



# THERMOGRAM



The New Jersey Chapter of ASHRAE Newsletter

www.njashrae.com

January 2009

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**ASHRAE**  
Engineering  
for  
Sustainability

## NJ Chapter of ASHRAE Meeting

Tuesday, February 3, 2009

at

Woodbridge Hotel & Conference Center

120 Wood Avenue South, Iselin, NJ



**Maintain to Sustain:  
Delivering ASHRAE's  
Sustainability Promise**

*presented by*

**Mr. Bill Harrison**

*ASHRAE President*

Cost: \$40.00 Members and Non-members  
\$ 5.00 Students

RSVP: [REPLY@NJASHRAE.COM](mailto:REPLY@NJASHRAE.COM) or call 732-218-7463  
By January 16th, 2009

4:30 Board of Governors Meeting  
5:30 Dinner and Presentation Speaker and Dinner

**\*\*Research and Promotion Night\*\***

ASHRAE Winter Conference January 24–28, 2009  
see page 5 for additional information

NJ AEE Meeting January 21, 2009 at new location  
see page 6 for additional details



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(continued)

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**Newsletter Ads**

Open

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**Special Events/ Golf Outing**

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**Technical Sessions**

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**Calendar of Upcoming Meetings**



**MARCH 3, 2009:**

Dinner Session: "Legal Issues in Construction" Roundtable Discussion, speakers TBA

**APRIL 7, 2009: Student Night**

Dinner Session: Erv Bales, PhD, Research Professor, NJ, *presenting about Sustainability, exact title to be announced*

**MAY 5, 2009**

Scholarship Award Night & Installation of Officers

Dinner Session: "Win-Win Negotiating Skills" *presented by Mr. Barry Benator P.E., CEM, Benetech Inc, ASHRAE Distinguished Lecturer*

**JUNE 2, 2009 Spouses Night—Event TBA**

Do you have a topic of interest that you would like to present at a NJ ASHRAE meeting?

*Presentations of a non-commercial nature are always welcomed. Contact any chapter officer or committee chairperson for more information.*



**Green ASHRAE News**

**Consortium to Advise DOE on High-Performance Green Building Issues**

*ASHRAE leads formation*

The American Society of Heating, Refrigerating and Air-Conditioning Engineers, along with nine other leading organizations, is forming a consortium in response to the U.S. Department of Energy request for consortia to advise the department on high-performance building issues. The High-Performance Commercial Green Building Partnership (HPCGBP) brings together leading organizations from all aspects of the building community to provide guidance and technical leadership on key sustainability issues to the Department of Energy’s Building Technologies Program.

“This partnership will ensure that the voices of the building industry are being heard,” says Bill Harrison, ASHRAE president. “At a time when reducing energy consumption in buildings is paramount, the consortium gives leaders in the built environment and in those industries affecting construction a clear path to offer advice to the DOE on our goals, concerns and new technologies.”

The American Society of Heating, Refrigerating and Air-Conditioning Engineers initiated formation of the Partnership and will serve as the Partnership’s Secretariat. Other members of the HPCGBP’s steering committee currently includes the Air-Conditioning, Heating and Refrigeration Institute (AHRI), American Institute of Architects (AIA), Alliance to Save Energy (ASE), Building Owners and Managers Association (BOMA), International Code Council (ICC), Illuminating Engineering Society of North America (IESNA), National Association of State Energy Officials (NASEO), National Electrical Manufacturers Association (NEMA) and the U.S. Green Building Council (USGBC).

The partnership intends to be recognized as a “Partnership Consortium” by the Department of Energy as requested in response to the Energy Independence and Security Act of 2007 Section 421. Section 421 is part of the formation of the Net-Zero Commercial Building Initiative which is intended to develop a research, development, and deployment strategy toward achieving net zero energy commercial buildings.

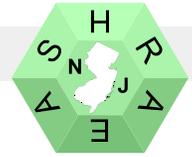
Partnership participants reflect all disciplines necessary to design and build high-performance commercial buildings, including:

- Architects and Engineers
- The Development, Construction, Financial, and Real Estate industries
- Building Owners and Operators
- Academic and Research organizations
- Building Code agencies and organizations
- Independent high-performance Green Building Associations or Councils
- Experts in indoor air quality and environmental factors
- Experts in intelligent buildings and integrated building information systems
- Utility energy efficiency programs
- Manufacturers and providers of equipment
- Public Transportation Industry Experts
- Nongovernmental Energy Efficiency Organizations

For more information, please visit [www.hpcgbp.org](http://www.hpcgbp.org) or contact Doug Read in ASHRAE’s Washington Office at [dread@ashrae.org](mailto:dread@ashrae.org) or 202-833-1830. For media inquiries, please contact Wendy Angel at [wangel@ashrae.org](mailto:wangel@ashrae.org).

**2008-2009 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.	787	375	590	280	415	125	470	2255



## February Dinner Menu

Tossed Green Salad  
Roast Top Sirloin of Beef  
Vegetables & Potatoes  
Cheesecake with raspberry coulis  
Iced Tea, Coffee, Hot Tea



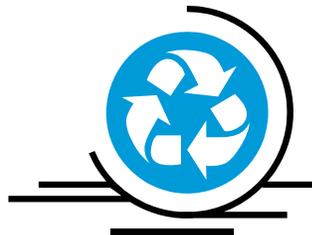
### Speaker Bio : Mr. Bill Harrison, ASHRAE President

William Harrison is president, Trane Arkansas, Little Rock, Ark. As ASHRAE's president, Harrison directs the Society's Board of Directors and oversees the Executive Committee.

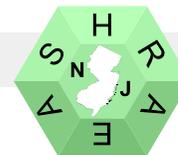
He says, "If the studies are accurate, we have a no-regrets method to reduce energy use in buildings by 10 to 40 percent, solely by improving building operations," Harrison said. "All we have to do is communicate and educate more effectively. It is our duty. We are pledged to deliver ASHRAE's promise of sustainability, and to do that we must maintain to sustain, we must train to sustain, and we must influence the operation of our buildings to conserve energy. "

He also is chair of the Headquarters Building Renovation Committee. He has served as president-elect, treasurer, vice president, Region VIII director and regional chair, chair of Member Council, Technology Council and the Finance Committee, a member of the Nominating Committee, and vice chair of the Refrigeration Committee and the Society Rules Committee. Harrison was president of the Shreveport Chapter and has received the Distinguished Service Award. Harrison received a Bachelor of Science in industrial engineering from the University of Arkansas.

REDUCE  
REUSE  
RECYCLE



REDUCE  
REUSE  
RECYCLE



## Engineering tomorrow...today

# 2009 ASHRAE Winter Conference

January 24-28

ASHRAE 09 CHICAGO, IL



**Chicago**, with one of the most recognizable skylines in the United States is the perfect backdrop to support this year's Winter Conference theme of Sustainable Urban Design: Engineering tomorrow...today

### Why Should You Attend?

#### WHAT MEMBERS ARE SAYING

*"The ASHRAE meeting in Chicago will attract the leading practitioners in high performance building design, operation and maintenance. I can't afford not to be there.*

*ASHRAE meetings allow me to network with my colleagues, learn about the latest technologies, and have a great time to boot."*

*"Attending the ASHRAE meetings allows me to build networking relationships with the leaders in my industry that are writing codes and standards and conducting research that directly affects how I design buildings."*

*"I attend the ASHRAE meeting to interact with the best and brightest building professionals in our industry so I can stay current with recent developments."*

**KEY NOTE SPEAKER**

**Plenary Session**  
Saturday, Jan. 24  
**CHRIS LEUBKEMAN**

*Speaks on ...*  
**Sustainable Urbanization**



Hear about current global efforts to design and adapt cities to the new era of dwindling resources.

**Wednesday Welcome**  
Wednesday, Jan. 28



**\$99 for 4 PDHs**  
ASHRAE joins forces with the AHR Expo to bring its conference program to McCormick Place.

**KEY NOTE SPEAKER**

**Technical Session**  
Sunday, Jan. 25  
**ADRIAN BEJAN**

*Speaks on ...*  
**Constructual Theory**



Hear from the man who developed the theory – which he says can predict how everything flows through time and space.

**Meeting Registration**  
 DON'T MISS OUT!

Register for the conference in Chicago. Online registration closed December 31st, 2008.

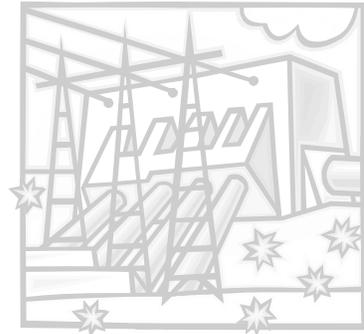
## **NJ AEE Meeting January 21, 2009: State and Federal Incentives for Achieving EMP Goals for Combined Heat and Power in NJ**

Join NJ AEE at their new meeting location. This month's meeting discusses the NJ Energy Master Plan relating to Combined Heat and Power (CHP) as well as NJ and Federal incentives for CHP. The presentation will be given by the Business Energy Ombudsman for NJ who has been a strong advocate for increased use of CHP in NJ. Please note that this is a replacement for the discussion on RGGI previously announced on the website which will be scheduled at a later date.

Date: January 21, 2009  
6:00 PM Social Hour  
7:00 PM Dinner & Presentation  
9:00 PM Adjourn

Location: Suburban Golf Club  
1730 Morris Avenue, Union NJ  
908-686-0413  
[www.suburbangolfclub.com](http://www.suburbangolfclub.com)

RSVP: Please reply to [gearoid@ichps.com](mailto:gearoid@ichps.com)  
Fee: \$40.00 includes dinner Reservation is required



Speaker: Joseph T Sullivan, Business Energy Ombudsman, NJ Board of Public Utilities

Topic: State and Federal Incentives for Achieving EMP Goals for Combined Heat and Power in NJ

The NJ Energy Master Plan calls for an additional 1,700 MW of new CHP in New Jersey targeting improved energy efficiency, reduced emissions, lower energy costs and increased employment. Mr. Sullivan has long been a strong supporter of CHP and in his current position as NJ's Business Energy Ombudsman has been instrumental in helping the EMP authors recognize the benefits of CHP. The Ombudsman office was established to work with the New Jersey business community on issues related to energy. Major issues facing private businesses include deregulated markets for electric and natural gas energy supplies as well as the challenges due to the cost of energy as a factor in their business decisions. He will discuss State and Federal incentives for CHP from both a legislative and practical perspective.



## **DOE: 90.1-2004 Saves Energy, States Must Meet or Exceed**

As required by the Energy Conservation and Production Act, DOE has determined that ANSI/ASHRAE/IESNA Standard 90.1-2004 would achieve greater energy efficiency in buildings subject to the code than the 1999 edition. The quantitative analysis of the energy consumption of buildings built to Standard 90.1-2004, as compared with buildings built to Standard 90.1-1999, indicates national source energy savings of approximately 13.9 percent of commercial building energy consumption. Site energy savings are estimated to be approximately 11.9 percent.

As a result of this positive determination regarding Standard 90.1-2004, each State is required to certify that it has reviewed the provisions of its commercial building code regarding energy efficiency, and updated, as necessary, its code to meet or exceed Standard 90.1-2004. State certifications or requests for extensions are required on or before December 30, 2010.

For more information, see the Federal Register Notice (73 FR 79868 at <http://www.gpoaccess.gov/fr>



## SOCIETY NEWS

### Standard 90.1-2004 Established as National Reference Standard by DOE

States must now certify that their building codes meet the requirements in ASHRAE/IESNA's 2004 energy efficiency standard, under a ruling issued by the United States Department of Energy (DOE) that finds the standard saves more energy than an earlier version.

ANSI/ASHRAE/IESNA Standard 90.1-2004, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, has been established by the DOE as the commercial building reference standard for state building energy codes under the federal Energy Policy Act.

The Act requires all states to certify that they have state energy codes in place that are at least as stringent as 90.1-2004, or justify why they cannot comply. The DOE determined that Standard 90.1-2004 saves more energy than Standard 90.1-1999, which was the previously referenced standard in the Act.

"The quantitative analysis of the energy consumption of buildings built to Standard 90.1-2004, as compared with buildings built to Standard 90.1-1999, indicates national source energy savings of approximately 13.9 percent of commercial building energy consumption. Site energy savings are estimated to be approximately 11.9 percent," according to the ruling published in *The Federal Register* on Dec. 30, 2008.

"ASHRAE is committed to continually improving building energy performance, so we are pleased with this recognition that the 2004 standard saves more energy," ASHRAE President Bill Harrison said. "ASHRAE is currently working on the 2010 version of Standard 90.1 with a goal of achieving 30 percent energy savings compared to 90.1-2004 as part of our target to achieve market-viable net-zero-energy buildings by 2015."

"The Illuminating Engineering Society is pleased to receive the DOE's positive determination on the site and source energy savings achieved by ANSI/ASHRAE/IES Standard 90.1-2004 compared to the 1999 standard," said Rita Harrold, IES director of technology. She also expressed the Society's appreciation for the contributions of the committee members responsible for developing the standard, which help further the goals of the sponsoring organizations, and for the diligence of the DOE in conducting the determination.

The DOE noted that the newer version of the standard contained 13 positive impacts on energy efficiency. These impacts included changes made through the public review process in which users of the standard comment and offer guidance on proposed requirements to the standard. The positive impacts include:

- Removed explicit allowance for supply air into non-occupied isolation areas.
- Limitations of the use of dampers in closed circuit cooling towers in place of water bypass valves and piping.
- Additions of insulation requirements for buried ductwork.
- Mapping of envelope requirements to new climate zones, which led to increased stringency of envelope requirements.
- Mapping of economizer requirements to new climate zones, which led to greater geographic expansion of economizer requirements.
- Addition of requirements for ventilation fan controls.
- Lowered size range for part-load fan power limitation.
- Addition of requirements for heat pump pool heaters.
- Complete replacement of interior lighting power density allowances.
- Revised exterior lighting power density allowances.
- Addition of occupancy sensor requirements for classrooms, meeting, and lunch rooms.
- Lower retail sales lighting power allowance.

New exit sign wattage requirement.

In addition, ASHRAE is working on providing more stringent energy guidance in a proposed standard for high-performance buildings. Being developed in partnership with IESNA and the U.S. Green Building Council, Standard 189.1, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*, will provide minimum requirements for the design of high-performance new commercial buildings and major renovation projects, addressing energy efficiency, a building's impact on the atmosphere, sustainable sites, water use efficiency, materials and resources, and indoor environmental quality.

Since being developed in response to the energy crisis in the 1970s, Standard 90.1 now influences building designs worldwide. It has become the basis for building codes, and the standard for building design and construction throughout the United States. ASHRAE publishes a revised version of the standard every three years. The 2007 version of Standard 90.1 was released last year.



SOCIETY NEWS

**EPA Designates ODS Substitutes**

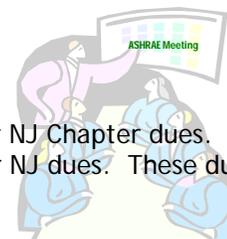


The EPA Determination of Acceptability for ozone depleting substances under the U.S. Environmental Protection Agency's (EPA) Significant New Alternatives Policy (SNAP) program. The determinations concern new substitutes for use in the refrigeration and air conditioning, fire suppression and explosion protection, and foam blowing sectors.

- R-407A [R-32/125/134a (20.0/40.0/40.0)] is acceptable for use in new and retrofit equipment as a substitute for hydrochlorofluorocarbon (HCFC)-22 and HCFC blends including, but not limited to, R-401A, R-401B, R-402A, and R-402B in: Retail food refrigeration; Cold storage warehouses; Refrigerated transport; Residential and light commercial air conditioning and heat pumps.
  - KDD6 is acceptable for use in new and retrofit equipment as a substitute for CFC-12 in: Chillers (screw, reciprocating); Industrial process refrigeration; Industrial process air conditioning; Retail food refrigeration; Cold storage warehouses; Refrigerated transport; Commercial ice machines; Ice skating rinks; Household refrigerators and freezers; Vending machines; Water coolers; Residential dehumidifiers; Residential and light commercial air conditioning and heat pumps; Non-mechanical heat transfer.
  - R-427A [R-32/125/143a/134a (15.0/25.0/10.0/50.0)] is acceptable for use in retrofit equipment as a substitute for HCFC-22 in: Retail food refrigeration; Industrial process air conditioning; Reciprocating chillers; Screw chillers; Household refrigerators and freezers; Residential and light commercial air conditioning and heat pumps; Motor vehicle air conditioning (buses and passenger trains only).
  - R-424A [R-125/134a/600a/600/601a (50.5/47.0/0.9/1.0/0.6)] is acceptable for use in new and retrofit equipment as a substitute for HCFC-22 in motor vehicle air conditioning (buses and passenger trains only).
  - R-434A [R-125/143a/134a/600a (63.2/18.0/16.0/2.8)] is acceptable for use in new and retrofit equipment as a substitute for HCFC-22 in motor vehicle air conditioning (buses and passenger trains only).
- For more details, see the Federal Register notice (74 FR 21) at <http://www.gpoaccess.gov/fr>.

*Please remember your NJ Chapter Dues*

When you pay your ASHRAE Society Dues, there is a separate line item for your NJ Chapter dues. Please be sure to check off the chapter dues box and include payment for your NJ dues. These dues provide the operating budget for the Chapter.





## ASHRAE Publishes Book on Hot, Humid Climate Building Design Guidance



Building operators and designers around the world face common issues related to thermal comfort, ventilation and energy.

But these measures take on greater concern for buildings in hot and humid climates. In addition, areas with these climates, such as South Asia, are experiencing rapid construction growth.

Design guidance on critical issues for achieving excellence and long-term sustainability in these climates is contained in a new book from ASHRAE. *The ASHRAE Guide for Buildings in Hot and Humid Climates* identifies and explains key issues for owners, architects, HVAC designers, contractors and building owners as they plan, build and operate air-conditioned buildings - in a sustainable way - in hot and humid climates.

"All countries want to achieve high standards of energy efficiency," author Lew Harriman said. "But recent history warns that mold and mildew problems in hot and humid climates can overshadow any gains made through energy reduction. On the other hand, the practical experience of ASHRAE's members shows that by focusing on several critical building enclosure design details and by keeping the indoor air dry, owners and designers can avoid mold problems and have high indoor air quality, while their buildings use much less energy than outdated designs."

Topics covered in the book include improving thermal comfort, managing ventilation air, reducing energy consumption and avoiding bugs, mold and rot. The book explains ASHRAE's standards in these areas. It also highlights common problems seen in hot and humid climates, along with practical alternatives for avoiding such problems.

"The guide was created in part because of requests from designers and owners in North America, but also because of requests from government agencies in developing countries that are working to establish robust building codes to guide energy use and indoor environmental quality," Harriman said. "When balancing the equally important concerns of low energy consumption, high thermal comfort and healthy indoor air, ASHRAE's experience and internally-informed consensus standards can be very helpful."

A second edition is planned for January 2009 that will add more information arranged into sections aimed at each different member of the construction and delivery team.

The cost of the *ASHRAE Guide for Buildings in Hot and Humid Climates* is \$59 (ASHRAE members, \$49). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada), fax 404-321-5478, or visit at [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore).



Please consider the environment before printing this newsletter

If you would like to submit project or technical articles for the *THERMOGRAM*, please contact Jori Fahrenfeld @ 609-520-1600 or via email [Jori.Fahrenfeld@Emerson.com](mailto:Jori.Fahrenfeld@Emerson.com) for further details.

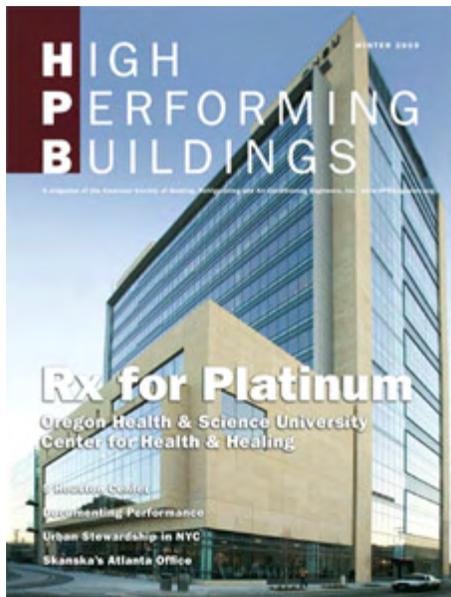


## ASHRAE Leads Formation of High-Performance Building Partnership

ASHRAE, along with nine other leading organizations, is forming a consortium in response to the U.S. Department of Energy request for consortia to advise the department on high-performance building issues. The High-Performance Commercial Green Building Partnership (HPCGBP) brings together leading organizations from all aspects of the building community to provide guidance and technical leadership on key sustainability issues to the Department of Energy's Building Technologies Program.

The partnership intends to be recognized as a "Partnership Consortium" by the Department of Energy as requested in response to the Energy Independence and Security Act of 2007 Section 421. Section 421 is part of the formation of the Net-Zero Commercial Building Initiative which is intended to develop a research, development, and deployment strategy toward achieving net zero energy commercial buildings.

For more information on the Partnership, visit <http://www.hpcgbp.org>.



## Do You Know Someone Who Should Read ASHRAE's High Performing Buildings?

As an ASHRAE member, you can receive a digital edition of High Performance Buildings. Do you have a colleague or client who is an architect, building owner, facility manager, or design/build contractor?

Just forward the link [www.HPBmagazine.org/subscribe](http://www.HPBmagazine.org/subscribe), so they can subscribe to the print edition at no cost. They will learn how buildings can achieve energy, economic, and environmental performance that is substantially better than standard practice.

For more information about High Performing Buildings, visit [www.HPBmagazine.org](http://www.HPBmagazine.org)



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(Position Vacant)

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**Regional Electronics Communication Chair, & Newsletter Judge**

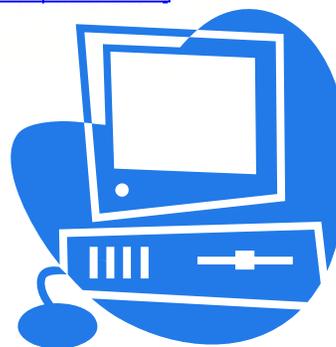
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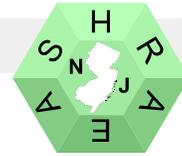
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## ADVERTISEMENTS



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