THERMOGRAM

The New Jersey Chapter of ASHRAE Newsletter

www.njashrae.com | **November 2009** | reply@njashrae.com

ASHRAE

Sustaining Our Future
by Rebuilding Our Past

NJ Chapter of ASHRAE Meeting

Tuesday, December 1, 2009
at
Renaissance Woodbridge Hotel
(same location, new name)
515 US Highway 1 South
Iselin, New Jersey

Klas Haglid, PE

Haglid Engineering & Associates

Presenting

"Energy Recovery to Improve EER"

Cost: Members $50.00
Non-members $55.00
YEA members $25.00***
Students $5.00

Cocktails: 5:30 pm
Dinner and Speaker: 6:30 pm

RSVP: REPLY@NJASHRAE.COM or
Call 732-218-7463
By November 27th, 2009

Past President's Night

*****NJ ASHRAE Welcomes YEA Members**

COMMITTEES
(continued)

CTTC — TEGA
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Bob Daly, PE
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Programs
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Refrigeration
TBA

Research/Promotion
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Scholarships
James Sarno, PE
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Seminars
Mark Richter, PE
212-354-5656

Special Events/ Golf Outing
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Student Activities
Saheel Chandrani
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ASHRAE Society
Toll Free Number
1-800-527-4723

Inside this issue:

Calendar of Upcoming Meetings

January 6, 2010: Joint Meeting with MCA, Woodbridge Hilton, Iselin, NJ (Parkway Exit 131A), Steve Shirley, CEO University Mechanical, *"Building Information Modeling (BIM)…and the business implications of implementing or not implementing"*

February 2, 2010: Max Sherman, PhD, Lawrence Berkeley Labs, *"Ventilation—the "V" in HVAC"* **Research & Promotion Night**

March 2, 2010: Mark MacCracken, CALMAC, *"Thermal Energy Storage"* **Membership & History Night**

April 13, 2010: Tom Pitcherello, NJ DCA, *"Adopted Codes of New Jersey"* **Student Night**

May 4, 2010: Ed Karpenski, National Air Filter, *"Air Filtration as a Defense" NYS CEUs available.* **Scholarship Awards Night & Installation of Officers**

June 2010: Social Event TBA

President's Message

Dear Chapter Members,

Our November dinner meeting of the 2009-2010 year was once again well attended and included a presentation by Mr. Richard Nowak of Siemens Building Technologies on "Integrated Building Management Systems for High Performance Buildings". Mr. Nowak explained the many ways that building controls can be used to track energy trends within buildings and optimize various equipment to enhance building comfort, increase equipment performance, and decrease energy demands. I would like to thank Mr. Nowak for his informative presentation.

Our December speaker will be Mr. Klas Haglid, Haglid Engineering & Associates presenting "Energy Recovery to Improve EER".

I hope you all enjoy your Thanksgiving holiday. Please join us at our next meeting on Tuesday, December 1st.

Janet

2009-2010 Presidential Award of Excellence (PAOE) Summary

Chapter #	Chapter Name	Chapter Members/ students	Member Promotion	Student Activities	Research Promotion	CTTC	History	Chapter Operations	Chapter PAOE Totals
007	N.J.	754	55	140	-	275	25	335	830

SUMMARY OF NJ ASHRAE BOG MEETING MINUTES FOR NOVEMBER 10, 2009
by Jim Sarno, PE

- Past President's Night Dinner Meeting will be held at the December 1, 2009 meeting.
- The joint Dinner Meeting with the MCA will be held on January 6, 2010.
- The AHR Expo will be held in Orlando January 25-27, 2009.
- The budget for the Fiscal Year 2009-2010 was approved.
- If you worked on an innovative project, keep in mind that there are various CTTC awards which you may be able to apply for. Additional information as well as deadlines will be released in the Newsletter.
- The Board of Governors is working on a Manual Of Procedure revision to formalize the governing of the Scholarship Fund in line with the original goal that the fund become self sustaining to continue to provide scholarships for the advancement of students.

Speaker Bio: Klas Haglid, PE

Klas Haglid, P.E. is CEO and President of both Building Performance Equipment, Inc. a firm that manufactures very high efficiency air to air energy recovery equipment and Haglid Engineering & Associates Inc., a firm providing HVAC, Mechanical and Structural services for commercial and industrial properties.

Klas is past Chairman of ASHRAE Technical Committee 5.5 *Air to Air Energy Recovery* and past Chairman of ASHRAE Technical Committee 7.8 *Owning and Operating Costs*. As an active member of ASHRAE he has moderated forums, seminars and presented at several ASHRAE Annual Meetings and published extensively on issues surrounding energy recovery and building related HVAC issues.

He worked in Central Research for DuPont, Staff Consultant for Atlantic Electric and The United States Department of Energy for Ecolinks Projects providing energy efficient retrofits. Klas also holds a number of patents for systems combining energy recovery devices with innovative controls to make building work more efficiently and reduce owning and operating costs.

Klas' talk will include an introduction to ventilation rates and historical trends and also improving the EER of HVAC equipment.

Green ASHRAE News: High-Performance Building Standard Provides the Foundation for Green Building Codes

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 ef-ficiency, 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 was given at the USGBC GreenBuild Expo.

"Both standards are written in mandatory language to allow for adoption with build-ing 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.

ASHRAE eLearning

Data Centers - Incredible value with 30% off

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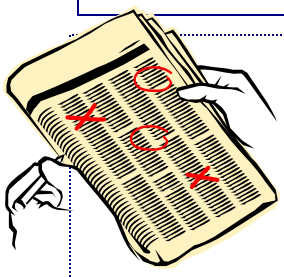
We'd like to offer you a big incentive to try the three online courses that make up the ASHRAE eLearning Library: Data Centers.

Special Offer: take 30% off with code **data30**
Take 30% off any purchase from www.ashrae-elearning.org. Offer good until November 30, 2009
$295 less 30% = $206.50 – you save $88.50

The **ASHRAE eLearning Library: Data Centers** includes 3 highly engaging and interactive courses:

Course	PHD	Member Price
Data Centers: Strategies & Infrastructure for Liquid Cooling of Equipment and Facilities	7	$120
Data Centers: Equipment Load Trends and Planning for the Future	4	$120
Data Centers: Thermal Guidelines for Data Processing Equipment	2.5	$120



ASHRAE Jobs is the Society's Online employment resource

With an exceptionally difficult recruitment market, the ASHRAE Jobs Career Center has been averaging 55 active job postings per month and just over 5,000 monthly job seeking visitors. Recruiters are experiencing, on average, 12 online applications per job posting and have access to just over 1200 resumes that have posted its launch on June 15.

ASHRAE Jobs is not only about the hire. It is the path to a hire. By visiting www.ashraejobs.com, you can search for certain skill sets and demographics that you are "always looking for". It is the place to capture high performers you can use to replace underperformers. Is this the place to see if your competitors people are out searching and interested in you. It is also the place to capture candidates for your Q1 hires because we are only 45 days away.

ASHRAE Jobs understands you do not want to be sold to. But you still have opportunities and problems, and may need a professional to discuss those with. That is what you can expect from ASHRAE Jobs: a no-strings-attached conversation where a representative listens and then makes recommendations whether they include ASHRAE Jobs or not. For more information, visit www.ashraejobs.com, call 888-482-2562 or e-mail John VonHarz at jvonharz@ashraejobs.com. An ASHRAE Jobs representative is available during business hours to discuss your firm's needs and make recommendations on next steps.

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

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 five 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.

The Basics of Standard 189.1 High Performance Green Buildings

ecobuild america
Sustainable, Green and High-Performance Solutions for the Built Environment

Learn About the Proposed Standard on High-Performance Green Buildings

In conjunction with Ecobuild America, ASHRAE is offering the half-day short course, The Basics of Standard 189.1 High Performance Green Buildings. This course describes high-performing buildings that provide an energy-efficient, safe and comfortable environment for occupants. ASHRAE's proposed *Standard 189.1, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*, is aimed to provide energy savings from 10-41 percent over *Standard 90.1-2007*. This course also discusses ways to achieve water savings of 26-35 percent for multifamily and office buildings.

Instructor: Tom Lawrence, PE, LEED AP (University of Georgia)

When: Thursday, December 10, 2009

Time: 8:00 am to 12:00 pm

Where: Washington Convention Center

801 Mt Vernon Place, Washington, DC

Sessions to Boost Efficiency, Sustainability of Contractor Projects Featured at AHR Expo

Two sessions to assist contractors in construction management and high-performance building are being offered by ASHRAE at the AHR Expo.

"The bottom line is that we're all striving to deliver excellent service for our clients and to do that more effectively," Billy Austin, chair of ASHRAE's task group on contractors and design build firms that is sponsoring the sessions, said. "These ASHRAE sessions will bring together all members of the building team to learn new skills and to explore ways to work more closely together. With contractors representing 25 percent of Expo attendees, ASHRAE seeks to bring their knowledge and expertise into these sessions as well as to help shape the Society's future activities in contracting and design/build."

The sessions, which require no conference badge or fee for AHR Expo attendees, are *Construction Management,* 2-3 p.m.,Monday, Jan. 25, and *Cost/Benefit Analysis Methodology and Tools Needed by Owners,* 2-3 p.m., Tuesday, Jan. 26.

Both take place at the Orange County Convention Center, site of the 2010 AHR Expo, Jan. 25-27, Orlando. The ASHRAE 2010 Winter Conference takes place Jan. 23-27, Rosen Shingle Creek hotel, Orlando. For more information, visit www.ashrae.org/orlando.

Construction Management addresses two key contractor-related topics to help improve the quality of their work: whether systems commissioning will improve the contractors' ability to perform well and preconstruction management basics for mechanical engineers and contractors on design-build/design-assist projects.

Cost/Benefit Analysis Methodology and Tools Needed by Owners providesan understanding of high-performance building cost-benefit analysis with a focus on the LEED rating system. Several topics are addressed, including cost/benefit project setup, fiscal metrics, constraints and length of analysis.

ASHRAE Handbook Becomes More Accessible in Online Format

What was once the turn of a page will now be the click of a mouse. The *ASHRAE Handbook* is now available online to allow for quick and easy access to a vast amount of HVAC&R information.

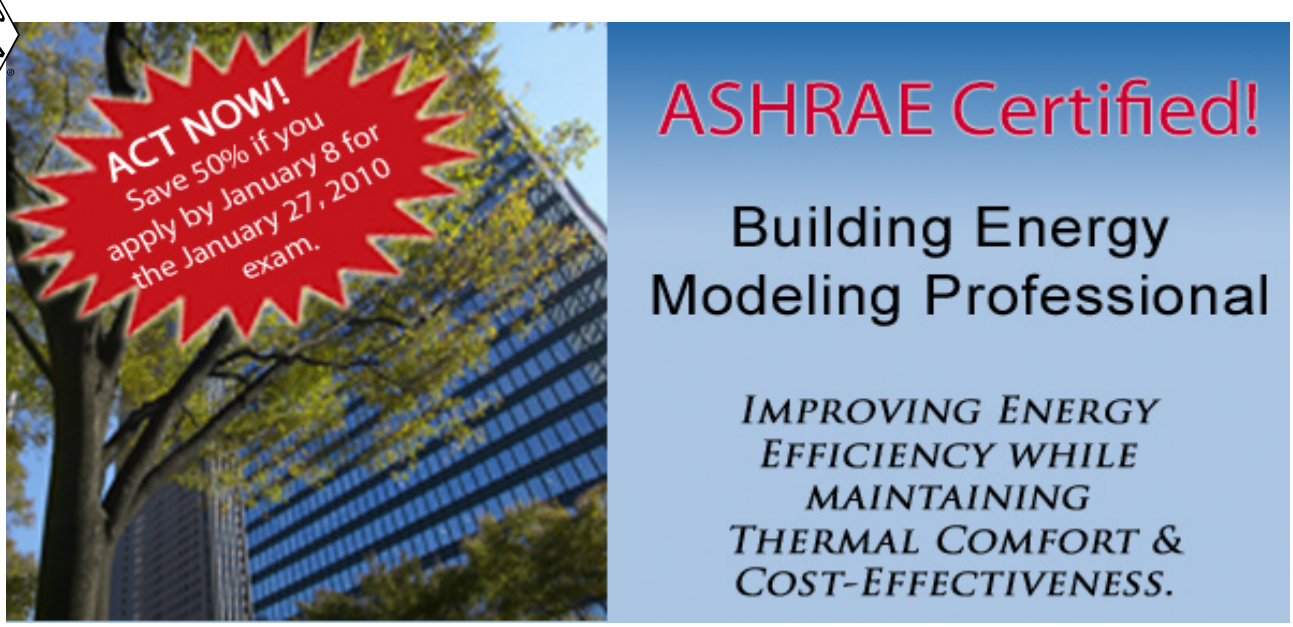
"The advantages of the ASHRAE Handbook Online are numerous," Dennis O'Neal, 2009-10 chair of the ASHRAE Handbook Committee, said. "For one, the text is fully searchable and includes live links to figures, tables, footnotes, equations and other Web references. Going online also allows for fast navigation among all four current Handbook volumes, with live cross-reference links."

Unlike the ASHRAE HandbookCD+ 2006-2009, an ASHRAE Handbook Online subscription provides immediate access to Handbook content, in contrast to the two weeks required for the shipping of the CD; requires no software installation; eliminates dependency on one computer by allowing for quick and easy access from any computer with an Internet connection; and costs considerably less than the price of purchasing each volume separately, offering a $331 savings for non-members.

The benefits of the ASHRAE Handbook Online don't stop there. Taking the Handbook online will provide an opportunity for the Society to fulfill its mission of advancing the HVAC&R industry through publishing by making the Handbook more accessible.

"This helps ASHRAE position its publishing program for customer expectations in the digital age," O'Neal said. "Additionally, having the Handbook online opens it to members globally and makes ASHRAE information more readily available."

The *ASHRAE Handbook* is the most widely cited reference source for HVAC&R technology in the world. The hardback version of the Handbook is published in a series of four volumes, one of which is revised each year, ensuring that no volume is older than four years. The ASHRAE Handbook Online, however, allows access to all of the four most recent volumes at once. To subscribe to the ASHRAE Handbook Online, visit https://handbook.ashrae.org for immediate access to vast and valuable HVAC&R technology and resources. Additional information may be found at www.ashrae.org/handbookonline



ASHRAE will launch its newest certification program, Building Energy Modeling Professional (BEMP), with a special pencil-and-paper administration on January 27, 2010 in conjunction with the ASHRAE Winter Conference and AHR Expo in Orlando, FL.

There will be no on-site registration!

The BEMP certification program assesses an individual's ability to evaluate, choose, use, calibrate, and interpret the results of energy modeling software for building and systems energy performance. The certification was developed in collaboration with the U.S. affiliate of the International Building Performance Simulation Association (IBPSA-USA) and the Illuminating Engineering Society of North America (IESNA).

To earn the certification, you must submit an application indicating how you meet eligibility criteria and, obtain application approvval, and pass a 115-item examination.

To get started, download and read the BEMP candidate guidebook. The guidebook contains important information about eligibility requirements and other aspects of the exam, and complete the BEMP application form.

Fee: ~~$415~~ **$207.50**, ~~$295~~ **$147.50 (ASHRAE members)**

Learn about BEMP certification at the ASHRAE website or call 1-800-527-4723

Advanced Energy Design Guidance Offered for Small Hospitals and Healthcare Facilities

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 the ASHRAE website. 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, fax 404-321-5478, or visit www.ashrae.org/bookstore.

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- Link to your website

COST: $300.00

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- Business card ad in 10 Newsletters
- Business card ad for 1 year
- Link to your website

COST: $350.00

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