



THERMOGRAM



The New Jersey Chapter of ASHRAE Newsletter

www.njashrae.com

February 2009

reply@njashrae.com

CHAPTER OFFICERS

President

Mark Richter, P.E.
212-354-5656

President - Elect

Janet Shipton
732-839-4916

Vice-President

Chris Phelan
973-777-6700

Treasurer

Chris Phelan
973-777-6700

Secretary

Roger Shults
973-396-4152

Board of Governors

Linda Carolan
908-418-4950

Robert Daly, P.E.
212-566-5764

Jori Fahrenfeld
609-520-1600

Peter Frangiskou, P.E.
201-385-9999

Russ Graham
908-418-4949

Jim Sarno
732-938-2666

Committees

Attendance/ Reception

Roger Shults
973-396-4152

Audit

Jori Fahrenfeld
609-520-1600

Budget

Chris Phelan
973-777-6700

Chapter Bylaws

Linda Carolan
908-418-4949

ASHRAE
Engineering
for
Sustainability

NJ Chapter of ASHRAE Meeting

Tuesday, March 3, 2009

at

Woodbridge Hotel & Conference Center

(formerly Sheraton)

515 Route 1 South & Gill Lane, Iselin, NJ

**"New Jersey Construction Law: Recent
Developments & Current Trends"**

presented by

Robert Hedinger

Hedinger & Lawless, LLC

**Cost: \$50.00 Members
\$55.00 Guests
\$ 5.00 Students**

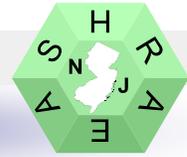
**RSVP: REPLY@NJASHRAE.COM or call 732-218-7463
No Later Than February 24th, 2009**

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

February 2009: Celebrating ASHRAE's 50th Anniversary



ASHRAE was formed in 1959 when ASHAE and ASRE merged



COMMITTEES
(continued)

CTTC — TEGA
John Tellefsen
973-565-7622

Historian
Bob Daly, P.E.
212-566-5764

Honors & Awards
Jeffrey Grant
732-590-1527

Membership
Russ Graham
908-418-4949

Newsletter Ads
Open

Newsletter Editor
Jori Fahrenfeld
609-520-1600

Nominating
Peter Frangiskou, P.E.
201-385-9999

Programs
Janet Shipton
732-839-4916

Refrigeration
John Tellefsen
973-565-7622

Research/Promotion
Chris Phelan
973-777-6700

Scholarships
Russ Graham
908-418-4949

Seminars
Mark Richter, P.E.
212-354-5656

Special Events/ Golf Outing
Chris Phelan
973-777-6700

Student Activities
Peter Frangiskou, P.E.
201-35-9999

Technical Sessions
Mark Richter, P.E.
212-354-5656

Web Page Editor
Linda Carolan
908-418-4949

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Calendar of Upcoming Meetings & Events

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: Mr. Barry Benatar, P.E., CEM Benetech, Inc., ASHRAE Distinguished Lecturer presenting *"Win-Win Negotiating Skills"*

JUNE 2, 2009 Spouses Night—Event TBA

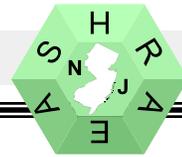
GOLF OUTING—WATCH THIS SPACE FOR DATE AND LOCATION



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.

www.njashrae.com
WWW.REPLY@NJASHRAE.COM

ASHRAE Society
Toll Free Number
1-800-527-4723



President's Message

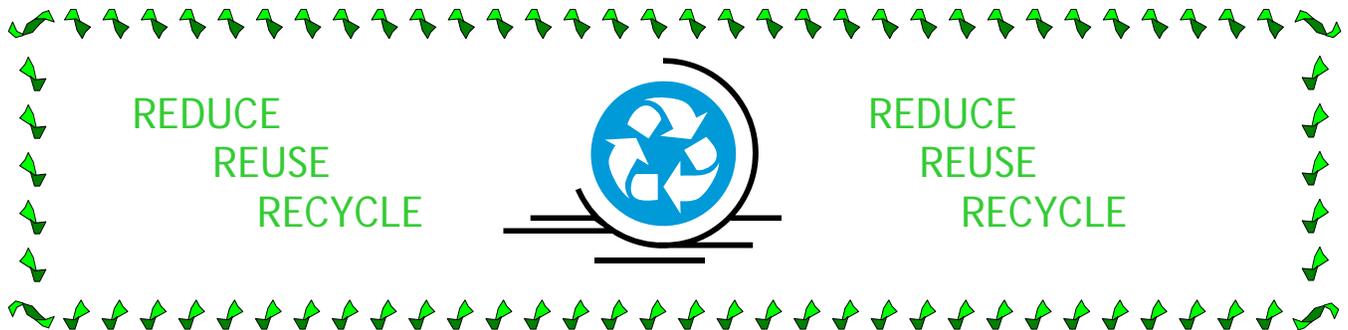
Dear Chapter Members

The impending threat of a coastal snowstorm barreling down on New Jersey on the date of our dinner meeting, did not deter over sixty attendees at the February 3rd Chapter Dinner Meeting; including our Guest Speaker; Mr. William Harrison, ASHRAE Society President who flew into Newark that morning. Mr. Harrison presented on his Presidential Message; "*Maintain to Sustain*" bringing the message of ASHRAE's promise of Sustainability in the world to us here in New Jersey.

Mr. Harrison's message outlined each building's potential for energy reduction extends far beyond the original design decisions for their creation. Maintenance, operation, and post-commissioning of buildings assures the potential of building's energy efficiency through their Life Cycle and the fiscal energy responsibility by each and everyone of us toward this goal. It's time to "Walk the Talk" and each of us, whether engineers, architects, developers, building owners, or building operators should acknowledge this responsibility toward reducing our clients and our own EUI and carbon footprint and act for the betterment of our society and our children's energy sources.

I would also like to thank Mr. John Rhodes, Director for Energy Savings for the States Energy Master Plan State of New Jersey, Department of the Treasury, Office of Energy Savings, for attending and his supportive words.

Mark



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	425	850	280	620	175	545	2895



March Dinner Menu

Tossed Garden Salad
*Grilled Filet of Salmon
with Lemon Butter Sauce
Vegetable and Potato
Apple Crumb Pie
Coffee, Tea, Iced Tea
Vegetarian entrée always available



Speaker Bio : Robert Hedinger

Robert Hedinger is one of the founding members of Hedinger & Lawless, LLC, a ten attorney law firm with offices in Florham Park, NJ and Manhattan. H&L specializes in representing those involved in the construction industry and is known as one of the leading construction boutiques in the New Jersey/ New York metropolitan area. The firm was founded 15 years ago and has generated many reported decisions concerning construction issues.

Mr. Hedinger has been practicing construction law for 25 years. He is a graduate of Rutgers University School of Law and also has a Civil and Environmental Engineering degree from New Jersey Institute of Technology. Before turning to the legal profession, Mr. Hedinger worked as a consulting engineer and earned his Professional Engineer and Professional Planners licenses in the State of New Jersey.

Hedinger is a regular contributor to industry publications and lectures frequently to industry groups and organizations. He has served as general counsel to the New Jersey Institute of Technology Alumni Association and to the NJ Chapter of the International Society for Pharmaceutical Engineering. He has been counsel of record in a number of significant legal cases affecting the construction industry, including a matter wherein the NJ Supreme Court established the standard of review of arbitration awards in construction and other matters.



ASHRAE President Bill Harrison featured speaker at February 3rd NJ ASHRAE Meeting

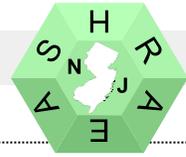


Left to right: New Jersey Chapter Officers pictured with ASHRAE President. Mark Richter, President, Janet Shipton President-Elect, Bill Harrison, President ASHRAE, Chris Phelan, Vice-President & Treasurer and Roger Shults, Secretary



Meet and greet before Bill Harrison's talk





NJ ASHRAE Board of Governors December Meeting Minutes

Previous meeting minutes were accepted, Treasurer's report to be updated and presented next month. Mark Richter reported that we received the chapter Full Circle Award as all officers made their donations to Research Promotion by the deadline.

It was suggested that we name the 2009 Golf Outing the "Gordon Stillwell Memorial Golf Outing" as a memorial and tribute to Gordon Stillwell.

Research Promotion goals were completed and sent in by October 1 deadline so PAOE points could be received.

Student Activities committee discussed making presentations to students at Rutgers, Stevens and NJIT. Mark will speak with Professor Erv Bales, NJIT about meeting with their students and showing the powerpoint presentation about ASHRAE.

Website has been updated and its new look has been well-received.

Action item: Treasurer to transfer \$250 to Scholarship account as delineated in chapter manual of procedure (MOP) in recognition of Gordon Stillwell's passing.

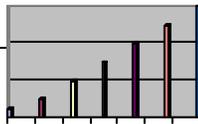
Time and date of next BOG meeting to be announced.



NJ is the first chapter to dedicate a paving stone at ASHRAE headquarters in Atlanta

Look for it on your next trip to HQ

Research Promotion Chris Phelan



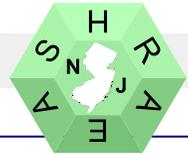
The 50-50 held at the February 3rd meeting resulted in a nice donation for ASHRAE Research Promotion. Profits from our Golf Outing are also earmarked for Research Promotion.

Research Promotion provides funding for ASHRAE research in the following categories: Energy & Resources, Indoor Environmental Quality, Tools and Applications; Equipment, Components & Materials, and Education and Outreach.

For more information about donating to ASHRAE, please contact Chris Phelan, Research Promotion Chair at 973-777-6700



Did you know? When you pay your ASHRAE Society Dues, there is a line item for your NJ Chapter dues. Please be sure to include payment for your NJ dues—they provide the operating budget for the Chapter.



Featured Project:

EMERSON DATA CENTER

Construction of the 35,000 square foot Emerson Data Center building is currently underway. The 35,000 square foot one-story building's MEPFP (mechanical, electrical, plumbing, and fire protection) was designed by Clive Samuels and Associates, Emerson Climate Technologies. In addition to meeting LEED Silver requirements, the project also meets TIA Standard 942 Tier 3 Reliability Requirements: electrical systems have been designed so there is no single point of failure. Tier 3 reliability is defined as 99.982% availability.

The data center is conditioned by a combination of Liebert Computer Room Air Conditioning (CRAC) units and High-Density Cooling (XDC) units. The CRAC units handle base cooling, humidification, and air filtration. The XDC units are used in conjunction with XDV's, vertical top cooling modules, which are mounted above the racks to provide cooling for high density rack loads (some racks have loads in excess of 10 kVA).

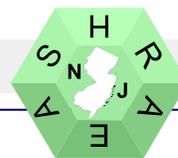
The downflow CRAC units are located in the service corridors on either side of the data center and supply air into the raised floor. Their location in the service corridors rather than directly in the data center, reduces dust generated when filters are changed and also improves security as service personnel do not need to enter the data center to service the cooling equipment. The data center has been designed with "hot" and "cold" aisles for the most efficient air distribution. The hot aisle is at the back of the computer rack, the cold aisle at the front. Hot aisles are formed when two rows of racks are placed back-to-back. Air from the CRAC units is distributed through perforated floor tiles placed in aisles designated as 'hot' aisles. Cold air comes through the raised floor and cools the racks through the perforated floor tiles or directly through the bottom of the computer racks. Air is drawn up and into the hung ceiling which acts as a return air plenum and then is returned back into the top of the CRAC units.

Liebert XDC units are also located in the service corridors and provide additional cooling by circulating refrigerant into pipes above the data center hung ceiling. These pipes are then connected to the XDV's. There are two separate pipe loops per hot aisle to provide redundancy and the XDV's in each aisle alternate connections from these two loops.

Air-cooled condensing units are located on the roof over the support areas. This proximate location limits refrigerant pipe length – saving material costs and energy.

Offices and building support spaces are served by Lennox packaged rooftop units equipped with differential enthalpy economizers to take advantage of the free-cooling available when outside air temperatures are moderate. They also provide outdoor air for the data center. Rooftop cooling equipment was selected for its energy efficiency. All of the units have EERs (Energy Efficiency Ratios) of 11.0 and above; two of the units are rated at 13.4 EER.

Reliability of cooling for this critical equipment is a key concern and there is redundancy for the data center cooling equipment. Generators and UPS equipment ensure power availability in case of interruption in power supplied by the utility.



February 3rd NJ ASHRAE Dinner Meeting

John Rhodes, the head of NJ ESIP Energy Savings Incentive Program gave a few words about energy, NJ and ASHRAE

Bill Harrison, ASHRAE President, was the main speaker of the evening talking about his initiative, 'Maintain to Sustain.' A copy of his powerpoint presentation is available on the NJ ASHRAE website - click on 'Presentations'. Some interesting info bytes from Bill's presentation:

- Six of top 10 energy improvement measures are under control of architects, not engineers;
- Need a more integrated building design process and to think of the building as a system.
- There are 12 Net zero energy building projects currently underway in Portland Oregon, visit www.portlandonline.com
- EUI Energy usage intensity, online calculator available: www.oregon.gov/ENERGY/CONS/SB1149/Schools/docs/EUICalculation.xls
- The advantages of a larger budget for planning and design is that it produces lower construction costs and lower operating costs.
- Cost of owning HVAC includes: Capital costs, Utility costs, Repair costs, Replacement costs and Maintenance costs. Note that maintenance can be deferred, but should know that deferring it will impact all the other costs.
- ASHRAE Guideline 4-2008: Preparation of Operating and Maintenance Documentation for Building Systems - must include energy budgets and energy reporting
- Energy conserving strategies: envelope testing, pressure tests, infrared scans, returning the building systems' operation to design conditions and scheduling reviews of sequence of operations
- Buildings are the largest users of primary energy - if improve building operations, can realize 10 to 40% energy savings
- ASHRAE will have Net Zero Design Guide by 2015

Membership Russ Graham

ASHRAE wants you (or someone you know) Since you're reading this message you are a current dues paying member of Society and the New Jersey Chapter.

If you are a new member or have renewed - thank you for continuing to participate in one of the world's largest ASHRAE chapters.

You should know that Society offers referral fees to members who recruit new members. The New Jersey chapter also offers incentives for bringing in fresh blood so talk to one of the officers or Board members at the monthly meeting or feel free to contact us via e-mail or phone. Our info is listed on our New Jersey ASHRAE website homepage (and in this newsletter).

Membership Advancement

If you're membership status is Student, Affiliate or Associate it is relatively easy to upgrade to Member status. You simply go to ASHRAE.com and login to upgrade your profile. Why bother? Well....you can't be president unless you're at least a Member. So login today and ASHRAE will send you another cool certificate to frame and hang on your wall for all to admire.

Attention Student Members

ASHRAE wants to make it easy for you to transfer your Student membership.

That's why they came up with the 16-40-40 Student Transfer Program. Here's how it works:

1. The first year out of college annual membership is still only \$16.
2. Then it is only \$40 for the second year and \$40 for the third year.
3. You save up to \$274 and get three years membership for \$96.

You can save time and transfer online at www.ashrae.org/students.

If you prefer to do some paperwork you can find the ASHRAE Student Membership Transfer Form online at ASHRAE website or I will be happy to provide one.



SOCIETY NEWS

Green ASHRAE News: ASHRAE's 2009 Satellite Broadcast Focuses on IAQ for Sustainable Buildings

What's lean and green and clean all over? Your next sustainable building project and its indoor air quality, thanks to ASHRAE's upcoming satellite broadcast. The program, "Clean, Lean, and Green - IAQ for Sustainable Buildings," will take place April 22 from 1 to 4 p.m. EDT.

The free broadcast, sponsored by ASHRAE's Chapter Technology Transfer Committee with support from the U.S. Environmental Protection Agency, will challenge the building community to use good IAQ practices to create a more sustainable built environment. The program will highlight guidance from the publication *IAQ Guide: Best Practices for Design, Construction, and Commissioning*, developed collaboratively by ASHRAE, AIA, BOMA, EPA, SMACNA and USGBC.

"Saving energy in buildings is paramount, and everyone in the buildings industry must do all they can to ensure sustainability in their projects," says Dave Shugars, Chair of the Satellite Broadcast committee. "But sustainability must never come at the expense of good indoor air quality. Proper operation and maintenance of buildings must be combined with enhanced IAQ practices to ensure healthy, productive indoor environments."

Participants who complete the participant reaction form online at www.ashrae.org/iaqbroadcast the week following the broadcast may be awarded three PDH credits.

The broadcast presenters and their topics are:

- Martha Hewett, Director of Research, Center for Energy & Environment, Minneapolis, MN
Practical, Proven Strategies to Deliver Better IAQ
- Hoy Bohanon, P.E., Owner and Manager of Bohanon Engineering, PLLC, Winston-Salem, NC
Improving Your IAQ and Reducing Your Energy Costs through HVAC Design
- H.E. Barney Burroughs, Owner and CEO of Building Wellness Consultancy, Inc, Atlanta, GA
Keeping Buildings Clean: Avoiding and Building Control of Contaminants to Attain and Maintain IAQ Acceptability
- George DuBose, Certified General Contractor, Liberty Building Forensics Group, Orlando, FL
Avoiding Costly IAQ Problems in the Building Envelope
- John McFarland, P.E., Director of Engineered Systems, WorkingBuildings, LLC, Atlanta, GA,
Integrating Good IAQ into the Design & Construction Process

For more information about the broadcast, please call (678) 539-1206, visit www.ashrae.org/iaqbroadcast or e-mail ashrae-satellitebroadcast@ashrae.org. Online registration for satellite site coordinators and Webcast viewers will begin March 2, and viewer registration will begin March 16. There is no fee for registration.



ASHRAE Government Affairs News Briefs

Keep informed of ASHRAE's Government Affairs Updates. Along with the Government Affairs webpage, ASHRAE issues periodic e-mail updates featuring information on government affairs related activities of interest to ASHRAE members and others interested in the built environment. Archives of previous updates are available from the government affairs webpage (<http://www.ashrae.org/advocacy>). Anyone interested may subscribe from the ASHRAE Government Affairs webpage. Please feel free to share this information with your colleagues.

If you have any recommendations regarding content, or have questions about or would like to participate in Washington Office activities, please contact ASHRAE Government Affairs staff at (202) 833-1830 or washdc@ashrae.org.

Northeast Greenhouse Gas Allowance Auction Raises \$106.5 Million

The second auction of allowances for greenhouse gas emissions held by the Regional Greenhouse Gas Initiative (RGGI) was a robust auction that yielded \$106.5 million for use by the 10 RGGI states, according to Potomac Economics, an independent market monitor. The auction was held on December 17, and while some feared that the economic situation would depress the prices for the emission allowances, in reality the prices went up, selling at a clearing price of \$3.38 per allowance. That's about 10% higher than the clearing price of \$3.07 per allowance that was reached in the first auction, which was held in late September 2008. RGGI is the first market-based, mandatory cap-and-trade program for greenhouse gas emissions in the United States. Ten northeastern and mid-Atlantic states are participating in the program, including Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. See the RGGI press release (<http://www.rggi.org/docs/Auction%20%20Post%20Settlement%20Auction%20Report.pdf>) and Web site (<http://www.rggi.org/home>).

2008 Among the Ten Warmest Years on Record

Calendar year 2008 was somewhere in the range from the seventh to the tenth warmest year on record, according to the Goddard Institute of Space Studies (GISS). The GISS actually finds 2008 to be the ninth warmest year, but it also notes that several close years fall within the range of scientific uncertainty, which is why it's difficult to say exactly where 2008 falls in the rankings. The range defined by GISS is convenient, because it embraces the different rankings found by the National Climatic Data Center (NCDC), which says 2008 tied with 2001 as the eighth warmest year on record, and the United Kingdom's Met Office, which found 2008 to be the tenth warmest year on record. The climate monitoring groups do agree on one fact, however: the ten warmest years on record have all occurred since 1997. They also agree that a La Niña contributed to cooler global temperatures in 2008, relative to the previous several years. See the global temperature analyses from the GISS (<http://data.giss.nasa.gov/gistemp/2008/>), the NCDC (<http://www.ncdc.noaa.gov/oa/climate/research/2008/ann/global.html>), and the Met Office (<http://www.metoffice.gov.uk/corporate/pressoffice/2008/pr20081216.html>).

Region 1 News

Spencer Morasch's name will appear on the 2009/2010 ballot as Region I DRC for the term July 1, 2009 through June 30, 2012. Garry Myers, who is the current Region 1 DRC, will serve with Emery Otruba and Cliff Konitz on the Nominating Committee as a Board Appointed member. Both Spencer and Garry are past-Presidents of the New Jersey Chapter.

Lynn Bellinger, PE, of Region 1 is currently ASHRAE Treasurer and has been nominated for ASHRAE President-Elect.



Congratulations to all!



ASHRAE Publishes Load Calculations Manual

Guidance to help designers improve the performance and efficiency of design as it relates to load calculations is contained in a new book from ASHRAE.

Load Calculation Applications Manual focuses on two methods for calculating cooling loads in non-residential buildings – the heat balance method and the radiant time series method (RTSM).

Author Jeffrey Spitler noted that understanding these methods is crucial when answering three primary design questions – what is the required equipment size; how do the heating/cooling requirements vary spatially within the building; and what are the relative sizes of the various contributors to the heating/cooling load?

“Cooling load calculations are performed primarily to answer the first and second questions, providing a basis for specifying the required airflow to individual spaces within the building,” Spitler said. “Answers to the third question help designers make choices to improve the performance or efficiency of the design.”

The new manual features in-depth examples, as well as bringing together the latest data for building materials, windows, weather and internal heat gains, according to Spitler. The accompanying CD contains spreadsheets that compute the factors needed by the RSTM and compute cooling loads with the RSTM.

The manual is the fourth in a series of load calculation manuals published by ASHRAE, including the first and second editions of *Cooling and Heating Load Calculation Manual* as well as *Cooling and Heating Load Calculation Principles*.

The cost of the *Load Calculations Applications Manual* is \$119 (\$97, 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 at www.ashrae.org/bookstore.



ASHRAE eLearning is pleased to announce a new online course:

Advanced Energy Design

FOR SMALL OFFICE BUILDINGS

This online course will discuss:

- Design Strategies and Recommendations
- Quality Assurance
- Building Envelope
- Lighting
- HVAC Equipment and Systems
- Service Water Heating
- Bonus Savings

Upon successful completion of the complete course, 7.5 PDHs will be awarded.

To order or for more information about cost, visit ASHRAE's online course page. For the full course catalog, visit www.ASHRAE-eLearning.org.

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 for further details



SOCIETY NEWS

New Standard 189 Committee Holds First Meeting in Chicago at ASHRAE Winter Conference



By the time you read this article, the newly expanded committee tasked with writing the nation's first standard on high-performing green buildings will have begun work again. The committee for proposed Standard 189.1, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, will have already held its first meeting at ASHRAE's 2009 Winter Conference in Chicago.

"The committee for Standard 189.1 is stronger than ever," says Kent Peterson, chair of the Standard 189.1 committee and ASHRAE Presidential Member. "The new committee roster brings a wide spectrum of green building expertise to bear on the standard's content in keeping with ASHRAE's commitment to excellence in consensus standards development. ASHRAE and its partners look forward to working with the new committee to develop guidance that will minimize a

building's impact on the environment."

The committee has been expanded to 34 voting members after a recent call for members to broaden the variety of industries, designers and code officials participating.

Proposed Standard 189 is being developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) in conjunction with the Illuminating Engineering Society of North America (IESNA) and the U.S. Green Building Council (USGBC). This is the first such code-intended green building standard in the United States.

Meant to provide minimum criteria for green building practices, the standard is applicable to new commercial buildings and major renovation projects. When completed, it will address energy efficiency, a building's impact on the atmosphere, sustainable sites, water use efficiency, materials and resources, and indoor environmental quality, among other high-performance green building issues.

"It is important to that we develop a strong green building standard that has the most impact in improving sustainability affecting a wide variety of building sectors," said ASHRAE President Bill Harrison. "We are confident that the new standard will reduce a building's impact on the environment."

"In a move that is critical in today's economy, Standard 189 will bring green building practices to the mainstream," said Brendan Owens, Vice President of LEED Technical Development, U.S. Green Building Council. "The key to a prosperous future is sustainability, and the triple bottom line - environmental responsibility, economic prosperity and social equity - is imperative as we move forward."

"The expertise demonstrated in the make-up of the newly constituted committee will provide the necessary content knowledge to insure the development of a valuable standard," says Rita Harold, director of technology for IESNA.

The proposed standard has generated substantial public interest, with more than 900 comments received during each of two previous public reviews. It is anticipated that the standard will undergo a new full public review in the near future as technical guidance and input is offered by new committee members.



Please consider the environment before printing this newsletter

Congratulations to Gerard Hazel for passing ASHRAE's High Performance Building Design test and getting HBDP certification.

If you've taken (and passed) any ASHRAE certification exams, let us know and we will feature your name in an upcoming issue of Thermogram to celebrate your achievement.

**Visit the ASHRAE website for more information about this certification.



ASHRAE '09: Engineering Tomorrow...Today

ASHRAE is moving right along in engineering tomorrow today through a proposed building energy labeling program and a proposed high-performance building standard, according to leaders at the Society's 2009 Winter Conference.

More than 2,800 people attended the conference, held Jan. 24-28, Chicago. Also taking place in conjunction with the meeting was the Air-Conditioning, Heating, Refrigerating Exposition, which attracted 54,000 registered visitors and exhibitor personnel. The Show ranks as the second largest AHR Expo, just behind the 2006 Show in Chicago, in terms of number of exhibiting companies (1,911).

Centered on the theme *Sustainable Urban Design: Engineering Tomorrow...Today*, the ASHRAE conference offered a technical program with more than 100 sessions, 15 educational courses and social events. The meeting also featured more than 600 meetings of technical, standards and standing committees, developing guidance for the future of the industry and ASHRAE.

"Through activities such as building energy labeling, the *Advanced Energy Design Guide* series and our net-zero-energy conference, ASHRAE members really are engineering tomorrow...today," ASHRAE President Bill Harrison said. "Chicago and its sustainable skyline offered a great opportunity to witness application of the technology shared at ASHRAE's technical program, educational sessions and committee meetings."

A major announcement was ASHRAE's proposed building energy labeling program, which the Society expects to launch at the 2009 Annual Conference in Louisville, Ky. Uniform metrics are vital to making buildings more energy efficient, according to Ron Jarnagin, chair of the committee overseeing the program, who updated attendees.

The ASHRAE program will include a method for rating the energy performance of buildings covered by Standard 90.1; qualification criteria for raters and assessors; provision of both Asset and Operational ratings to cover both design and operations; and a process for approving alternative methods.

For more information on the proposal, visit www.ashrae.org/energylabeling.

In addition, the newly expanded committee responsible for Standard 189.1P, *Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*, held its first meeting in Chicago. The committee approved an aggressive work plan with a goal to release a public review draft this spring.

The committee has been expanded to 39 members after a recent call for members to broaden the variety of industries, designers and code officials participating.

It also was announced that more than 154,000 copies of the four *Advanced Energy Design Guides* are in circulation in 180 countries. These guides show how to reduce the energy consumption of buildings 30 percent beyond Standard 90.1.

Also at the conference, President Harrison presented his State-of-the-Society address, updating attendees on his theme, *Maintain to Sustain*. The speech can be read at www.ashrae.org/harrison.

"There is an elephant in the room but it seems that hardly anyone knows it's there," he said. "Those in the building industry see and recognize it for the monstrosity it is, but most people don't know that they're essentially avoiding a huge energy issue. Everywhere you look, there's talk of increased fuel efficiency for vehicles, alternative fuels and compact fluorescent light bulbs. These are admirable efforts, and I would never want to detract from those. But the elephant in the corner – our world's existing building stock – constitutes roughly 30 to 40 percent of our primary energy use, easily larger than either transportation or industry. It's time we all started focusing on it."

Meeting highlights include the technical program, with its theme of *Sustainable Urban Design*, featuring more than 105 sessions. The most well-attended sessions dealt with Standard 189.1P, CO2 sensors and demand-controlled ventilation, building energy labeling, innovations in mechanical systems for high-rise buildings, commercial building re-tuning, lessons learned from solar technologies in recent times, air filtration for sustainable buildings, variable speed pump applications for energy savings, and building information modeling and performance analysis.

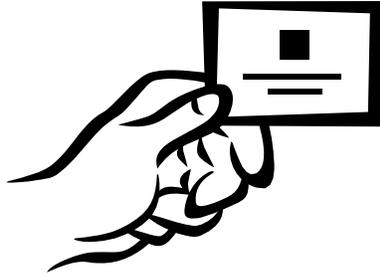
Also offered were the ASHRAE Learning Institute's four Professional Development Seminars and 11 short courses. The most popular courses dealt with exceeding Standard 90.1, chilled beams and proposed Standard 189.1P on high performance buildings.

Top selling publications included *Procedures for Commercial Building Energy Audits*, *ASHRAE GreenGuide: The Design, Construction and Operation of Sustainable Buildings*, the *Load Calculation Applications Manual* and Standard 170-2008, *Ventilation of Healthcare Facilities*.



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