. was storage until the next winter because insulation only slows (retards) heat transfer – it does not stop it.

The best date for mechanical refrigeration that I can find is 1885. Do any of you have a better date? If so, please let me know at [history@ashrae4greenville.com](mailto:history@ashrae4greenville.com).

**John Mullis**

**Historian**

[history@ashrae4greenville.com](mailto:history@ashrae4greenville.com)

## 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
Thursday 03/10/2011	March Chapter Meeting: Is there a Hole in Your Bucket, Steam?	Presenter: Chris Edmondson
Thursday 04/14/2011	April Chapter Meeting: Ductless VRF System Applications	Presenter: Scott Graham
Friday 4/15/2011	ASHRAE Golf Tournament	
?	ASHRAE Webcast:	
Thursday 05/12/2011	May Chapter Meeting: What's New with Electric Motors and VFD's	Presenter: Bob Gluszik



**ASHRAE**  
Technology for a Better Environment

**Region IV**  
**Greenville Chapter**



# Join the World's Leading

**ASHRAE MEMBERSHIP APPLICATION**

## HVAC&R Organization

*The resources of ASHRAE are here for you.*

Advancing HVAC&R to Serve Humanity and Promote a Sustainable World

### What Members Say?

“Thirteen years ago, I joined ASHRAE as a student member. Since that time, I have been embraced by a community of peers from throughout the world that continues to help to build both my knowledge of HVAC&R and career as a Professional Engineer.”  
- RL, Winnipeg, Manitoba, Canada

“ASHRAE has provided me with incredible opportunities to network with others in the industry while being of service to them. Now, in my advanced years, I am satisfying my mentoring thirst.”  
- LS, Prairie Village, Kansas

“Being a member of ASHRAE has helped me make invaluable contacts in the HVACR industry - the annual meetings are an easy way to keep on top of every aspect of the industry as they provide opportunities for networking, information about the newest codes and chances to participate in updates to standards.”  
- SS, Washington, DC

“To be an ASHRAE member is very important internationally, for me especially, in Argentina and Brazil. With the growth of green buildings, energy savings and sustainability, ASHRAE standards are a valuable resource. The ASHRAE community is a constant source of friends and professionals with similar ways of thinking.”  
- WL, Buenos Aires, Argentina

**ASHRAE** membership is open to anyone associated with heating, ventilation, air conditioning or refrigeration. With more than 50,000 members from more than 100 nations, ASHRAE is a diverse organization representing HVAC&R professionals around the world.

### Who is a member?

Members are represented by students, consulting engineers, mechanical contractors, building owners, employees of manufacturing companies, educational institutions, research organizations, government, architects, or anyone concerned with HVAC&R for the built environment.

### What Member Type is Right for You?

ASHRAE has three grades of membership awarded to applicants based on their experience and participation in the industry.

Member grade and associate grade offer the same member benefits.

### Member (\$180 US)

Available to anyone with 12 years or more ASHRAE-approved experience in the HVAC&R industry.

### Associate Member (\$180 US)

Available to anyone with less than 12 years of ASHRAE-approved experience in the HVAC&R industry.

### Affiliate Member (\$50 US/first year, \$70 US/second year, \$90 US/third year)

Affiliate grade is perfect for individuals who are new to ASHRAE (not previous Student or Associate members) who are age 30 or younger. It provides a great beginning for young professionals who wish to become involved in ASHRAE. Affiliate grade does not include the annual member benefit of the ASHRAE Handbook.

\*\*Before you apply and select a member grade, we encourage you to visit the ASHRAE website at: [www.ashrae.org/membership](http://www.ashrae.org/membership) to see the member grades and their corresponding member benefits.

## Member Benefits and Resources

### Publications & Resources



- The ASHRAE Handbook – the industry-wide resource for all HVAC&R professionals. (Available to Members and Associate Members).
- ASHRAE Journal – the most trusted monthly technical magazine in the HVAC&R community
- HPB magazine – quarterly magazine focusing on the benefits of innovative technologies and energy-efficient design and operation. A digital subscription is available to members.
- HVAC&R Industry News – a weekly electronic news resource keeping ASHRAE members abreast of the latest industry news and information
- Access to the members-only resource website
- Access to and discounts on more than 300 of the industry's leading technical publications

### Professional Education and Career Development



- Maximize your knowledge by taking courses from the ASHRAE Learning Institute (ALI)
- Earn PDHs / CEUs / AIA LUs to maintain your certification/license with courses, seminars and webcasts
- Demonstrate your knowledge and experience by earning your ASHRAE certification
- Build communication and management skills by participating in a technical program or serving on a technical committee
- Post jobs or seek employment utilizing ASHRAE's online career services

### Networking



- Meet with industry experts and colleagues at chapter, region and Society conferences
- Connect locally, regionally and internationally with over 160 chapters worldwide
- Learn, share and grow at the ASHRAE Annual & Winter Conferences, and the AHR Expo at the ASHRAE Winter Conference

### Member Discounts



- On education courses and certification applications
- On registration at ASHRAE conferences

**Join ASHRAE today.  
Enhance your career for a lifetime!**

**Save time, join online.  
[www.ashrae.org](http://www.ashrae.org)**

**Or fill out the membership application and either fax or mail back to ASHRAE.**

**American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.**

1791 Tullie Circle NE, Atlanta, GA 30329  
Phone: 1-800-527-4723 (U.S and Canada)  
404-636-8400 (world-wide) • Fax: 678-539-2129



# ASHRAE MEMBERSHIP APPLICATION - Valid through June 30, 2011

Save time and apply online at [www.ashrae.org](http://www.ashrae.org). Create a login first and select Join Now!

Mr.     Miss     Ms.     Mrs.     Dr.

Name \_\_\_\_\_ Birth \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
(First) (Middle) (Last) (Month) (Day) (Year)

### Primary Address

Company Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State/Province \_\_\_\_\_  
 Zip/Postal \_\_\_\_\_ Country \_\_\_\_\_  
 This is a  Home address     Business address

### Alternate Address

Company Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State/Province \_\_\_\_\_  
 Zip/Postal \_\_\_\_\_ Country \_\_\_\_\_  
 This is a  Home address     Business address

E-mail \_\_\_\_\_ Alternate E-Mail \_\_\_\_\_  
 Telephone \_\_\_\_\_ Fax \_\_\_\_\_

ASHRAE Email Usage Policy - ASHRAE respects the privacy rights and communication preferences of its members. To support ASHRAE's commitment to sustainability, ASHRAE actively seeks to reduce the amount of paper and mail used to communicate Society information. By supplying your email address, you are agreeing to receive electronic communications from ASHRAE, with the knowledge that you may opt-out of certain types of electronic communication once you become a member. Occasionally ASHRAE makes under proper safeguard physical address mailing lists - not email - to third parties for HVAC&R technology related direct mail purposes. If you DO NOT wish to receive these physical mailings, please check here.

ASHRAE Society dues include \$6 (USD) for ASHRAE Journal. This amount is not deductible from membership dues. The membership dues below are valid through June 30, 2011. After this date, dues for Members and Associates will be \$185 (USD).

I would like to apply for the following grade:

- Member - \$180
- Associate Member - \$180
- Affiliate Member - \$50/first year  
*(new members only, age 30 and under)*

I would like to reinstate my previous membership:

Previous member number \_\_\_\_\_  
 Previous member grade \_\_\_\_\_  
 Previous election date \_\_\_\_\_

Members and Associate Members receive an ASHRAE Handbook each year as part of the membership package. Please indicate your Handbook Preference here:

Handbook Type:  I-P (inch/pound units);  SI (metric units);  CD (I-P & SI)

To find out more about ASHRAE member grades and their corresponding benefits, visit the Membership section of [www.ashrae.org](http://www.ashrae.org). Second year affiliate dues are \$70 and third year affiliate dues are \$90.

If you know it, please indicate your preferred local ASHRAE chapter: \_\_\_\_\_

To receive your subscription to the ASHRAE Journal, please answer the following questions by entering the appropriate codes in the spaces provided.

Which best describes your firm? \_\_\_\_\_

- 11-Consulting Engineering
- 12-Architect/Architectural & Eng Services
- 15-Design/Build
- 21-Contractor
- 26-Property Mgmt & Dev
- 31-Industrial Facility
- 41-Commercial Facility
- 42-Government, Healthcare, Education
- 43-Utility
- 51-Manufacturer/HVAC&R Equipment
- 61-Manufacturer's Representative
- 62-Sales Engineering
- 71-Wholesaler or Distributor
- 83-Library
- 84-Technical, Professional or Trade Association
- 86-Student
- 91-Other (Please Specify) \_\_\_\_\_

Which best describes your title? \_\_\_\_\_

- B-President
- C-Partner
- D-Associate
- E-Owner
- F-Vice President
- G-Vice President Eng, Chief Engineer
- K-Design Engineer, Designer
- L-Project/Application Engineer
- O-Facility Engineer/Manager
- P-Research/Development Engineer
- R-Sales Engineer/Sales
- S-Purchasing Agent
- T-Draftsperson
- U-Estimator
- W-Technician
- X-Professor/Instructor
- Y-Student
- Z-Librarian
- ZZ-Other (Please Specify) \_\_\_\_\_

Which best describes your function? \_\_\_\_\_

- 1-Design/Application
- 2-Manufacturing
- 3-Maintenance/Operations
- 4-Management
- 5-Sales
- 6-Research
- 7-Teaching
- 8-Other (Please Specify) \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

**This section is required only if you are applying for Member Grade.**  
*Associate and Affiliate applicants do not need to complete this section.*

### Educational Record

Name	Location	Dates of Attendance	Degree/Course of Study
Technical Institute: _____			
College or University: _____			
Graduate Study: _____			

### Qualifying Work Experience

List present affiliation first. List each major responsibility separately. Use additional sheets or attach a resume if necessary.

Employer Name	Location	Dates of Employment	Position/Title
_____			
_____			

### Professional Engineering Registration

License Number \_\_\_\_\_ Field of Registration \_\_\_\_\_  
 Date Issued \_\_\_\_\_ Principal Location of Registration \_\_\_\_\_

### Method of Payment

Visa     Mastercard     American Express     Diner's Club  
 Check or money order    Enclosed Amount \_\_\_\_\_  
 (Checks must be payable to ASHRAE in US funds drawn from a US bank.)  
 Card # \_\_\_\_\_ Expiration Date \_\_\_\_\_ / \_\_\_\_\_  
(Month) (Year)  
 Signature \_\_\_\_\_

MAIL OR FAX BACK COMPLETED FORM ALONG WITH APPROPRIATE FEES TO:  
 American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.  
 1791 Tullie Circle NE, Atlanta, GA 30329  
 Phone: 1-800-527-4723 (U.S and Canada) • 404-636-8400 (world-wide) Fax: 678-539-2129  
[www.ashrae.org](http://www.ashrae.org)

By completing this membership form, you are agreeing to comply with the ASHRAE Code of Ethics: <http://www.ashrae.org/codeofethics>.

**(Date and signature are required.)**