Post Time
ASHRAE Newsletter – Bluegrass Chapter

January Meeting & Program

Date	**Friday, January 15, 2010**	
Time	11:45 am 12:00 – 1:00	Lunch Meeting
Place	**Thermal Equipment Sales Lexington** 680 Bizzell Drive Lexington, KY	
Meal & Cost	**Italian Bar by Good Faith Catering** **Members: $10 Non-Mem:$15** Cash or check only **Students: $4**	
RSVP Required	**RSVP to Chris Tyler at** chris@thermaleq.com	

Please RSVP by Tuesday, January 14th to Chris Tyler @ **chris@thermaleq.com** if you plan to attend.

Chapter Technology Award and Presentation

This month we highlight the Bluegrass Chapter technology award recipient, Big Ass Fans.

Presentation overview:
The presentation is a case Study on the Big Ass Fans Research and Development Laboratory, which has recently been awarded LEED Gold by the U.S. Green Building Council (USGBC). LEED is the USGBC's leading rating system for designing and constructing the world's greenest, most energy efficient, and high performing buildings. Topics will include energy conservation measures and water efficiency measures utilized in the building as well as compliance with ASHRAE Standards 90.1, 55, and 62.1.

Presenter:
Christian Taber is an Applications Engineer at the Big Ass Fans Company. Taber is part of the Research & Development team which is responsible for developing, testing, and implementing the company's portfolio of high volume, low speed fans for industrial, institutional, agricultural, and commercial facilities worldwide.

Taber spent eight years as an engineer at Trane, focusing on building energy simulation. He is an ASHRAE certified High-Performance Building Design Professional, a member of the ASHRAE Standard 90.1 Energy Cost Budget (ECB) subcommittee and a full committee voting member. Taber is pursuing a Ph.D. in biosystems engineering from the University of Kentucky. He holds an M.S. in mechanical engineering and B.S. in chemical engineering from Iowa State University.

Narritive:
Big Ass Fans continues its commitment to engineering the world's best fans, commencing fan testing in a new, LEED Gold, 45,000-ft^2 research and development laboratory. Specifically designed for the unique requirements and challenges of testing very large Big Ass Fans (6-ft to 24-ft in

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Our Chapter relies solely on volunteer effort to accomplish tasks that make all things go for Bluegrass ASHRAE. Participation in the Chapter requires only minimal effort for an excellent payback in knowledge, camaraderie, and a sense of involvement. If you are interested in participating in your Chapter activities in anyway, big or small, please contact Grant Page at 859-253-0892 (grant.page@gmail.com). We could really use your help!

President's Letter

by Grant Page, PE, 2009-10 Chapter President

Happy New Year everyone!

I hope the new year has found everyone happy and healthy. I had a great vacation and a good time off rejuvenating with family and friends. Now, it's back to business!

This month we recognize our Big Ass Fans and their LEED Gold building. Lots of folks worked very hard to accomplish this certification and I am glad we get to recognize some of our own chapter members on a job very well done! Thanks for your service to your Companies, your Chapter and your world by the practice of sustainable building.

Continuing the line of thought, ASHRAE National has contacted every Chapter with the message of promoting the new ASHRAE Standard 189.1 which is due to be released this year. Details of this effort are included below from our Society President, Gordon Holness, so please take a look and find out about training opportunities for this new Standard.

Once again, we had a great ASHRAE/ASME Christmas Party at Equestrian Woods with live entertainment, food and drinks! I really appreciate all the volunteers who put in time and effort to making the event one of the best ever, well of the ones I have attended. Thank you Becky for the gifts, Lisa Sherwood for the tunes, and ASME for the food (and open bar!)

It bears repeating, again and again: This year we are working hard to **lower the cost** for you to attend Chapter lunches to $10 for members, $15 for non-members, and **free lunch** for members of our student contingent who are ASHRAE members. **But to keep prices low, I do need your help.** Please RSVP for lunch to chris@thermaleq.com. It is very important not only to have enough food, but we need to ensure we have the right amount of food.

Enough from me…enjoy the newsletter and see you on January 15th if not sooner!

Grant Page

2009-2010 Program Dates & Topics

Date	Meeting Topic
September 18th	Greening Your Preventative Maintenance Program
October 16th	HVAC Air Balancing
November 20th	Standard 180: A New Approach to HVAC System Maintenance, ASHRAE DL
December ??	Christmas Party
January 15th	Chapter Technology Award Presentation
February 19th	DDC Controls
March 19th	Energy Modeling
April 17th	Chilled Beams
May 15th	Technical Seminar, ASHRAE DL

2008-2009 Program Themes

Date	Meeting Theme
October 16th	Student Activities
November 20th	Research & Membership Promotion
January 15th	Past Presidents
Feburary 19th	Membership Promotion
March 19th	Research Promotion
April 17th	Student Promotion
May 15th	Technical Seminar

Engineer for Hire

Harold G. "Howie" Sherrard was recently terminated from his position with Trane in a round of company-wide job cuts. Howie is an ASHRAE member, an NCEES model law engineer, a PE with license in KY and FL, and 10+ years of varied experience. He is looking for full-time or even contract work. Feel free to contact him directly at 859-230-8386 or hgsherrard@windstream.net

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May 2010 High Performance Building Workshop

by Grant Page, PE, 2009-10 Staff Reporter and Captain

USGBC, AIA and ASHRAE have once again joined forces with the Kentucky Finance & Administration Cabinet to continue our collective efforts to enhance and support implementation of Kentucky's High Performance Building Standards. This workshop **will be third in a series** to educate those interested in working on state facility projects. The agenda is currently being developed and I will pass along details as they solidify.

Engineers - This program will provide six (6) PDHs (Professional Development Hours) toward continuing education requirements. And, if you are keeping count that will be a total of 20 PDHs your local Chapter has provided this year.

ASHRAE Chapter Leadership Briefing on Standard 189.1 -- Jan. 13-14

by Gordon Holness, 2009-10 Society President (delivered via email to all Chapter Presidents)

Dear Chapter President:

ASHRAE is inviting you to be a leader in the building community by getting engaged in the rollout of the soon-to-be-published high performance green building standard.

The long awaited Standard 189.1 will be released early this year, and ASHRAE needs your help to spread the word to your colleagues t. ASHRAE's goal is to have ANSI/ASHRAE/USGBC/IES Standard 189.1, *Standard for the Design of High –Performance Green Buildings Except Low-Rise Residential Buildings*, utilized as widely as possible to have a positive impact on the environment. More information on the standard can be found at this link: www.ashrae.org/greenstandard.

As you plan your chapter programs for the first quarter of 2010, ASHRAE would like to encourage you to include information about Standard 189.1. To assist you, ASHRAE can provide a subject matter expert and materials to help ensure that your meeting is a success. Additional information will be discussed during a series of virtual meetings that will be held in mid-January. This is an opportunity for your chapter to be part of a Society-level campaign to bring this important standard to the marketplace.

ASHRAE invites you and/or someone you designate from your chapter to attend a virtual meeting on one of the dates below. During the meeting you will learn more about the standard and why it is so important for the standard to be widely utilized.

By clicking on the meeting date you would like to attend, you will both RSVP and provide ASHRAE with your email address which will be added to the attendee list for that day. Meeting participation information (including a call-in number and a detailed agenda) will be sent to you via email prior to the event.

(Editor's note: enter the following link into your browser to choose either **Wednesday January 13th at 12PM EST** or **Thursday January 14th at 11AM EST**)

http://cms.ashrae.biz/forms/189/

Sincerely,
Gordon Holness
2009-10 ASHRAE President

Bluegrass Chapter will Host April Satellite Broadcast

by Grant Page, PE, 2009-10 Staff Reporter and Captain

Why do I need Commissioning? Why should Commissioning start in the design phase? How can I avoid or reverse building performance decay? How does Commissioning improve ROI? Get answers to these questions and tools to commission your next building by participating in the ASHRAE Webcast**, "Right from the Start–Commissioning for High Performing Buildings."** Register and access this free webcast via the Internet on April 21, 2010, from 1 to 4 p.m. EDT. The program is sponsored by ASHRAE's Chapter Technology Transfer Committee with support from the ASHRAE's *High Performing Buildings Magazine*.

Online registration begins **March 2nd** at www.ashrae.org/Cxwebcast.

Three (3) Professional Development Hours (PDHs) or three (3) AIA Learning Units (LU's) may be awarded to viewers who complete the "Participant Reaction Form" online by **April 30, 2010**.

2009-2010 PDHs

by Grant Page, PE, 2009-10 Staff Reporter and Captain

The Chapter offers a 1 hour PDH certificate for Kentucky Professional Engineers. Remember, PEs in Kentucky are required by law to have 30 PDH hours when renewing their license every two years. **Being an ASHRAE member and attending all meetings and technical sessions will get you 10-12 of those hours per year.** (*ed. And you also get 1 PDH just for being an officer…yet another reason to volunteer..WOOT!*)

WHAT ARE YOU WAITING FOR…Get yourself on over to the meeting!!!!!

Advertise Your Business

We have space in our Chapter newsletter and on our web site for advertising your business using one of your business cards.

If you want to advertise in the ***newsletter*** for a calendar year, send your business card plus a check for $25 made out the "Bluegrass ASHRAE" to Bruce Bradway, c/o Trane, 1515 Mercer Rd., Lexington, KY 40511.

If you want to advertise in the ***newsletter and on the website*** for a calendar year, send your business card plus a check for $50 made out the "Bluegrass ASHRAE" to Bruce Bradway, c/o Trane, 1515 Mercer Rd., Lexington, KY 40511.

Use your Chapter's newsletter to get your company name in front of other businesses and members.

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ASHRAE News Releases

High-Performance Building Standard Provides the Foundation for Green Building Codes

ATLANTA – A proposed high-performance building standard and a stronger version of Standard 90.1, both being released next year, together will provide a total green resource for local and state governments looking to set building code requirements to reduce energy use.

Proposed Standard 189.1, Standard for the Design of High Performance, Green Buildings Except Low-Rise Residential Buildings, is being developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) in conjunction with the Illuminating Engineering Society (IES) and the U.S. Green Building Council (USGBC). The standard is slated to be the first code-intended commercial green building standard in the United States when published early in 2010.

It covers key topic areas typically included in green building rating systems: site sustainability, water use efficiency, energy efficiency, indoor environmental quality, and the building's impact on the atmosphere, materials and resources.

ASHRAE and IES also are working to strengthen the requirements in ANSI/ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings, which provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings. It is estimated that the 2010 standard will result in 25 to 30 percent energy savings over the 2004 version. The 2010 standard is expected to be released in mid-2010.

An update on the development of Standard 189.1P will be given this week at the USGBC GreenBuild Expo at a press conference on Thursday.

"Both standards are written in mandatory language to allow for adoption with building codes," Gordon Holness, ASHRAE president, said. "They are being developed using the widely respected American National Standards Institute consensus procedures. As such, their strength comes from the volunteer committee of experts from all facets of the building industry. In addition, the requirements in the draft standard were strengthened through the public review process with input from a variety of building industry professional."

Proposed Standard 189.1P has been written by experts representing all areas of the building industry, including engineers, lighting designers, sustainability experts, building owners, designers, architects, code and compliance officials, utilities, materials experts and equipment manufacturers. These volunteer experts have contributed tens of thousands of man hours valued at millions of dollars.

The technical requirements in the standard also are supported by input from the building industry during the public review process. The standard recently completed a fourth public review, in which 109 comments were received. The comments are being reviewed by working groups of the committee developing the standard. The full committee meets this week in conjunction with the GreenBuild Expo to act on the suggested comments.

The standard has undergone four public reviews, meaning anyone could comment on its proposed requirements. Some 2,500 comments were received during the review periods.

Making a Case for Energy Efficiency in Existing Buildings: New Industry Publication

ATLANTA – Improving energy use all comes down to green – the green of energy efficiency and resource sustainability as well as the green of money.

So, show them the money. Building owners and managers of existing buildings need to understand the economic benefits of improving systems and operations. A new publication from leading industry organizations provides guidance for the business case to achieve energy savings as much as 30 percent.

Energy Efficiency Guide for Existing Commercial Buildings: The Business Case for Building Owners and Managers provides the rationale for making economic decisions related to improving and sustaining energy efficiency in existing buildings. Approximately 86 percent of U.S. annual building construction expenditures relate to renovation of existing buildings vs. new construction.

"Our goal is to enable business owners to break down the 'mystery' of energy conservation opportunities into business-based scenarios that are both practical and cost-justifiable," said George Jackins, who chaired the committee overseeing the book. "To achieve true sustainability in the building industry, we must help owners learn that investing in energy efficiency translates into a high rate of return with a low associated risk. Owners and managers typically view buildings in terms of short-term economics. We must make the transition from best value vs. lowest first cost of buildings."

Specifically, the guide provides straight-forward applications that could produce energy savings from 10

to 15 percent to a more aggressive approach that could save 30 percent or more.

The book is a collaboration between ASHRAE, the American Institute of Architects, the Building Owners and Managers Association, the Illuminating Engineering Society of North America, the U.S. General Services Administration and the U.S. Green Building Council.

Here are the six important tips that owners and managers need to know to make their buildings energy efficient:

- Know your current energy utilization index (EUI) (kBTU/SF-year).
- Establish a target EUI and an initial budget estimate for achieving this goal.
- Conduct an internal energy study/audit (using ASHRAE's Procedures for Commercial Building Energy Audits as a basis) or have the facility retro-commissioned by a certified retro-commissioning firm. This activity may result in a modification to the original estimated budget amount.
- Identify energy efficiency measures with attractive rates of return on energy retrofit or renovation investments.
- Implement the recommended energy conservation measures that will get the facility to the desired goal with the stipulated budget.
- Commission the energy conservation measures by a certified commissioning firm. This process should include training of facility personnel on properly operating and maintaining equipment and systems.

The book is the first of three planned guides on energy efficiency. The second will be aimed at providing technical guidance in undertaking existing building renovation programs. The third will provide operation and maintenance guidance to help sustain the energy efficiency.

The cost of Energy Efficiency Guide for Existing Commercial Buildings: The Business Case for Building Owners and Managers is $69 ($59, ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit www.ashrae.org/energyguide.

National Building Energy Leaders Clarify Stimulus Act Funding

Washington, D.C. – Working in tandem with the U.S. Department of Energy, a group of national building energy organizations – noted for their broad leadership role in national energy efficiency policy – have developed an explanatory statement for state and local governments to clarify the intent of Section 410 of the American Recovery and Reinvestment Act (ARRA) and to offer assistance as states and localities adopt, provide training on and enforce advanced building energy efficiency codes.

The participants, which include ASHRAE, issued the following remarks regarding their statement, which can be found at www.ashrae.org/recovery:

We have joined forces to clarify what Congress intended to be crystal clear when it linked building energy code adoption and enforcement with funding under Section 410 of ARRA. By accepting State Energy Program funding and submitting letters assuring the Department of Energy that their states would comply with the terms of Section 410, all 50 states have committed to do three things:

1. Adopt a residential building energy code that meets or exceeds the 2009 IECC;
2. Adopt a commercial building energy code that meets or exceeds the ANSI/ASHRAE/IESNA Standard 90.1-2007 and;
3. Develop and implement a plan, including active training and enforcement provisions, to achieve 90 percent compliance with the target codes by 2017, including measuring current compliance each year.

"This joint effort is another step in ensuring a strong foundation of energy efficiency in this country," ASHRAE President Gordon Holness said. "We encourage states to take advantage of the State Energy Program funding and work to ensure a more energy efficient future for our buildings, nationwide."

Key Deadlines Are Swiftly Approaching. With only a few states having adopted codes that 'meet or exceed' the target codes, most states have a long way to go. ARRA requires State plans to be designed to achieve 90 percent compliance with codes by 2017 and to make annual compliance progress assessments. The February 2010 anniversary of ARRA marks the act's first compliance deadline for states.

To ensure ARRA compliance, it is in each State's best interest to begin the process of adopting target codes (or better) and to develop the means to train code officials to enforce them as soon as possible, according to the statement.

Help and Funding Are Available for Enforcement and Training. In addition to revenue from building inspection fees, funding for enforcement and training is available from federal grants (including SEP and the Energy Efficiency and Conservation Block Grant (EECBG)) and from existing state and federal energy efficiency funds. In addition, the groups issuing this

statement are working closely together to boost new building code-related funding in the pending climate and energy legislation before Congress, according to the statement.

Pilot Building Energy Labeling Program Launched by ASHRAE with Leading Owners, Designers

ATLANTA – A new program to inform building owners and operators, tenants and prospective buyers on the energy use of buildings, similar to a nutrition label on food or miles per gallon ratings on cars, was launched today to encourage the building industry to find ways to cut energy use and costs.

The Building Energy Quotient program, which will be known as Building EQ, will include both *As Designed* (asset) and *In Operation* (as operated) ratings for all building types, except residential. It also will provide a detailed certificate with data on actual energy use, energy demand profiles, indoor air quality and other information that will enable building owners to evaluate and reduce their building's energy use. The program is administered by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

"Information on a building energy's use is the critical first step in making the necessary changes and choices to reduce energy use and costs," Gordon Holness, ASHRAE president, said. "The Building EQ program provides an easily understood scale to convey a building's energy use in comparison to similar buildings, occupancy types and climate zone, while also providing building owners with building-specific information that can be used to improve building energy performance."

Holness noted that building energy use disclosure is already mandatory in California; Washington, D.C.; Austin, Texas; Washington State; the European Union; and Australia.

Those participating in the pilot program are leading building owners and designers, real estate developers and government agencies, including:

- The Durst Organization, the owner, manager and builder of 9 million square feet of mid-town Manhattan office and residential properties, will include 4 Times Square, 1155 Avenue of the Americas and One Bryant Park in New York City in the pilot
- The U.S. General Services Administration, the primary agency responsible for the acquisition and management of federal buildings owns or leases 8,600 properties and maintains an inventory of more than 354 million square feet of workspace for 1.1 million federal employees
- Wright Runstad and Co. develops, acquires, manages and leases high-quality commercial office buildings located primarily in the Pacific Northwest, headquartered in Seattle, Wash.
- Ashforth Pacific, Portland, Ore., a diversified real estate firm that owns, develops and invests in assets and provides third-party services, including assets and property management, general contracting and construction management.
- BNIM Architects, a leader of a new generation of design firms headquartered in Kansas City, Mo., will include The Omega Center for Sustainable Living in Rhinebeck, N.Y.; the Internal Revenue Service, Kansas City Campus, Kansas City, Mo.; and the Fayez S. Sarofin Research Building, home of the Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases, the University of Texas Health Science Center, Houston, in the pilot
- Hines, a privately owned real estate firm involved in real estate investment, development and property management worldwide headquartered in London and Houston, Texas, will place high-profile properties from five major U.S. market in the pilot
- The Detroit-Wayne Joint Building Authority will include the Coleman A. Young Municipal Center, which is home of six branches of city and county government including Circuit and Probate Courts, City and County Clerks and the Executive and Legislative branches of the City of Detroit, in the pilot
- The Michigan Department of Management and Budget, which acquires and manages properties for many of the state's agencies
- Russell Development Co., which has produced significant commercial buildings in downtown Portland, Ore., will include 200 Market Building in the pilot.

"The Durst Organization is proud to assist ASHRAE with this pilot program," Don Winston, P.E., vice president technical services, The Durst Organization, said. "To continue advancing the state-of-the-art of high-performing buildings, it is essential that the gap between predicted and actual performance be identified and understood. By including both *As Designed* and *In Operation* ratings, this system will help us better understand what works and what doesn't, and allow us to make better informed design choices in future projects."

Through the pilot program, the Building EQ program will allow fine-tuning and final development of the program. In parallel with this effort, ASHRAE has developed a certification program for building energy

modelers. Following completion of the pilot program in mid-June, the program is expected to be fully functional by the end of 2010.

Under the program, new buildings will be eligible to receive an *As Designed*, or asset, rating, which provides an assessment of the building based on the components specified in the design and is based on the results of building energy modeling and simulation. An *In Operation* rating will be available once the building has at least one year of data on the actual energy use and is based on a combination of the structure of the building and how it is operated. Existing buildings would be eligible to receive both an *As Designed* and *In Operation* rating.

"With procedures for both an *As Designed* and *In Operation* rating, building owners can make side-by-side comparisons that could further reconcile differences between designed and measured energy use on an ongoing basis," Holness said.

For more information, visit www.buildingEQ.com.

Advanced Energy Design Guidance Offered for Small Hospitals and Healthcare Facilities

ATLANTA—The newest Advanced Energy Design Guide (AEDG), written by a group of leading building industry organizations, is just what the doctor ordered. The AEDG for Small Hospitals and Healthcare Facilities is the sixth in the 30 percent AEDG series, designed to provide recommendations for achieving 30 percent energy savings over the minimum code requirements of ANSI/ASHRAE/IESNA Standard 90.1-1999.

"The recommendations in the Small Hospitals and Healthcare Facilities Guide provide good design practices for integrating energy efficiency in a healthcare environment, while maintaining indoor air quality and required airflow and pressurization relationships," Shanti Pless, chair of committee that wrote the guide, said.

The Guide focuses on small healthcare facilities up to 90,000 square feet in size, including acute care facilities, outpatient surgery centers, critical access hospitals and inpatient community hospitals. These buildings have intensive heating and cooling systems, which the guide covers extensively; additionally, other important energy saving measures such as daylighting are included.

"The energy efficiency recommendations in the Guide were developed based on design experiences from members of a project committee made up of healthcare facilities design professionals, combined with the insight gained from modeling the energy performance of these specific recommendations," Pless said.

Some tips that the Guide offers include:

- Providing an unoccupied air flow and temperature setback for spaces that are not used 24 hours a day, such as surgery suites;
- Installing high efficiency condensing boilers with an outdoor air temperature reset schedule for all climate zones to address the high amounts of reheat energy used by such facilities to control humidity;
- Carefully laying out lighting design to meet recommended lighting power density by space type;
- Maximizing the use of daylighting and daylighting-responsive controls through both sidelighting and toplighting strategies in all space types that do not have air change requirements;
- Installing an insulated thermal envelope, with additional recommendations to address air barriers and continuous insulation strategies.

The recommendations allow contractors, consulting engineers, architects and designers to easily achieve advanced levels of energy savings without having to resort to detailed calculations or analyses.

Also, case studies provide excellent examples of advanced hospital and healthcare facility designs that demonstrate the flexibility offered in achieving advanced energy savings such as the 30 percent goal of the Guide.

The Advanced Energy Design Guide series has been developed in collaboration with these partnering organizations: ASHRAE, the American Institute of Architects (AIA), the Illuminating Engineering Society of North America (IES), the U.S. Green Building Council (USGBC) and the U.S. Department of Energy (DOE).

Since the Guides first began to be offered as free downloads at the beginning of 2008, more than 200,000 AEDGs have been downloaded. Other books in the series deal with small office and retail buildings, K-12 school buildings, highway lodging and small warehouse and self storage buildings.

For more information on the entire Advanced Energy Design Guide series, or to download a free copy, please visit www.ashrae.org/freeaedg. A softback copy of the Guide may be purchased for $62 ($53, ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit www.ashrae.org/bookstore.