



# The Razorback Report

www.arkansasashrae.org

Volume XIX, Issue 1, September 2007

Arkansas Chapter Newsletter for the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.

## SEPTEMBER MEETINGS

### Northwest Arkansas

Date: Thursday, Sept 6<sup>th</sup>

Location: A.Q. Chicken, Springdale

Cost: TBD

Schedule:

4:30 pm Steering Committee Meeting

5:30 pm Social

6:00 pm ASHRAE Business / Dinner

6:45-8:00 pm Program - "Sustaining the Community" - Bill Plunket & Chris Ladner

### Central Arkansas

Date: Wednesday, Sept 5<sup>th</sup>

Location: Next Level Events - Historic Union Station 1400 W. Markham

Cost: \$20.00 / person

Schedule:

10:30 am Board Meeting

11:30 am Tech Session - "Complying with the LEED IAQ Standard" - Tom Hanlon

12:00 pm Lunch

12:15-1:00 pm Program - "Sustaining the Community" - Bill Plunket, Chris Ladner

## The President's Message

*By Steve Titus  
Chapter President*

Hello to everyone in Arkansas ASHRAE. I hope everyone had a great time with friends and family this summer. The summers are always too short, but it is time for another great ASHRAE year. Last year came to a successful conclusion with a great family outing at the ballpark. I am already looking forward to this year. It is good to see spouses and kids involved in our chapter.

Last year we were near the top of society again in research promotion, and increased our attendance by 12%. This is a testament to the hard work and dedication of every member of our chapter.

Society President Terry Townsend set the stage last year with sustainability as his theme, and our chapter followed along with several programs on sustainability as well. This year's Society President Kent Peterson is building on Terry's theme, and so are we.

*(Continued on page 8)*

*Central Arkansas Fall golf tournament at Rebsamen Golf Course on Friday, October 5th. See flyer inside for details.*

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| Month     | Topic                               | Speaker         | Meeting | Date | Location      | Sponsor              |
|-----------|-------------------------------------|-----------------|---------|------|---------------|----------------------|
| September | Sustainability                      | TBA             | Central | 9/5  | Union Station | TME Inc.             |
|           |                                     |                 | NWA     | 9/6  | AQ Chicken    |                      |
| October   | Chilled Beams                       | Ken Lauder-milk | Central | 10/3 | TBA           | Trane Arkansas       |
|           |                                     |                 | NWA     | 10/4 | TBA           |                      |
| November  | Variable Refrigerant Flow           | Corey Bartlett  | Central | 11/7 | TBA           | Airetech Corporation |
|           |                                     |                 | NWA     | 11/8 | TBA           |                      |
| December  | TBA                                 | TBA             | Central | 12/5 | TBA           | Pettit & Pettit      |
|           |                                     |                 | NWA     | 12/6 | TBA           |                      |
| January   | TBA – <i>Joint Meeting with CSI</i> | TBA             | Central | 1/2  | TBA           | Powers of Arkansas   |
|           | TBA                                 | TBA             | NWA     | 1/3  | TBA           |                      |
| February  | TBA                                 | TBA             | Central | 2/6  | TBA           | Comfort Systems USA  |
|           |                                     |                 | NWA     | 2/7  | TBA           |                      |
| March     | TBA                                 | TBA             | Central | 3/5  | TBA           | Wade Company         |
|           |                                     |                 | NWA     | 3/6  | TBA           |                      |
| April     | TBA                                 | TBA             | Central | 4/2  | TBA           | Fluid Solutions      |
|           | TBA                                 | TBA             | NWA     | 4/3  | TBA           |                      |
| May       | Past President's Night              | TBA             | Central | 5/7  | TBA           | Batson Bravo         |
|           | TBA                                 |                 | NWA     | 5/8  | TBA           | TBA                  |

## Engineering Tip

Submitted by  
Charles Wetzler, PE, LEED AP

### Fan Heat

Perhaps the most overlooked source of heat in the air conditioning cycle is the heat from the supply fan. In my days designing air handling units, I found that few designers and engineers accounted for fan heat in their load calculations, and if they did, they used default numbers from load forms (now computer programs), which generally assumed pressure losses below that actually experienced by the installed system. Thus, fan heat assumed was not fan heat experienced. While every Boy Scout knows that rubbing two sticks together can generate enough heat to start a fire, it seems many designers fail to realize that rubbing air against steel, or aluminum (and, yes, plastic) also generates heat. Then there is the inefficiency of the drive and of the motor. Just how much does this affect our design?

In our quest for the proverbial 20 degree F drop from room air to supply air, let's look at an example of the effect of the fan in a hypothetical system. Assuming 17,500 CFM, 15 HP supply fan motor (fully loaded for the example), fan and motor in the air stream and a draw-thru configuration. I won't bore you with the formulae, but, since ASHRAE generously provides us with a table giving us heat generated by electric motors (see 2005 Fundamentals, page 30.7, Table 3A)

(Continued on page 3)

## Engineering Tip

(Continued from page 2)

heat added to the air leaving the coil in our system is easily calculated. From the table, the heat added is 44,400 BTUH, all sensible. Dividing the heat added by the CFM (we won't discuss the change in CFM that occurs as the air passes through the coil due to change in density) and again by 1.08 to complete the equation, we see that the fan and motor have added 2.35 degrees F to our supply air. That means that the 55 degree air we thought we were supplying to the conditioned space is actually 57.35 degrees, and, to meet the load in the space, more air at that actual temperature would be required. You can begin to imagine the vicious circle (actually a spiral) beginning to wrap itself around your system performance. And if you are in a higher pressure system where the fan heat gets up to 4 degrees or more, the percentage of coil load eventually attributed to the fan(s) gets even more significant.

There is more than one way to address fan heat, but I prefer to keep it simple. Using a basic iterative process of component selection and maintaining my desired flow, I simply use a lower leaving air temperature, in this case, 52.65 degrees F. That makes my supply air *leaving the air handler* 55 degrees F. (We'll talk about duct heat gain another time), If this method pushes me into a deeper evaporator coil, I might consider increasing the air flow, or a combination of more air and lower temperature. It's just the way I prefer. Regardless of the method one selects for the solution, it must be addressed to attain desired performance. Equipment and software suppliers can help here.

By the way, when using series fan powered VAV terminals, don't forget the fan heat there, as well. And remember that return fan heat in the mixed air calculations. And what about that outside air fan. You get the point. Heat sources happen at various places throughout our system, not just in the conditioned space. If you want a satisfied client, consider them all. By the way, today's computer programs have ways to accurately address the fan heat. Unfortunately, in my reviews of work submitted to some of our government agencies, designers rarely use anything but the defaults.

If you or someone you know isn't receiving the electronic version of the **Razorback Report** and would like to, please send an email to : [Mark@airetechcorp.com](mailto:Mark@airetechcorp.com)

## Technology Awards

Submitted by  
Miguel L. Purdy, P.E.  
Refrigeration Chair

### The Cooler Side of Engineering

As you may or (heaven forbid) may not remember, there are two very prestigious refrigeration awards given by ASHRAE. One is the Milton W. Garland Commemorative Refrigeration Award for Project Excellence. The other is the Refrigeration Comfort Cooling Award for Project Excellence.

The Garland Award has been around for several years. It awarded to both the designer and owner of a non-comfort cooling refrigeration application that incorporates new technology in a unique manner.

This year will be the third anniversary for the Comfort Cooling Award. This award is also presented to both the designer and owner. It is designed to highlight a comfort cooling application of at least 300 tons and utilizes innovative and/or new technologies.

Each of these awards requires that a project be in operation at least twelve months, but less than 36 months. All awards applicants must submit their six-page entry to the Chapter for review. The Chapter then makes the final submissions to CRC.

**Arkansas ASHRAE has set this year's deadline for ap-**

(Continued on page 8)

## Sustainability

Submitted by  
Tom Hanlon, LEED AP

### Arkansas ASHRAE Chapter Sustainability: *Our Vision, our Goals, our Programs.*

**OUR VISION:** As stated by our leadership and board of directors, we in the Arkansas Chapter want to renew our efforts and focus toward the SUSTAINABILITY movement. As we all know the idea of SUSTAINABILITY has taken off and the movement impacts us all.

From the new conservation methods and products in the HVAC industry to the Holistic Design of Green Buildings, to the Community awareness of Programs like the Habitat for Humanity. We are all touched by the idea. An to this end our chapter leadership has made a commitment to expand our visibility and involvement. **SO, let's do it!!** Give us your ideas, your feedback and your time to help us do our part in the effort.

**OUR GOALS:** Given the Vision our goals are to develop programs and technical sessions that embody the ideas of sustainable design, construction, operation and community. We know how to design more energy efficient systems. We are figuring out how to install and commission them. We are more slowly figuring out how to communicate this design and installation to facility users.

This model not only exists in our commercial environment but is evident in all aspects of our community. We that are involved in Habitat are currently discussing how to educate new homeowners in the prudent use of appliances with an eye on longevity and energy conservation.

So we have got work to do. As one of our local Sustainable leaders (Chris Ladner) said a few years back, "we have to start living in our front yards" and get involved in our community. We at Arkansas ASHRAE have lot's to add.

Currently our goals for the year are to have two programs on sustainability and four technical sessions. The Sustainability Committee (volunteers needed) is looking for input on program and tech session ideas and is for sure looking for volunteers to present. So step up.

**OUR PROGRAM(S):** As mentioned our programs for the year are still developing, so jump in.

Our program for September is set. Our theme is "Sustaining the Community" and we have two terrific presenters. The program will be two thirty minute sessions:

First will be Habitat for Humanity (Pulaski County). A discussion by Bill Plunkett PE (director) on Habitat's building program and more importantly their recycling program for building products diverted from landfills.

Second will be The Argenta Project (North Little Rock). A discussion by Chris Ladner LEED AP on the partnership of North Little Rock and the Local USGBC Chapter. Really exciting.

And just to keep us grounded in our business I'll do a quick tech session on IAQ compliance for LEED building.

For the Northwest Chapter we'll do an expanded version of the IAQ compliance for LEED projects plus have an update on the Washington County Habitat for Humanity efforts.

Should be a great year. Let's all pitch in!! Thanks.

## Chapter Website Update

The website will soon be up-to-date and full of helpful information! Check with ArkansasASHRAE.org There you will find direct links to pay dues, update your membership info (e.g. e-mail address), and donate to ASHRAE Research Promotion. There will also be a calendar of events with a list of meeting dates and program topics for the year (once we finalize the details). We will strive to keep the content on the website current, complete and accurate. Don't hesitate to let us know how we can improve. Please visit us at [www.arkansasashrae.org](http://www.arkansasashrae.org) today.

## Membership

*Submitted By:*

*Joel Funkhouser – Membership Chair*

I hope everyone had a great summer! It's time to start-up a new year in ASHRAE, and what a better way to start the year than to welcome new members who joined us over the summer. Welcome to Karen Stewart from Springdale and three new student members: Brandon Wheeler from Russellville, James Godeaux from Russellville, and Seth Houghton from Russellville. We look forward to seeing you at our September meeting.

I encourage everyone to invite friends and colleagues to our meetings and to be on the lookout for potential new members. We have a strong chapter, and additional members will help to make us even stronger; a growing chapter is a healthy chapter. As always, if you have any questions pertaining to membership, please give me a call, and I'll be happy to assist you.

## Social Activities

*Submitted By:*

*Tony Demarco – Social Chair*

Hello again golf fans, yes believe it or not it is that time again. After coming back from the PGA Championship last weekend in Tulsa, I'm feeling extremely good about my game and I'm ready to tee it up (I hope your picking up my sarcasm because I'm laying it on pretty thick). Seriously though, all any of us need to do to make the PGA tour is learn to hit it about 400 yards off the tee like our very own John Daly. We followed him Sat. and Sun. and it was something to watch. Driver off every tee which resulted in a knock down approach shot through the trees about 90% of the time (which is where most of us amateurs get a lot of practice from anyway) and yet somehow he managed to save par almost every time. It was amazing to watch and I definitely recommend that if anyone is ever close to a PGA event and have not been to check it out. Back to the business at hand, I have scheduled this Fall's swingfest for Friday Oct. 5th at Rebsamen once again.

*(Continued on page 7)*

## Editors Note

*Submitted by*

*Mark Ring - Newsletter Editor*

You may notice a some new names here along with some more familiar ones listed in the newsletter this month. This will be my fist opportunity to serve you as the Arkansas ASHRAE Newsletter Editor. I am honored to be entrusted with this responsibility and can only hope that I will live up to the exceptionally high standards exhibited by ASHRAE members that have served in this capacity before me.

While some things have changed with this issue of the Razorback Report, much has stayed the same. The expectations of our chapter and the society as a whole demand that we provide a newsletter that is timely, accurate, stimulating, useful, and most of all informative. We will still tell you when and where the meetings will be held, we will still tell you what is going on with the Chapter and the Society, and we will still tell you when the next golf tournament will be held. These are just a few of the things that you have come to expect from the Razorback report and we will continue to deliver them. My personal objective is to take the newsletter we have now and strive to improve at every opportunity. With that in mind I would ask that you let me know if there is anything you would like to see added to the newsletter or anything you would like to see changed. Any and all ideas will be greatly appreciated.

Please feel free to call me, send an email or just tap me on the shoulder when you see me. I want to hear your concerns or comments. No one person is as good as all of us combined and I want this newsletter to be the best that it can be.

You can reach me by email at [mark@airetechcorp.com](mailto:mark@airetechcorp.com). Or by phone at my office (501) 280-0404

## ASHRAE Chapter Board Meeting Notes - July 12, 2007

Submitted By

Steve Keen—Chapter Secretary

Attendees: Miguel Purdy; Joel Funkhouser; Chris Ahne; John Hodoway; Bill Simpson; Marc White; Mark Ring; Steve Titus; Tom Hanlon; Kim Koch; Steve Keen

- 1) Goals for the year
  - a) LEED program
    - 1) Tom Hanlon will serve at Sustainability Chair
  - b) Investigate Higher Ed and high school for opportunities to assist with programs
- 2) Possible ideas for programs in Schools include:
  - a) Partnering with ASME's golf tourney to raise funds
  - b) Seek speaking or presentation opportunities in K-12 programs concerning environment or construction.
    - i) Lectures
    - ii) Judging events
    - iii) Sponsoring competitions
  - c) Harding University is starting a ME program
- 3) Budget Review topics
  - a) Include budget for distinguished speakers
    - i) Society will include transportation costs only.
  - b) Include budget for a minimum of four seminars, partnering with CSI, LEED, etc.
  - c) Year to date budget report issued today.
- 4) Add name badges for Northwest Arkansas Meetings
- 5) Plan for nine monthly ASHRAE programs this year, including technical sessions
  - a) Two programs with membership emphasis
  - b) Two program with research promotion
  - c) Two programs with LEED emphasis
    - i) Sustainability program should reach out to the community, possibly combing with Heifer and Argenta programs.
    - ii) Discuss Start up and flush out of water and air systems
    - iii) Discuss suggestions for LEED opportunities in planning and constructing.
    - iv) Discuss Air and Water Balance effects on LEED Designs
    - v) Tour LEED accredited buildings
  - d) Arkansas ASHRAE/CSI joint meeting
  - e) Controls interoperability
  - l) Discussions on variable condenser water flow chiller plants
  - f) Factory Tour
  - g) Past Presidents
  - h) Industrial Ventilation design methods
  - i) Kitchen Ventilation design and operation methods
  - J) Hospital Infectious Risk Assessment procedures for construction with critical areas. (Continued on page 7)
  - k) 3D drawing and model presentation on developing software packages

**Tired of endless invoices from your ASHRAE Treasurer?**  
**Tired of annoying phone calls about past due ASHRAE payments?**  
**Tired of long check in lines at the monthly meetings?**  
**Want to get the benefit of all the ASHRAE meetings for less money?**

Then the Pre-Paid meals program is for you!!!!

With the new pre-paid meals program you get all of the above benefits. Members who sign up and submit payment for the pre-paid meals program will receive 9 meetings for the price of 8.

## ASHRAE Chapter Board Meeting Notes

*Continued from page 6)*

- l) Variable refrigerant flow systems
- m) High rangeability controls valves with and with flow limiting valves
- 6) Need to confirm meeting locations (continuing at Whole Hog if possible)
- 7) Need to schedule Traveler /Naturals baseball game night
- 8) Consider Co-Chairs for committees to encourage additional member involvement and prepare new (future) committee chairs.
- 9) Officers and Committee Chairs for 07:
  - a) President: Steve Titus
  - b) Vice President: Kim Koch
  - c) Treasurer: Chris Ahne
  - d) Secretary: Steve Keen
  - e) CRC Delegate: John Hodaway
  - f) Chapter Technology Transfer: Kim Koch
  - g) Technology Awards: Michelle Willock
  - h) Continuing Education: Chris Galloway
  - i) Membership: Joel Funkhouser
  - j) Research Promotion: John Hodaway
  - k) Student Activities: Bill Simpson
  - l) Refrigeration: Miguel Purdy
  - m) Reception: Melanie Richardson
  - n) Social: Tony Demarco
  - o) Historian: Hank Wade
  - p) Webmaster: TBD
  - q) Newsletter: Mark Ring
  - r) Honors and Awards: Chance Hollingsworth
  - s) NWA Section Steering Committee: Ben Dye / Sam Browning
  - t) Sustainability: Tom Hanlon

## Welcome to our newest members:

### Member:

Karen Stewart      Springdale

### Student Members:

Brandon Wheeler      Russellville

James Godeau      Russellville

Seth Houghton      Russellville

If you know any of these folks, please invite them to the chapter meetings and encourage them to become involved.

## Social Activities

*Continued from page 5)*

Please see the attached entry form or you can find it in this months Razorback Report. The format will once again be a 4-man scramble which will be limited to the first 24 teams so get your teams together and get them to me ASAP. My contact info is on the entry form so please contact me anytime with any questions. For anyone out there who would like to donate any prizes (logo balls,shirts,hats,etc.) this would be greatly appreciated. All donations can be sent to my attention at the address on the entry form. Everyone has always been very supportive and generous in past tournaments., which results in excellent prizes and participation each and every tournament and ultimately contributes substantially to the support of ASHRAE research. Thank you all in advance once again and I hope to see all of you on the course.

I will leave you now with one of the most famous quotes in golf, straight from the most famous greens keeper in history... Carl Spackler. Enjoy!

*"This crowd has gone deadly silent, a Cinderella story outta nowhere. Former greens keeper and now about to become the masters champion ... He's on his final hole. He's about 455 yards away, he's gonna hit about a 2 iron I think ... IT'S IN THE HOLE!!!!"*

## The President's Message

(Continued from page 1)

Tom Hanlon is going to be our first ever sustainability committee chair. With his leadership, I hope our chapter can begin a tradition of building sustainability not only into our chapter, but our community as well.

Kim Koch is planning an exciting slate of programs for the year, and our continuing education chairman Chris Galloway already has the annual fall NEBB/ASHRAE seminar well in hand. He is planning a great seminar for the spring that we will be hearing more about in the near future.

This year already appears to have the makings of another incredible year in our chapter. I would encourage everyone to help in any way you can.

Bring guests to meetings. Encourage young members of your firms to become members. We need co-chairs for all our committees, and this provides an excellent opportunity for you to become involved in our chapter before making a big commitment. Also make sure that when you renew your membership that you are paying chapter dues. These are very important to supporting all the chapter activities that have made our chapter so successful over the years.

Thanks to everyone for their involvement in our chapter over the years, and I would like to close my first article by thanking everyone in advance for all the hard work and dedication that this chapter will provide over the coming nine months. You guys are truly the best anywhere, and I look forward to working with you all this year.

## Have you changed jobs recently? Do you have a new email provider?

**If so, you probably need to update your  
Biographical Information with Society.**

We are continuously trying to keep our membership data as current as possible. Please take a minute to make sure your contact information is accurate and up to date. You can navigate to the Biographical Record System through the membership section on ASHRAE's website, [www.ashrae.org](http://www.ashrae.org), or the following URL: <http://xp20.ashrae.org/bio/>

## Research Promotion

Submitted by  
Chance Hollingsworth, - Research  
Promotion Chair

The Arkansas ASHRAE Chapter membership has again demonstrated their tremendous support of ASHRAE Research.

### Chapter Resource Promotion Final Report

|                       |              |
|-----------------------|--------------|
| Chapter's YTD Results | \$ 50,193.00 |
| Chapter's Goal        | \$ 35,977.66 |

The Arkansas Chapter finished second in the region to the Central Oklahoma Chapter who has been awarded the Pinnacle Award for raising \$ 64,185.00

Just to give you some perspective we finished with \$ 49,780 last year and won the Pinnacle Award.

This year we did finish 4th in the top 5 chapter's percent of goal for Chapter size 250 - 499 members with 139.5% of goal.

On behalf of ASHRAE and our Chapter officers and Board of Governors,  
Thank you for your support!

## Technology Award

(Continued from page 3)

**lication of March 15, 2008.** If you have a project that you believe is worthy of consideration, please contact Miguel Purdy [mlpurdy@vcaw.com](mailto:mlpurdy@vcaw.com) or (479)756-0007 to obtain submission requirements, assistance in preparation and/or final submission information.

## Future ASHRAE Meetings:

**2008 ASHRAE Winter Meeting**  
**January 19-23**  
**New York, NY**

**2008 ASHRAE Region VIII CRC**  
**April 2008**  
**Shreveport, LA**

**2008 ASHRAE Annual Meeting**  
**June 21 - 25**  
**Salt Lake City, UT**

**2009 ASHRAE Winter Meeting**  
**January 24 - 28**  
**Chicago, IL**

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## 2007-2008 Chapter Officers

|                   |             |              |                       |
|-------------------|-------------|--------------|-----------------------|
| <u>President</u>  | Steve Titus | 501.375.1181 | sctitus@aristotle.net |
| <u>Vice-Pres.</u> | Kim Koch    | 501.666.6776 | kkoch@tmeinc.com      |
| <u>Treasurer</u>  | Chris Ahne  | 501.661.0621 | cahne@trane.com       |
| <u>Secretary</u>  | Steve Keen  | 501.374.5420 | skeen@powersar.com    |

## Board of Governors

|                                     |              |                              |
|-------------------------------------|--------------|------------------------------|
| Charles Wetzler                     |              | cwetzler@sbcglobal.net       |
| Marc White                          | 501.664.3311 | mwhite@batsonbravo.com       |
| Tim Staley                          | 501-666.6776 | tstaley@tmeinc.com           |
| Chance Hollingsworth (CRC Delegate) | 501-280.0404 | chance@airetechcorp.com      |
| John Hodoway (CRC Alternate)        | 501.372.2900 | john.hodoway@mail.ashrae.org |

## Committee Chairs

|                    |                      |                                  |
|--------------------|----------------------|----------------------------------|
| Membership         | Joel Funkhouser      | jcfunkhouser@garverengineers.com |
| Student Activities | Bill Simpson         | wsimpson@trane.com               |
| Programs           | James Dayer          | jdayer@fluidsolutionsinc.com     |
| Historian          | Hank Wade            | wadeco@aristotle.net             |
| Refrigeration      | Miguel Purdy         | mlpurdy@vcaw.com                 |
| Research           | John Hodoway         | john.hodoway@mail.ashrae.org     |
| Honors & Awards    | Chance Hollingsworth | chance@airetechcorp.com          |
| Technology Awards  | Michelle Willock     | mwhillock@johnprinceco.com       |
| Newsletter         | Mark Ring            | mark@airetechcorp.com            |
| NW Section         | Sam Browning         | SBrowning@Trane.Com              |
| Social             | Tony Demarco         | tony@airetechcorp.com            |
| Reception          | Melanie Richardson   | mrichardson@batsonbravo.com      |
| Webmaster          |                      |                                  |

## THE RAZORBACK REPORT

ARKANSAS CHAPTER OF ASHRAE  
 P.O. Box 180  
 LITTLE ROCK, AR 72203

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

## Arkansas Chapter Meeting RSVP Form

Company Name: \_\_\_\_\_

Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

Signed: \_\_\_\_\_

| ROUTING |
|---------|
|         |
|         |
|         |
|         |
|         |
|         |
|         |
|         |

For reservations to the Central Arkansas Chapter meeting send this form by **Tuesday, September 4th** to ***Steve Titus*** : sctitus@aristotle.net or via **FAX** at 501-375-4628

For reservations to the Northwest Arkansas Chapter meeting send this form by **Tuesday, September 4th** to ***Sam Browning*** : sbrowning@trane.com or via **FAX** at 479-361-5977.

| <b>MEMBER NAME<br/>(PLEASE PRINT)</b> | <b>CENTRAL<br/>September 5th</b> | <b>NW ARK<br/>September 6th</b> | <b>EATING<br/>(Y or N)</b> |
|---------------------------------------|----------------------------------|---------------------------------|----------------------------|
|                                       |                                  |                                 |                            |
|                                       |                                  |                                 |                            |
|                                       |                                  |                                 |                            |
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|                                       |                                  |                                 |                            |
|                                       |                                  |                                 |                            |
|                                       |                                  |                                 |                            |

**NOTES:** Please fax this form to the name and fax number as referenced above  
 The meal is no cost to student members, however an RSVP is necessary.  
 All "no shows" will be responsible for the cost of their meal.  
**In order to provide you with the best service for your Chapter's money, it is necessary to RSVP for each meeting.**

**RSVP for the September meeting online at [www.arkansasashrae.org](http://www.arkansasashrae.org)**

### September Meeting Topics

Tech Session - **Complying with the LEED IAQ Standard** - Tom Hanlon

Program - **Sustaining the Community** - Bill Plunket & Chris Ladner

Meeting Sponsor: TME, Inc.



**ASHRAE LEARNING INSTITUTE**  
**FALL ONLINE COURSES**

**Take Two Courses and Save 15% OFF Registration**

**Register Early and Save!**

**Before September 3rd: \$135** ASHRAE Member / **\$210** Non-member  
 Humidity I and II

**After September 3rd: \$150** ASHRAE Member / **\$225** Non-member  
 Humidity I and II



**Earn 3 PDHs/3 CEUs or 3 AIA LUs**

**Complying with ANSI/ASHRAE/IESNA Standard 90.1-2004 HVAC/Mechanical**

*Due to the popularity of this course, it will be offered twice.*

**Wednesday, September 26, 2007**  
 1:00 p.m. to 4:00 p.m. EDT

**Monday, October 22, 2007**  
 1:00 p.m. to 4:00 p.m. EDT



This program presents the mechanical requirements from ANSI/ASHRAE/IESNA Standard 90.1-2004. Standard 90.1-1999 is the benchmark for commercial building energy codes in the United States and in countries around the world. States are currently in the process of adopting elements of the 2004 Standard. The U.S. Department of Energy is reviewing it in preparation for adoption as the new benchmark for state energy codes. Changes to the 2004 mechanical section schedule to become part of the 2007 Standard will be addressed. Design professionals, code officials and building owners will benefit from this seminar, which presents the HVAC requirements and methods of compliance. Attendees will receive a discount toward the purchase of [ANSI/ASHRAE/IESNA Standard 90.1-2004 - Energy Standard for Buildings Except Low-Rise Residential Buildings](#) and [Standard 90.1-](#)

**Frank Mills, Instructor**

**Natural Ventilation**

**Thursday, October 4, 2007**  
 1:00 p.m. to 4:00 p.m. EDT



This course will explain the various methods by which natural ventilation can be achieved including successful examples. The course will describe the calculation techniques to more sophisticated examples ranging from simple manual calculations, spread sheets through to more sophisticated techniques such as computational fluid dynamics CFD, salt bath modeling and physical (scale) model testing. Options for hybrid solutions will be described including recent innovative schemes which have used the natural ventilation strategy throughout the year with added cooling in summer. The course will follow the CIBSE Applications Manual AM10. Attendees will receive a discount toward the purchase of Natural Ventilation in Non-

**Mack Wallace, JJ Deringer, Instructors**

**Humidity Control I -  
Basic Principles, Loads and Equipment**

***Take both and save!***

**Monday, October 15, 2007  
1:00 p.m. to 4:00 p.m. EDT**



In commercial buildings, excess humidity and moisture problems have caused difficulties with mold, mildew and uncomfortable conditions for occupants. This course, based on ASHRAE's Humidity Control Design Guide for Commercial and Institutional Buildings, helps the designer achieve true control of humidity rather than just its moderation. The course covers how to remove moisture loads with equipment dedicated to that purpose alone, rather than relying on the occasional dehumidification effect of a building's cooling system. Attendees learn what equipment is used for this purpose, how it works and how to apply it quickly, economically and reliably. Attendees will receive a discount toward the purchase of the [Humidity Control Design Guide for Commercial and Institutional Buildings](#).

**Lew Harriman, Instructor**

**Humidity Control II  
Applications, Control Levels and  
Mold Avoidance**

***Take both and save!***

**Wednesday, October 17, 2007  
1:00 p.m. to 4:00 p.m. EDT**



For those who need to go beyond the basics of humidity control, this course provides the next step. Based on ASHRAE's best-selling Humidity Control Design Guide for Commercial and Institutional Buildings, the material includes an in-depth discussion of moisture load calculations and how humidity control can be added to HVAC designs for seven different types of commercial buildings. The course also covers the effects of different humidity levels on thermal comfort, corrosion, mold growth and airborne microorganisms-information which helps the owner and designer define the humidity control level that will be optimal for each application. If you need to understand the effects of humidity control as well as how to accomplish it, this course puts you on the fast track to such understanding. Attendees will receive a discount toward the purchase of the [Humidity Control Design](#)

**Lew Harriman, Instructor**

**Complying with Requirements of ANSI/  
ASHRAE/IESNA Standard 62.1-2004**

***Due to the popularity of this course,  
it will be offered twice.***

**Wednesday, October 24, 2007 — 1:00 p.m. to 4:00 p.m. EDT  
Monday, November 19, 2007— 1:00 p.m. to 4:00 p.m. EDT**



Standard 62.1-2004, Ventilation for Acceptable Indoor Air Quality, contains many changes from previous versions. This standard incorporates more than 15 addenda. The methodology for calculating ventilation rates for buildings is fundamentally changed for the first time in fifteen years. The standard also contains new requirements for building components and building systems. This seminar gives an overview of the requirements of the current standard with emphasis on the new requirements. Explanation of how to use an available spreadsheet will be included as a closing exercise. Attendees will receive a discount on [Standard 62.1-2004 – Ventilation for Acceptable Indoor Air Quality](#) and the [Standard 62.1-2004 User's Manual](#).

**Hoy Bohanon, Instructor**

**Understanding and Designing  
Dedicated Outdoor Air Systems (DOAS)**

**Wednesday, October 31, 2007  
1:00 p.m. to 4:00 p.m. EDT**



This course presents some of the issues that point toward separate dedicated outdoor air systems (DOAS) and away from delivering the ventilation via single all-air variable air volume systems. The course also illustrates that once a shift in the design paradigm in favor of a separate DOAS has occurred, questions concerning the thermodynamic state of the delivered ventilation air arise. Some of the boundary conditions that impact the best state of the delivered ventilation air are addressed.

**Stanley Mumma, Instructor**



# 2007 Arkansas ASHRAE Fall Golf Tournament

Friday Oct. 5<sup>th</sup> "Shotgun Start" 12:00 pm

>Rebsaman Golf Course<

Little Rock, Arkansas



**Entry Fee:** \$300 per team (4 players per team)  
Includes cart, refreshments, and lunch at 11:00.

**Format:** 4-Man Scramble (First 24 teams)  
Mulligans can be purchased for \$40/team. (2/player)  
Ties will be broken by score and hole handicaps.  
This format shall promote fair and competitive play.

**Prizes:** 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> place teams. (2 flights)  
Long Drive (in fairway) and Closest To Pin.  
Special contests to be announced.



Fill out form and e-mail [tony@airetechcorp.com](mailto:tony@airetechcorp.com) or fax to Tony DeMarco.  
Airetech Corporation 7631 Northshore Pl. North Little Rock, AR 72118  
**Phone: 280-0404 Fax: 280-9200**

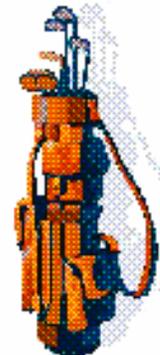
 Player 1: \_\_\_\_\_

 Player 2: \_\_\_\_\_

 Player 3: \_\_\_\_\_

Player 4: \_\_\_\_\_ Total enclosed: \$ \_\_\_\_\_

Please make checks payable to "Arkansas ASHRAE" and send to  
Arkansas ASHRAE P.O. Box 180 Little Rock, AR 72203



### \$ Don't forget to sponsor a Hole \$

- \_\_\_ I will sponsor a hole -\$100. Sign at a hole & recognized in ASHRAE newsletter
- \_\_\_ Corporate Sponsorship- \$200. Banners are allowed for corporate sponsorship & will be recognized in the ASHRAE newsletter as a Corporate Sponsor (There will be an area near the scoreboard to recognize corporate sponsors (owner provided))
- \_\_\_ I will donate \$\_\_\_\_\_ for prizes and awards
- \_\_\_ I will donate Merchandise (golf balls, towels, etc.)

Workers, Hole & Corporate sponsors & Prize Contributors will be recognized in the Arkansas ASHRAE Newsletter. All proceeds go to Arkansas ASHRAE.

Name: \_\_\_\_\_, Company: \_\_\_\_\_

Signed: \_\_\_\_\_, Date: \_\_\_\_\_

Phone: \_\_\_\_\_, Fax \_\_\_\_\_, Email \_\_\_\_\_



# Arkansas ASHRAE 2007 – 2008



## Pre-Pay Lunch Plan

**Cost:** \$130 per person

**Includes:** 9 Monthly meetings with meals

Please complete the form below and mail or fax to the noted address/fax number. Bills will be sent in July.

**\*\*Get one meeting meal free and express check-in when you pre-pay\*\***

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**Company:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**Phone:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

**Names:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Please mail form to:**  
Arkansas ASHRAE  
Attn: Chris Ahne  
P.O. Box 180  
Little Rock, AR 72203

**Or fax to:**  
Trane Company  
Attn: Chris Ahne  
Fax: 501-661-9109

# 2007 NEBB SIX-HOUR RECERTIFICATION & ASHRAE EDUCATIONAL SEMINAR

FRIDAY - OCTOBER 12, 2007  
7:30 A.M. - 4:00 P.M.  
TRANE ARKANSAS TRAINING ROOM  
1501 WESTPARK DRIVE— SUITE 9

7:30 - 8:00 A.M.  
REGISTRATION & CONTINENTAL BREAKFAST

8:00 - 8:15 A.M.  
WELCOME & INTRODUCTIONS  
ARKANSAS NEBB PRESIDENT  
CURT ENGLAND

8:15 - 9:15 A.M.  
JOHN JACO,  
JACO SALES.  
BASIC HYDRONICS

9:15 - 10:15 A.M.  
HAMID HABIBI  
TME, INC.  
ASHRAE 62

10:15-10:30 A.M.  
BREAK

10:30 - 11:30 A.M.  
TME, INC.  
LEED 2.2

11:30 - 12:30 P.M.  
LUNCH  
(LUNCH WILL BE CATERED)

12:30 - 1:30 P.M.  
TOM HANLON  
TME, INC.  
LEED IAQ CREDITS

1:30 - 3:30 P.M.  
UNDERFLOOR AIR DISTRIBUTION

3:30 -  
CHAPTER BUSINESS MEETING

CERTIFICATE OF ATTENDANCE WILL BE AVAILABLE FOR **ONLY** THOSE REGISTRANTS  
THAT COMPLETE THE SIX (6) HOUR SEMINAR

ARKANSAS NEBB  
P. O. BOX 15964  
LITTLE ROCK, AR 72231  
501-753-2311 - 501-753-9649-FAX  
EMAIL: [MCAAICASA@SBCGLOBAL.NET](mailto:MCAAICASA@SBCGLOBAL.NET)

2007 ARKANSAS NEBB RECERTIFICATION  
&  
ASHRAE EDUCATIONAL SEMINAR  
FRIDAY - OCTOBER 12, 2007  
7:30 A.M. - 4:30 P.M.  
TRANE ARKANSAS TRAINING ROOM  
1501 WESTPARK DRIVE—SUITE 9  
LITTLE ROCK, ARKANSAS

COMPLETE & RETURN TO THE ABOVE ADDRESS  
FAX TO 501-753-9649-EMAIL TO [MCAAICASA@SBCGLOBAL.NET](mailto:MCAAICASA@SBCGLOBAL.NET)

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NAME \_\_\_\_\_

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE \_\_\_\_\_ FAX \_\_\_\_\_

EMAIL \_\_\_\_\_

TOTAL REGISTERED \_\_\_\_\_ @ \$75.00 PER PERSON

LIST OTHER REGISTRANTS ON SEPARATE SHEET)

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REGISTRATION FEE \$75.00 PER PERSON

REGISTRATION FORM & FEES MUST BE RECEIVED BY  
MONDAY - OCTOBER 8, 2007  
(CONTINENTAL BREAKFAST & LUNCH INCLUDED)

IF OVERNIGHT ACCOMMODATIONS ARE NEEDED LET ME KNOW VIA  
EMAIL: [MCAAICASA@SBCGLOBAL.NET](mailto:MCAAICASA@SBCGLOBAL.NET)

**SEATING IS LIMITED REGISTER EARLY ! ! ! !**

NEBB QUALIFIED SUPERVISORS WILL MEET THE SIX (6) HOURS  
REQUIRED ANNUALLY FOR FIRM RECERTIFICATION.

ENGINEERS WILL BE GIVEN SIX (6) PDH CREDITS FOR ATTENDING SEMINAR  
ONLY IF 6 HOURS ARE COMPLETED.

CERTIFICATE AVAILABLE ONLY UPON COMPLETION OF SIX HOURS.