September 2010

Pile of Bones

Published by the Regina Chapter of the American Society of Heating, Refrigerating and Air Conditioning Engineers

President's Message

by Heric Holmes

Welcome to another year of programs from our Regina Chapter. This year looks to be almost as busy as last year. If you get a chance, thank Greg for a great year 2009-2010. Here's to another great year full of the same enthusiasm as last year!

Our chapter executive has changed. Two members left the board, Ted Cooke and Dean Nagel, and I want to thank them for all of their hard work they have put into ASHRAE over the last number of years. We've added two new members to the board, Janel Walter from HDA Engineering as the Student Activities chair and Alana Yip from SaskTel as the Newsletter chair. We also had a few members move into different roles. I am now the President, Jason Danyliw is now the CTTC chair and President Elect, and Greg Fluter is now Past President and Research chair. Finally Jerry Boulanger is remaining as Historian, Kris Pockett as Treasurer, Trevor Hobman as Ways and Means, Rob Craddock as Membership, and Carla Spriggs as Secretary. Our chapter has a strong presence on the Regional Executive this year. Ray Sieber is the Research Chair, Murdoch MacPherson is the Membership Chair and Rob Craddock is the Treasurer. Feel free to contact any board member with questions, concerns or ideas for this upcoming year. Although the board is full, we are looking for people that would like to volunteer on the committees. Trevor Hobman is also looking for volunteers for the Christmas party and golf tournament. This is a good way to help out our chapter with a much smaller time commitment.

Our first presentation will be from Garry Wasyliw, Manager of Building Standards and Brian Woronoski, Manager of Mechanical Review from the City of Regina, who will be discussing upcoming code changes and their roles with the City of Regina. It will be a good meeting for all members to discuss any questions or concerns that they have with the building standards branch.

The University of Regina is looking for project ideas for the final year engineering projects. In order to ensure that we have ASHRAE projects to review during student presentation night we need to have our members submit projects. Please contact Janel Walter with any project ideas to forward to the University of Regina.

We are working with the Building Saskatchewan Green committee this year. Tom Watson, the ASHRAE society secretary will be one of the keynote speakers. This will affect our meeting in October, which will be moved to the 14th. The BSG conference is on the 15th and 16th of October. There will be a discount to all ASHRAE members attending the conference.

Finally, we will be sending Alana Yip to Atlanta for YEA training. This will be a good opportunity for our chapter and for Alana to find out how to bring young professionals into ASHRAE and she will get a chance to see how the ASHRAE headquarters operates.

Please note: Kris Pockett will be sending out the Regina Chapter membership invoices right away. In order to keep our chapter strong and vibrant, please remit any unpaid or new dues promptly once received. Note that the payment should be sent to the Post Office Box number noted on the invoice.

Meeting Notice

Wednesday, September 15, 2010

Hotel Saskatchewan - Radisson Plaza
2125 Victoria Ave. Regina, SK

5:00 pm - Cocktails
5:30 pm - Ed Niznik - Refrigerative Supply Ltd.
Garry Wasyliw & Brian Woronoski - City of Regina
6:45 pm - Dinner
7:30 pm - Chapter Meeting

INTRODUCING THE 2010-2011 ASHRAE REGINA BOARD OF GOVERNORS

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Regina Chapter Email Address:
mailto:ashraeregina@accesscomm.ca

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http://regina.ashraechapters.org/

Technical Program for September

Tech. Talk: Ed Niznik from Refrigerative Supply Ltd. will speak on the refrigerant cycle, and refrigerant systems.

Speakers: Garry Wasyliw, Manager of Building Standards and Brian Woronoski, Manager of Mechanical Review, both from the City of Regina, will speak on their roles to review building standards and mechanical system review for the City of Regina, along with applicable codes for commercial buildings.

2010/2011 MEETING & EVENT SCHEDULE

September 15, 2010

Tech. Talk:

Ed Niznik of Refrigerative Supply Ltd. (RSL) - The Refrigerant Cycle & Refrigerant Systems

Speakers:

Garry Wasyliw, Manager of Building Standards & Brian Woronoski, Manager of Mechanical Review from the City of Regina –The Roles of Building Standards Review & City Mechanical Inspector and applicable codes for commercial buildings.

October 14, 2010
Distinguished Lecturer: Tom Watson - ASHRAE Building Code Rating System

November 10, 2010
Panel Discussion on "Commissioning for High Performance Buildings"

December 2010
Christmas Social Event

January 12, 2011
Presidential Visit

February 9, 2011
Tentative Distinguished Lecturer

March 9, 2011
Tentative Tour: Loblaws Facility

April 13, 2011
Student Night

April 21, 2011 - ASHRAE Society Satellite Webcast
Ground Source Heat Pump Systems –
Putting the Earth to Work for You

May 11, 2011
Tech Talk: TBD
Speaker: TBD

June 2011
ASHRAE Research Golf Tournament

COMMITTEE CHAIR REPORTS

President Elect and
Chapter Technology Transfer Chair
by Jason Danyliw

This month we will be having three speakers. The first tech. speaker is Ed Niznik from Refrigerative Supply Ltd., and he will be presenting on the refrigerant cycle and refrigerant systems.

The other two speakers are Garry Wasyliw & Brian Woronoski from the City of Regina, and they will be speaking on their roles to review building standards and mechanical system review for the City of Regina, along with applicable codes for commercial buildings. A question & answer session will follow after each speaker where Ed, Garry & Brian will address questions from those in attendance.

We have a few meetings with tentative presentations, but not yet confirmed. So if anyone has other suggestions for programs that they would like to see this year, please forward them to myself at jason@skhvac.com.

Membership Promotion Chair
by Rob Craddock

Well it's hard to believe the summer is over again and we are approaching the first ASHRAE meeting of the new year. I would like to congratulate Murdoch MacPherson on becoming the new RVC for Membership Promotion with our Region.

Over the next couple of months I will be contacting some of the chapter members and asking them if there is anyone from their office or someone they deal with that they think would make sense to become an ASHRAE member. If you know of someone please let me know and I will contact them. If you have any questions about your membership please feel free to give me a call and I will try to answer your questions.

Please note that on **July 1, 2010**, dues for Members and Associates increased to $180, and dues for Students to $20. Please contact membership@ashrae.org with any questions or concerns. If you have not yet renewed your membership you can do it on line at http://www.ashrae.org/members/

Past President & Research Promotion Chair

by Greg Fluter

Welcome to the 2010 / 11 ASHRAE year.

Congratulations to Ted Cooke and his RP committee for another successful year in 2009/2010. Our Chapter raised over $13,000 which exceeded our target for the year of $10,500. It also exceeded the previous years' amount.
Thank-you to all the Chapter members and businesses who continue to support ASHRAE and our local chapter year after year. We wouldn't have the success we have without your support. ASHRAE Research thanks you!

The following is a list of the 2009-10 contributors:
Axiom Industries
MacPherson Eng.
Ecco Heating Products
Christie Mechanical
HVAC Sales Ltd.
Inland Metal
Uponor
SaskEnergy
Bob Oberthier Elect. Serv.
Sask. Ins. Contr. Assoc.
Selkirk Canada
Prairie Controls
Trane
DYN Air
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Dean Nagel
Rob Craddock
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KD Mechanical Ltd.
Darke Marketing
Moose Jaw Htg. & Pbg.
Conbrio Consulting
Electronic Environments
J-Clan Services Ltd.
Engineered Air
All-Rite Plbg.& Htg.
HDA Engineering
Norkorp Services Ltd.
Black & MacDonald – Regina
Ed Schoenroth
DMA Applied Controls
Cypress Sales
Sask Research Council
HR Enterprises
Regina ASHRAE Chapter

I'm looking forward to working with our Regional RP Chair, Ray Sieber, on this year's campaign. We are currently working on a few events for the upcoming year to raise money for ASHRAE Research. More information will be sent out in the coming months.
If you have any questions or comments with regard to Research Promotion, please email me at g.fluter@mac-eng.ca.

Student Activites

by Janel Walter

Could all chapter members please bring with you any old ASHRAE handbooks to the September meeting that you would like to donate to the University of Regina. If you have handbooks to donate and cannot bring them to the meeting, please contact me at jwalter@hdaeng.com to make arrangements to get them to the University.

This year it is our goal to encourage the students attending the U of R engineering program to take a higher interest in HVAC systems. The 4th year project is a perfect opportunity. In addition to encouraging the student's interest in HVAC systems and our ASHRAE chapter, we hope to see some more HVAC related project presentations at Student Night in April. With that said, please take a moment to think of a project idea that could be passed on to the students for their projects and bring those to the September meeting. We will present our ideas to the students and see if we can peak more interest!

Vice President & Newsletter Chair

by Alana Yip

If this newsletter was passed on to you and you would like to be added to the mailing list, please email me at alana.yip@sasktel.sk.ca. Also, if there are any comments regarding this newsletter, please feel free to drop me an email as well.

ASHRAE HVAC&R Industry eNewsletter

If you wish to subscribe to the ASHRAE HVAC&R Industry eNewsletter, e-mail subscribe-enews@ashrae.org with "Subscribe this address to The HVAC Industry eNewsletter" in the e-mail subject line.

ASHRAE Learning Insitute

The ASHRAE Learning Institute is offering on-line courses. There are 2 ways to register:
1. Internet : http://www.ashrae.org/onlinecourses
2. Phone: Call toll-free at 1-800-527-4723 (US and Canada) or 404-636-8400 (worldwide)
NOTE: You may register up to 24 hours prior to an online seminar. Course times are in Eastern US Time Zone.

New Faces of Engineering for ASHRAE

Help open doors for one of your colleagues by nominating him or her for the 2011 New Faces of Engineering for ASHRAE. The recognition program, started by ASHRAE in 2003, is part of National Engineers Week, sponsored by the National Engineers Week Foundation, a coalition of engineering societies, major corporations and government agencies. Member societies nominate colleagues 30 years old and younger who have shown outstanding abilities and leadership. Engineers Week promotes New Faces to provide incentive to those in college and inspire even younger students to consider engineering careers. And ASHRAE is the lead society for 2011 National Engineers Week, so it is a really special year to be the ASHRAE New Face.

The top New Face from each society will be featured in a full page ad in USA Today during Engineers Week, February 20-26, 2011. Each photo will be captioned with the engineer's name, name of the engineering society providing the nominee, employer and a brief statement of that individual's accomplishments as they relate to the public welfare.

Engineers 30 years of age or younger as of December 31, 2010, are the focus of the recognition program.

Nominees must have a degree in engineering from a recognized U.S. college or university, or from an equivalent international educational institution. Degrees in engineering technology, science, computer science, and similar disciplines do not qualify, though a degree in computer engineering is acceptable.

Complete nominations including a photo must be submitted to ASHRAE by Monday, October 18, 2010. The nominations should try to tie at least one achievement to something the non-engineering community can appreciate.

Engineers Week is celebrated throughout the year, though the specific dates for Engineers Week 2010 are February 20-26, 2011. For more information on Engineers Week, visit: eweek.org.

What's Your Building EQ? Pilot Program Buildings About to Find Out!

ATLANTA – Engineers across the country have begun assessing the energy use of selected buildings as part of a pilot program designed to encourage the building industry to cut energy use and costs.

The Building Energy Quotient program, which is known as Building EQ, includes both *As Designed* (asset) and *In Operation* (as operational) ratings for all building types except residential. It also provides 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). For complete information, visit www.buildingeq.com.

Seventeen provisional assessors have been named by ASHRAE to assess energy use, which is then provided in an easily understood scale to convey a building's energy use in comparison to similar buildings, occupancy types and climate zone. Building owners also are given building-specific information that can be used to improve building energy performance.

"I wanted to participate in the Building EQ effort because it will play a role in the United States' drive to a carbon-neutral future," said Matthew Dwyer, P.E., Dwyer Engineering, who is assessing buildings in Washington, D.C., and Plymouth, Mass. "Past labeling programs were sometimes based on marketing as much as engineering, because we all needed a motivation to be green. People get the importance of being green now, so we need to take another step. Building EQ takes us further by distinguishing net-zero buildings from merely good buildings."

Under the pilot program, which launched in December 2009, new buildings are 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 is 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.

"The process of checking a building's EQ is not just a grading process," Dwyer, who has completed one assessment, said. "The engineer not only examines building energy use and carbon footprint, but tests and measures the building environment and meets with building engineers on site. After spending time onsite, we then work with the building owner to understand the building systems and provide goals and suggestions on future improvements. The intent is to create a path so that more and more buildings can move from a low grade to a top grade."

Among the pilot participants is Hines, a privately owned real estate firm involved in real estate investment, development and property management worldwide headquartered in London and Houston, Texas. Hines has six buildings across the country being assessed in the program.

"Hines has agreed to join with ASHRAE in piloting the Building EQ program because the program's objective to improve building efficiency and reduce greenhouse gas emissions is well aligned with Hines' long-standing commitment to deliver energy-efficient, cost-effective projects to the market," Clayton Ulrich, senior vice president - Engineering Services, Hines, said. "We have a tremendous respect for the ASHRAE organization and the work of the ASHRAE members. One of our key goals in participating is to encourage the program leaders to leverage the existing resources and data collected in ENERGY STAR® to ensure a consistent platform in the industry. While not all buildings will benefit equally, we believe there are buildings in the market that can benefit significantly from the technical expertise ASHRAE brings to the table."

Provisional assessors and the buildings they are assessing are:

· Stephen Kretzmer, P.E., The Fulcrum Group, 4 Times Square, 1 Bryant Park and 1155 Avenue of the Americas, all in New York City, owned by the Durst Organization
· Jim Newman, ASHRAE-Certified Operations and Performance Management Professional, Newman Consulting Group, Coleman A. Young Municipal Center, Detroit, Mich., Detroit-Wayne Joint Building Authority
· Gerald Kettler, P.E., Facility Performance Association, Sarofim Research Building, Houston, Texas, BNIM Architects
· Peter D'Antonio, P.E., PCD Engineering, 200 Market Building, Portland, Ore., Russell Development; and Liberty Centre Building, Portland, Ore., Ashforth Pacific
· Matthew Dwyer, P.E., Dwyer Engineering, building managed by Hines in Washington, D.C.; and Plymouth Trial Court, Plymouth, Mass., Massachusetts Department of Energy Resources
· Hoy Bohanon, P.E., Working Buildings, building managed by Hines in San Francisco, Calif.,

· Robert Watson, P.E., NOI Engineering, building managed by Hines in Houston, Texas; and 1201 Third Ave. and King Street Center, both in Seattle, Wash., Wright Runstad and Co.
· Paul Johnson, P.E., Sebesta Blomberg, building managed by Hines in Minneapolis, Minn.
· John Dunlap, P.E., Dunlap and Partners Engineers, building managed by Hines in Atlanta, Ga.
· David Eldridge, P.E., ASHRAE-Certified High-Performance Building Design Professional, Grumman Butkus Associates, building managed by Hines in Boston, Mass.
· Umit Sirt, P.E., ASHRAE-Certified High-Performance Building Design Professional, and Steve Baumgartner, P.E., ASHRAE-Certified High-Performance Building Design Professional, Buro Happold Consulting, Ted Weiss Federal Building, New York, N.Y., U.S. General Services Administration
· Dick Pearson, P.E., Pearson Engineering, U.S. Courthouse, Hammond, Ind., U.S. General Services Administration
· Walt Dindoffer, Green Team Collation, Jackson State Office Building, Jackson, Mich., Michigan Department of Technology, Management and Budget
· Duane Paul, P.E., Nexant Inc., Jerome T. Hart Building, Saginaw, Mich., Michigan Department of Technology, Management and Budget
· Abbe Bjorklund, P.E., Sebesta Blomberg, Crimson Residence Hall, Bridgewater State College, Bridgewater, Mass.
· Ruairi Barnwell, ASHRAE-Certified High-Performance Building Design Professional, Building Momentum Group, John W. McCormack Building, Boston, Mass., Massachusetts Department of Energy Resources.

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14 Projects Funded

Smart House Developed Through ASHRAE Grant

ATLANTA—From smart home controls to solar powered gas refrigeration, undergraduate HVAC&R students in their senior year are able to gain hands-on experience in their field thanks to the 2010-2011 *ASHRAE Undergraduate Senior Project Grant*.

The grants, totaling some $65,000, are awarded by ASHRAE to colleges and universities worldwide to promote the study and teaching of HVAC&R, encouraging undergraduate students to pursue related careers. The grants are used to design and construct projects. For more information, visit ASHRAE.org/studentzone.

This year, 14 schools from across the country and around the world were awarded grants, with Purdue University-West Lafayette ranking the highest among the applicants for their proposal to develop smart home controls. As the top grant award winner, two students from the university are invited to present their project as part of the Student Program at the 2011 ASHRAE Winter Conference in Las Vegas, Nev.

"Purdue University is designing and building a net zero energy home that will showcase a variety of new technologies for residential construction" Bill Hutzel, faculty advisor of the project, said.

The ASHRAE grant will provide the crucial infrastructure for monitoring and controlling the mechanical, electrical, lighting and other systems in the smart house by developing the controls schematic; developing the sequence of operation; developing the control code; installing the controls and sensors; and commissioning the building systems

The smart house will become a multidisciplinary living laboratory for large numbers of university students interested in low energy residential construction. The school also anticipates displaying the home to media, contractors and the public and predicts that at least 500 Purdue students will visit the home annually over a two-year period.

"This will be a fun and exciting project and great way to get students interested in HVAC&R careers," Hutzel said.

Other ASHRAE grant recipients are:

-Purdue University–Calumet, *Energy Efficient HVAC&R Using Evaporative Cooling*
-California Maritime Academy, *Solar Absorption Refrigeration Unit*
-Texas A&M University, *Thermal Energy Storage Using Phase Change Materials and Carbon Nanotubes*
-Florida International University, *Design and Testing of an Add on Rain Water External Radiant Wall Siding as both Thermal Mass and Heat Dissipater*
-Penn State, *Controlled Exposure Experimentation Reactors and Ambient Response Facility for Student Experiments/Demonstrations*
-Widener University, *Laboratory Ice Storage Cooling System for Air Conditioning Application*
-Montana State University, *Modulating Scroll Compressor Energy Efficiency Experiment*
-UNC - Charlotte, group 2, *Vapor Absorption Refrigeration Trainer*
-University of Wyoming, *Comprehensive Study to Evaluate HVAC Systems and Envelope Performances*

-Hofstra University, *Solar Powered Gas Refrigeration Experiment*
-American University of Beirut, *Study of Performance of a Solar Assisted Liquid Desiccant System To Supply Building Fresh Water and Cooling Needs by Modeling and Experimentation*
-University of North Texas, *Harvesting Built Environments for Global and Accessible Modular Energy Audit Training*
-Oral Roberts University, *Swirling Pipe Flow Laboratory*

For more information on the grant program, visit www.ashrae.org/students. ASHRAE will begin accepting applications for the 2011-2012 program in August 2010, with a December 2010 final deadline.

Protocols for Performance Measurement Offered by Leading Building Groups

ATLANTA – It's long been realized in the building industry that you can't manage what you don't measure when it comes to building performance. But even if you measure, what ensures that those measurements are appropriate and meaningful?

"Although many buildings claim to be green or high performance, it's rare that evidence or data is presented to verify these claims," said Jeff Haberl. "If claims of high performance are to be credible, it is essential that a common set of measurements be used and that the results be reported against meaningful and consistent benchmarks. Reliable and reproducible protocols are also needed to give usable feedback to designers and operators when measured performance does not match design intent and expectations."

A new book from three leading building industry associations provides a standardized set of protocols over a range of accuracies and costs that can be applied consistently to the assessment of building performance. Published by ASHRAE and developed in collaboration with the Chartered Institution of Building Service Engineers (CIBSE) and the U.S. Green Building Council (USGBC), *Performance Measurement Protocols for Commercial Buildings* identifies what to measure, how to measure it and how often it is to be measured for inclusion in buildings' operation and maintenance plan.

"In an energy conscious world, those who measure and manage the energy use and performance of their buildings will be at an increasing advantage over business as usual energy managers," Haberl, who chaired the committee that wrote the book, said. Because energy efficiency should not compromise the services provided in the building, the protocols cover indoor environmental quality measures as well as energy and water use.

"The collaboration of CIBSE with ASHRAE and USGBC on this project demonstrates the importance of international engineering collaboration to deliver measurably green buildings, not just green promises," said Hywel Davies, technical director of CIBSE and vice chair of the committee.

Protocols are developed at three levels for each of six performance categories: energy, water, thermal comfort, indoor air quality, lighting and acoustics.

The three specification levels are:

· basic level, which outlines simple, low-cost measures that provide an initial insight into performance at the annual, whole-building level
· intermediate level, which provides additional data on the building performance, typically at a monthly frequency and major system level
· advanced level, which offers a more detailed and comprehensive analysis for those building owners or managers wishing to gain deeper insights into the performance of a building, typically at a daily or weekly frequency at the system or equipment level.

The cost of *Performance Measurement Protocols for Commercial Buildings* is $89 ($75 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.

2010 Standard Published
2010 ASHRAE Ventilation Standard Brings Breath of Fresh Air to Industry

ATLANTA – New requirements regarding natural ventilation, exhaust systems and the IAQ Procedure are included in the newly published 2010 version of Standard 62.1.

ANSI/ASHRAE Standard 62.1-2010, *Ventilation for Acceptable Indoor Air Quality*, sets minimum ventilation rates and other requirements for commercial and institutional buildings.

"Since first being published in 1973, the standard has provided the basis for ventilation system design throughout the industry," Roger Hedrick, committee chair, said. "The 2010 standard furthers ASHRAE's work in ensuring acceptable indoor air quality, while also heeding the need for energy efficiency as we strive to find ways to help

designers tailor ventilation system designs to each particular application."

Among the changes to the 2010 standard are modifications to the Natural Ventilation Rate Procedure, which now requires most buildings designed to meet the natural ventilation requirements also include a mechanical ventilation system designed to meet the Ventilation Rate or IAQ procedures. The mechanical system is to be used when windows are closed due to extreme outdoor temperatures, noise and security concerns.

"Most buildings using natural ventilation in the United States are high-rise residential buildings that often have no form of outdoor air intake other than operable windows," Hedrick said. "This results in buildings with inadequate ventilation, because occupants often leave the windows closed in order to run the air conditioning, keep out noise, etc. The committee felt it needed to strengthen the existing prescriptive requirements to ensure adequate ventilation and their corresponding IAQ benefits are available to occupants."

Another change relocates requirements related to exhaust systems to a new section, clarifying that exhaust requirements apply to all buildings regardless of the procedure used to determine outdoor air intake flow rates.

The IAQ procedure, which allows for the calculation of the amount of outdoor air necessary to maintain the levels of indoor air contaminants below recommended levels, has been made more robust by increasing requirements for using the "similar building" design approach and clarifying other requirements.

"The standard now contains, in informative Appendix B, a table of volatile organic compounds that designers might want to consider as possible contaminants of concern," Hedrick said. "To encourage designers to consider 'additivity' when applying the IAQ Procedure, some guidance from the American Conference of Governmental Industrial Hygienists has been included."

The cost of Standard 62.1-2010, *Ventilation for Acceptable Indoor Air Quality*, is $69 ($59 ASHRAE members).

ASHRAE Publishes 2010 Residential IAQ Standard

ATLANTA – Changes to make requirements easier to use in home retrofits are covered in the newly published 2010 residential ventilation standard from ASHRAE.

ANSI/ASHRAE Standard 62.2-2010, *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*, is the only nationally recognized indoor air quality standard developed solely for residences. It defines the roles of and minimum requirements for mechanical and natural ventilation systems and the building envelope intended to provide acceptable indoor air quality in low-rise residential buildings.

The 2010 standard encourages home retrofits to improve indoor air quality through allowance of alternative methods for meeting the standard's requirements regarding kitchen and bathroom exhaust fans. The standard currently requires fans in those rooms.

"This change makes the standard much easier to use in home retrofits, which is very important considering massive federal and state government efforts in this area," Steven Emmerich, committee chair, said. "For example, installation of new equipment in some existing homes can be a barrier in terms of expense and practicality. Under the alternative compliance path, the overall whole-house ventilation rate can be increased to compensate for insufficient or non-existent bathroom exhaust."

The overall approach to residential ventilation in the standard has not changed since the 2007 version was published, such as whole house mechanical for most houses, local exhaust in baths and kitchens and some source control measures.

Additional improvements to the standard include more accurate factors for intermittent whole-house systems; changes to better limit unintended (potentially contaminated) air transfer from garages, leaky ducts, adjacent housing units, and other such spaces; and deletion of an exception for certain climates that had allowed the use of windows instead of fans given that studies have shown that windows are not used enough and are unreliable for ventilation.

The cost of Standard 62.2-2007 is $54 ($46, ASHRAE members).

ASHRAE Introduces Its First iPhone App

ATLANTA –Calculating ventilation rates just became a little easier with a new iPhone application designed specifically for an interactive calculation spreadsheet related to ASHRAE's ventilation standard.

Developed for Apple's iPhone, iPod touch and iPad, the ASHRAE Standard 62.1 app allows for convenient calculations while in the field, performing the outdoor air calculations found in the Ventilation Rate Procedure and the interactive

62MZCalc spreadsheets contained in the ASHRAE User's Manual for Standard 62.1, *Ventilation for Acceptable Indoor Air Quality.*

"As a leader in the advancement of the latest HVAC&R technology, it's only right that we utilize the latest smart phone technology," Jim Fields, volunteer head of ASHRAE's publishing activities, said. "This new application ensures that engineers in the field have instant access to the most accurate information without having to return to their office to perform calculations." The ASHRAE 62.1 app can also be used to determine 62.1 compliance of simple ventilation systems (single zone, 100 percent outdoor-air and changeover-bypass VAV) as well as more complex ventilation systems (single-path, multiple zone recirculating) and can operate in both IP and metric units. Other benefits include the ability to store and access multiple projects within the app and also to email inputs and results for use in a spreadsheet at a later time.

The ASHRAE 62.1 app can be purchased through Apple's online iPhone App Store for $19.99. The app applies to the calculations and spreadsheet in the 2007 standard and User's Manual. When the documents are updated to correspond with new editions of Standard 62.1, purchasers will receive a free upgrade.

This app was developed for ASHRAE by Carmel Software Corp., a firm specializing in the development of engineering and scientific mobile and tablet software applications.

ASHRAE is an international technical society that fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

ASHRAE Earns EPA's ENERGY STAR® for Superior Energy Efficiency

ALBUQURQUE – ASHRAE has earned the U.S. Environmental Protection Agency's (EPA's) prestigious ENERGY STAR, the national symbol for protecting the environment through superior energy efficiency, for its renovated Headquarters in Atlanta. This signifies that the building performs in the top 25 percent of similar facilities nationwide for energy efficiency.

Jean Lupinacci, chief of the ENERGY STAR Commercial & Industrial Branch, presented the award during ASHRAE's 2010 Annual Conference taking place this week. Lupinacci spoke today, June 28, during the Presidential Luncheon and presented ENERGY STAR to ASHRAE President Gordon Holness.

"Improving the energy efficiency of our nation's buildings is critical to protecting our environment, "Lupinacci said. "From the boiler room to the board room, organizations are leading the way by making their buildings more efficient and earning EPA's ENERGY STAR."

"In deciding to renovate our existing Headquarters building, ASHRAE followed its mission of 'promoting a sustainable world,'" ASHRAE President Gordon Holness said. "The renovation gave us the opportunity to demonstrate that existing buildings can be upgraded to provide equal or better than new building performance. We are delighted to have achieved the ENERGY STAR rating as further indication of successful implementation and real-world performance.

Commercial buildings that earn the ENERGY STAR use an average of 35 percent less energy than typical buildings and also release 35 percent less carbon dioxide into the atmosphere. ASHRAE improved its energy performance by managing energy strategically across the entire organization and by making cost-effective improvements to its building. ASHRAE has prevented greenhouse gas emissions equal to the electricity use from nearly 22 households for a year. The national average site energy use index (EUI) is 68 and average source EUI is 228. ASHRAE's site energy intensity is 49 and source is 162.

To earn ENERGY STAR, ASHRAE took the following actions:

- Reduced its estimated annual energy usage by more than 32.5 percent through enhancements to the building envelope and use of the following systems: Dedicated outside air system with energy recovery, ground-source heat pumps, and mini-split systems with heat recovery.
- Utilizing an extensive permanent air quality monitoring system to help sustain occupant comfort and well-being in the renovated building.
- Utilizing a 6,000 CFM dedicated outside air system for the building that can provide ventilation rates to each space that are 30 percent higher than Standard 62.1-2004.
- Reduced IAQ problems resulting from the construction/renovation process in order to help sustain the comfort and well-being of construction workers and building occupants by developing and following a construction IAQ management plan.
- Providing a comfortable thermal environment

that supports the productivity and well-being of all building occupants by adhering to the requirements of ASHRAE Standard 55 and by surveying their occupants for feedback on a regular basis.

- Demonstrating how PV arrays can be utilized to generate clean power by taking advantage of under-utilized space on building roof. It is estimated that the installed array will provide more than 8 percent of the building's total annual energy cost in the form of renewable energy (in addition to the energy savings measures taken).

For a complete list of sustainability measures undertaken by ASHRAE, visit www.ashrae.org/building.

The building received an A- rating as designed in a new building energy labeling program being launched by ASHRAE. The Building Energy Quotient™ program, which is known as Building EQ, will include both asset and operational ratings for all building types, except residential.

The renovation also earned LEED Platinum Certification in the New Construction 2.2 rating system from the U.S. Green Building Council. It is one of only six buildings in the state of Georgia to receive a LEED Platinum rating, the highest certification the program offers.

ENERGY STAR was introduced by EPA in 1992 as a voluntary, market-based partnership to reduce greenhouse gas emissions through energy efficiency. Today, the ENERGY STAR label can be found on more than 60 different kinds of products, new homes and commercial and industrial buildings. Products and buildings that have earned the ENERGY STAR prevent greenhouse gas emissions by meeting strict energy-efficiency specifications set by the government.

ASHRAE Installs New Officers, Directors

ALBUQUERQUE, N.M. – ASHRAE installed new officers and directors at its 2010 Annual Meeting held here June 26-30.

The new president is Lynn G. Bellenger, P.E., Fellow ASHRAE, partner, Pathfinder Engineers & Architects, Rochester, N.Y. Bellenger is ASHRAE certified as a Building Energy Modeling Professional and a High Performance Building Design Professional. She is the first female president in the Society's 116 year history.

Bellenger's presidential theme, "Modeling a Sustainable World," notes that in energy simulation, daylight analysis, CFD and BIM software, we have powerful modeling tools that enable us to create and refine our vision of a building – its appearance, systems, operation, and performance. Those resources, used effectively in an integrated design process for new buildings and in analyzing retrofit opportunities in existing buildings, will help us model a sustainable world.

"Our biggest challenge is implementing integrated design in daily practice," she said. "The traditional approach where the architect designs the building shape, orientation and envelope and then transmits the drawings to the mechanical and electrical engineers for their design is a silo approach that misses the rich opportunities for optimizing building performance through a collaborative approach from the beginning. It is going to require a real cultural shift in our industry to transform the design process, and it's a shift that has to occur if we are going to reach our goal of net-zero-energy buildings."

Other officers installed for a one-year term are:

- **President-Elect**: Ronald "Ron" Jarnagin is staff scientist, Pacific Northwest National Laboratory, Richland, Wash.
- **Treasurer:** Thomas "Tom" Waton, P.E., Fellow ASHRAE, is chief engineer, McQuay International, Staunton, Va.
- **Vice President:** William "Bill" Bahnfleth, Ph.D., P.E., Fellow ASHRAE, is a professor, The Pennsylvania State University, University Park, Pa.
- **Vice President:** Sheila J. Hayter, P.E., Fellow ASHRAE, is senior engineer, National Renewable Energy Laboratory, Lakewood, Colo.
- **Vice President:** Ross D. Montgomery, P.E., ASHRAE-Certified Building Energy Modeling Professional and Commissioning Process Management Professional is owner, Quality Systems and Technology, Inc., Palmetto, Fla.
- **Vice President:** T. David Underwood, P.Eng., Fellow ASHRAE, ASHRAE-Certified Commissioning Process Management Professional Life Member, is retired president, Isotherm Engineering, Ltd, Mississauga, Ontario, Canada

ASHRAE installed the following directors to serve a three-year term from 2010-2013:

- **Region IV Director and Regional Chair:** T. Randall "Randy" Jones, is owner and president, The Chapman Company, Mt. Pleasant, S.C.

- **Region V Director and Regional Chair:** Ronald "Lee" Millies, Jr., P.E., is president, R.L. Millies & Associates, Inc., Munster, Ind.
- **Region VI Director and Regional Chair:** Tina M. Brueckner, is project/application engineer, Johnson Controls, Inc., Neenah, Wis.
- **Region XII Director and Regional Chair:** William W. Malphus, is branch manager, G.L. Spies Company, North Fort Myers, Fla.
- **Region XIII Director and Regional Chair:** Wichai Laksanakorn, P.E., Fellow ASHRAE, Life Member, is chairman, W. and Associates Groups, Bangkok, Thailand
- **Director-at-Large:** Hugh F. Crowther, is vice president of engineering and chief engineer, McQuay International, Minneapolis, Min.
- **Director-at-Large:** Eckhard A. Groll, Ph. D., Fellow ASHRAE, is professor of mechanical engineering and director of the office of professional practice, Purdue University, West Lafayette, Ind.
- **Director-at-Large:** Charles E. Gulledge, III, P.E., ASHRAE-Certified High-Performance Building Design Professional, is senior mechanical engineer, A.C. Corporation, Greensboro, N.C.

Standard 90.1: Setting the Energy Foundation in Buildings for 35 Years

ATLANTA – While high-performance buildings are the obvious choice in today's sustainability-focused industry, it was only a short 35 years ago that the first standard for energy efficiency was established, setting the engineering engine of sustainability into motion.

This year marks the 35th anniversary of publication of the ASHRAE/IES energy standard, now known as ANSI/ASHRAE/IES Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings.* Since being developed in response to the energy crisis in the 1970s, Standard 90.1 has become the basis for building codes, and the standard for building design and construction throughout the United States.

The anniversary of the standard was celebrated last week at ASHRAE's 2010 Annual Conference. For more information about the standard, visit www.ashrae.org/90.1history.

"Since its inception in 1975, Standard 90.1 has been widely adopted as the benchmark for energy efficiency in buildings," ASHRAE President Lynn G. Bellenger said. "It has set the foundation for energy efficiency in buildings in the United States and we expect that to continue internationally. No doubt, 90.1 has been a game changer in the building industry, and that influence is even greater today than it was 35 years ago."

IES agreed, saying it is pleased and proud of its long-standing association with Standard 90.1, which began when IES provided technical support for lighting to ASHRAE Standard 90-1975. By the 1980 version of the standard the IES name was associated with the standard as a co-sponsor, a role that was formalized in a joint sponsorship agreement dated June 25, 1986. That agreement to jointly sponsor energy standards has continued to the present. It states that energy conservation standards must address all elements of the building that affect energy use and recognizes that ASHRAE has the primary expertise for HVAC&R and that IES has the primary expertise in illumination.

"Congratulations from the Illuminating Engineering Society of North America on this 35th anniversary of the standard," Rita Harrold, IES director of technology, said. "It has been a wonderful personal experience for me to be involved with many of the 90.1 committees throughout this period of time in various roles – as an IES volunteer supporter in the early years and more recently as an IES staff liaison. Each committee has brought new information, new methodologies and new perspectives to revisions of the standard. Each committee has faced a series of different challenges in developing a consensus standard that achieves energy savings while remaining cognizant of the needs of users for a quality environment. Its success has been in allowing an open dialogue

where technical opinions are heard and considered. The standard will continue to explore new strategies to save energy and IES will continue to fully support those endeavors."

How has the standard contributed to reducing energy use? Figures show that, without consideration of plug and process loads, a building built according to Standard 90.1-2007 is 35 percent more energy efficient than one built in compliance with Standards 90-75 and 90A-1980. One built in accordance with Standard 90.1-2010, to be released later this year, is expected to use less than half the energy per floor area than one built to Standards 90-75 and 90A-1980.

"Between the launch of Standard 90 in 1975 and the 2004 version, we reduced building energy use by almost 33 percent," Bellenger noted. "We are striving to reduce that by a further 30 percent in just six years from the 2004 standard to the 2010 version, and that is a huge challenge."

Mick Schwedler, immediate past chair of the Standard 90.1 committee, stated, "Using analyses performed by a third party, the energy reduction from 90.1-2004 to 90.1-2010 is currently estimated to be between 21.7 and 30.9 percent, depending on modeling assumptions. While the range is large, assumptions such as ventilation rates and which loads to include in the final percentage calculation make a big difference. In addition, some of the energy-saving addenda approved by the ASHRAE Board of Directors at the 2010 Annual Conference have yet to be modeled, with final estimates expected in the fall. The volunteers on the committee have done an amazing job."

Work on the standard – then known as the *Design and Evaluation Criteria for Energy Conservation in Buildings* – began in 1973. The U.S. government's National Bureau of Standards had previously started on a standard at the request of National Conference of States on Building Codes and Standards (NCSBCS). In 1974, NCSBCS asked ASHRAE to assume responsibility.

The goal of ASHRAE was to provide a method of designing the energy consuming systems in a building and to evaluate these systems so that the overall energy consumption could be reduced to a minimum while still maintaining occupant comfort.

Since being published in 1975, the standard has been republished six times, evolving as input from the building community was given and as technology changed. Some 38 states currently have building codes that meet or exceed a version of 90.1.

In 2009, the 2004 version of the standard was established by the U.S. Department of Energy (DOE) as the commercial building reference standard for state building energy codes under the federal Energy Policy Act.

Raising Energy Efficiency Highlighted at ASHRAE Meeting

ATLANTA – Raising efficiency to new levels was the focus of the ASHRAE 2010 Annual Conference held in Albuquerque, N.M. Highlights of the meeting included ASHRAE's receipt of ENERGY STAR® for its Headquarters in Atlanta, celebration of the 35th anniversary of publication of the energy conservation standard now known as Standard 90.1 and an update on the ASHRAE Building Energy Quotient program.

Some 1,456 attendees took part in the conference held June 26-30 in Albuquerque. A highlight of the meeting was induction of the Society's first female president, Lynn G. Bellenger, P.E., Fellow ASHRAE, partner, Pathfinder Engineers & Architects, Rochester, N.Y. Her presidential theme focuses on "Modeling a Sustainable World," drawing attention to modeling tools that enable us to create and refine our vision of a building. To read her presidential address, visit **www.ashrae.org/bellenger**.

Another highlight was presentation of ENERGY STAR by Jean Lupinacci, chief of the ENERGY STAR Commercial & Industrial Branch, recognizing energy savings following the 2008 renovation of ASHRAE Headquarters. To earn ENERGY STAR, ASHRAE, among other steps, reduced its estimated annual energy usage by more than 32.5 percent through enhancements to the building envelope and use of the following systems: dedicated outside air system with energy recovery, ground-source heat pumps, and mini-split systems with heat recovery.

Together, ASHRAE and the Illuminating Engineering Society of North America celebrated the 35th anniversary of publication of its energy conservation standard, now known as ANSI/ ASHRAE/IES Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings.* Since being developed in response to the energy crisis in the 1970s, Standard 90 has become the basis for building codes, and the standard for building design and construction throughout the United States.

It was announced that ASHRAE, for a third year, had met its Research Promotion fundraising goal, hitting the $2,075,000 mark. The figure represents a 2 percent increase over last year. ASHRAE's Research program has supported more

than 700 projects in the last 50 years, addressing areas such as indoor air quality, refrigeration and energy efficiency.

Conference attendees also received an update on the Building EQ program, which currently is a pilot program designed to encourage the building industry to cut energy use and costs. Seventeen provisional assessors have spent the last couple of months assessing energy use, which is then provided in an easily understood scale to convey a building's energy use in comparison to similar buildings, occupancy types and climate zone. For more information on the program, visit www.buildingeq.com.

Top ASHRAE Learning Institute courses included *Understanding Standard 189.1 for High-Performance Green Buildings* and courses related to healthcare facility design.

Top-attended technical program sessions included a first look at proposed Standard 90.1-2010, retrofitting HVAC in older buildings for higher efficiency, evaluating the performance of existing buildings, evaporative cooling in high and dry climates, natural refrigerants, BIM load calculations, retrocommissioning, HVAC equipment needs for net-zero-energy homes, energy efficiency through building controls and building energy simulation. All of these sessions and others are available in the Albuquerque Virtual Conference at www.ashrae.org/NewMexicoVirtual.

Top-selling publications at the meeting were newly published standards, ANSI/ASHRAE Standard 62.2-2010, *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings,* andANSI/ASHRAE Standard 62.1-2010, V*entilation for Acceptable Indoor Air Quality*; the newly published *Performance Measurement Protocols for Commercial Buildings*, developed in collaboration with the Chartered Institution of Building Service Engineers (CIBSE) and the U.S. Green Building Council (USGBC); Standard 189.1, *Standard for the Design of High Performance, Green Buildings Except Low-Rise Residential Buildings*; and the ASHRAE Handbook Online. ASHRAE also debuted a new online bookstore on ASHRAE.org designed to make finding products and publications quicker and easier.

As part of the Conference, the Albuquerque Host Committee is working to bring hope to a local nonprofit to leave behind a lasting sustainable footprint in the cities where the Society's Conferences are held. Casa Esperanza, or House of Hope, works with area hospitals to provide appropriate housing and emotional support for patients and their families who reside temporarily in Albuquerque while receiving treatment. ASHRAE members are helping replace the organization's central boiler, which charges a storage tank, with a new tank containing a solar heating coil. Solar collectors are being placed on the roof and provide the primary means of charging the storage tank. A new boiler is being installed to make up any capacity deficiencies, such as a night. All necessary design services are provided by local ASHRAE members, who are soliciting equipment and labor donations from manufacturer representative and contractors.

ASHRAE holds its 2011 Winter Conference, Jan. 29-Feb. 2 in Las Vegas, accompanied by the AHR Expo, Jan. 31-Feb. 2. For more information, visit www.ashrae.org/lasvegas.

ASHRAE President Testifies on Optimizing Federal Building Efficiency at Congressional Subcommittee

ATLANTA – The impact of the U.S. buildings is surprisingly large, with CO2 emissions alone approximately equaling the combined emissions of Japan, France and the United Kingdom for transportation, industry and buildings.

The U.S. Federal government is the nation's single largest energy consumer and greenhouse gas emitter, and in Congress's efforts to seek ways of improving the energy efficiency of federal buildings, the U.S. House Subcommittee on Government Management, Organization and Procurement held a hearing on Wednesday, July 21 to examine the federal government's role in greening buildings.

Testifying at the hearing, ASHRAE President Lynn G. Bellenger said that, "over the years significant progress has been made in the federal, commercial and residential sectors, and we are poised to embark on a new era of energy efficiency and taxpayer dollar stewardship that will lead us to net-zero-energy buildings.

"Going forward, maximizing building efficiency and sustainability will require a fundamental shift in how buildings have been approached – from design to operation. Working together toward a whole building approach that fully considers how each system and building component will interact – instead of each discipline focusing on their own area of expertise – will be an essential element of ensuring that taxpayer dollars are well-spent."

ASHRAE has long-partnered with the federal government on efforts to improve building efficiency, and ANSI/ASHRAE/IES Standard 90.1,

Energy Standard for Buildings Except Low-Rise Residential, now serves as both a federal building standard and the national reference for state-adopted commercial building codes. During the hearing, Bellenger highlighted several efforts and initiatives that ASHRAE is engaging in that will help lead to increased building efficiency, including ASHRAE's:

- Advanced Energy Design Guides for achieving 30 percent savings over Standard 90.1-1999, the forthcoming Guides for achieving 50 percent savings, followed by Guides for achieving net-zero-energy consumption (www.ashrae.org/freeaedg)
- Certification programs for high-performance building design, building energy modeling, healthcare facility design, commissioning process and operations and performance management professionals (www.ashrae.org/certification)
- Building Energy Quotient (Building EQ) labeling program that includes both As Designed (asset) and In Operation (operational) ratings for all building types, except residential. Building EQ allows the general public, tenants, building owners, prospective owners, operations and maintenance personnel and others to quickly and easily view how energy efficient a building is in operation compared to its design through an easily understood letter grade and color scale (www.buildingeq.com)
- Standard 189.1, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential* – the first code-intended green building standard in the United States. Published by ASHRAE in collaboration with IES and USGBC, Standard 189.1 also serves as a jurisdictional compliance option of the International Green Construction Code (IgCC), published by the International Code Council. (www.ashrae.org/greenstandard)

ASHRAE Names New Distinguished Lecturers

ATLANTA – ASHRAE has named 10 new Distinguished Lecturers who provide Society chapters with noted authorities and speak on relevant topics that impact the HVAC&R industry.

This marks the 11th year of the Distinguished Lecturer Program, with almost 800 lectures given since the program began in 1999. The 70 Lecturers represent 13 countries, including Argentina, the United Kingdom, Malaysia, Columbia, Hong Kong, Egypt, India, Thailand, Canada, Denmark, Singapore, Mexico and the United States. These lecturers are available to present on 350 topics and speak 11 languages.

The new lecturers and their presentation topics are:

- ASHRAE President Lynn G. Bellenger, P.E., ASHRAE Certified Building Energy Modeling Professional and a High Performance Building Design Professional, Pathfinder Engineers and Architects, Rochester, N.Y. – Standard 189.1, *Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings*; Modeling a Sustainable World; Standard 90.1 *Energy Standard for Buildings Except Low-Rise Residential Buildings,* Appendix G Performance Rating System; ASHRAE's Initiatives for Sustainable Design and Net-Zero-Energy Buildings; and the Role of Energy Targets in Achieving Net-Zero-Energy Buildings.
- Armando Chamorro, CTH Environmental Solutions, Miami, Fla. – Indoor Environmental Quality Testing to Achieve LEED™ Certification; Use of Tracer Gases in Building Forensic Studies; and Tools to Assist you in Complying with Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*, in Existing Buildings
- David John, P.E., Metal Industries, Clearwater, Fla. – Fundamentals of Room Air Distribution; Air Terminal Unit Selection Guidelines for Consulting Engineer
- Bryant Lampley, P.E., Envirotrol, Kernersville, N.C. – Open Control or What's in a Name; Digital Controls Systems Explained
- Apichit Lumlertpongpana, P.E., I.T.C. Co., Huamkar, Bangkok, Thailand – How to Design Ammonia Save and Safe; Turnkey Industrial Refrigeration Plant Design – Built and Manufacturing – from Beginning to End; Industrial Refrigeration for Food Preservation; and Ice on Coil External and Internal Melt Thermal Ice Storage Design
- Thomas Meyer, P.E., Praxis Green, Neenah, Wis. – A Taste of Greenspeak: the Language and Culture of Green; Building Water Systems: Water, Water Everywhere, Which Drop to Drink
- James Newman, ASHRAE Certified Operations and Performance Management Professional, Newman Consulting Group, Bloomfield Hills, Mich. – LEED and Integrated Design: What Does that Really Mean; IAQ, Productivity, Health, Energy and

- Legal Liability: How to Avoid Problems or How Much Does a Lawsuit Cost Compared to Good IAQ; The Energy Policy Act of 2005 and How You Can Profit from it; Transforming an Older Facility Into a High-Performing Building; Why High-Performance Green Buildings Don't Have to Cost More; Green Practices and Standards 90.1 and 62.1: How to Have a Healthier, More Profitable Building with Better Mechanical/ Electrical Design; and How to Achieve LEED Gold Certification and Enjoy a Healthier, Less Costly Building with Better HVAC&R Design
- James Tauby, P.E., Mason Industries, Hauppauge, N.Y. – Restraint of Rooftop Equipment for High Wind Areas; Penthouse Mechanical Rooms: Why Are they Seismically a Challenge; Proper Installation Methods Using ASHRAE's *Practical Guide to Seismic Restraint*; and Seismic Restraint of Mechanical Systems
- Kecha Thirakomen, P.E., EEC Engineering Network, Bangkok, Thailand – Combined Cooling and Power System Feasibility; OAU Dehumidification System Selection
- R. Vijayakumar, Ph.D., Aerfil, Liverpool, N.Y. – Basics of Cleanroom Design; Introduction to Particle Mechanicals; Introduction to Particle Measurements; Fibrous Filter Media; Fundamentals of High Efficiency Air Filters: Theory and Practice and Testing High Efficiency Filters

For a complete listing of Distinguished Lecturers and detailed procedures on how to arrange a lecturer presentation, visit www.ashrae.org/distinguishedlecturers. For additional information, contact Rosy Douglas, manager of chapter programs, at rdouglas@ashrae.org or 678-539-1128.

Call for Papers

ASHRAE's 2011 Annual Conference Seeks Papers on Alternative Technologies, Engineering Tools, Net-Zero Buildings

ATLANTA– Papers addressing advances in alternative technologies and net-zero buildings, as well as HVAC&R fundamentals and commissioning are being sought for ASHRAE's 2011 Annual Conference in Montreal, Quebec, Canada.

The deadline for paper submissions is Sept. 17, 2010. For complete information on tracks, contacts and submittal requirements, visit www.ashrae.org/montreal. The 2011 Annual Conference takes place June 25-29. The technical program includes tracks that push the engineering envelope.

The Alternative Technologies track seeks papers on photovoltaic (PV), geothermal, wind power and variable-refrigerant-volume (VRV) systems, solar and other technologies, as well as how these systems affect the first cost and operating cost of the building. Papers describing the science behind emerging technologies incorporated into net-zero-energy (NZEB) design are sought.

The Net-Zero Buildings track seeks papers that examine NZEB design, cost to achieve these buildings, existing NZEBs and operational and maintenance issues and costs. Case studies illustrate how to achieve NZEB in designs are sought, also.

The Engineering Tools track seeks papers that address the range of different energy modeling and building information modeling tools available, their use and specific applications and integrated approaches. Papers from owner or architect perspectives or case studies that illustrate modeling techniques are requested.

In addition, papers are sought for tracks on Commissioning, HVAC Systems, HVAC Fundamentals and Applications, Professional Skills and Refrigeration.

Full-length technical papers or conference paper abstracts (400 words or less) should be submitted by Sept. 17.

For more information about the two types of papers and to submit a full-length technical paper or conference paper abstract, visit www.ashrae.org/montreal.

The conference is expected to attract some 1,500 attendees from 60 countries. The technical program takes place Sunday, June 26–Wednesday, June 29, and includes paper presentations as well as non-paper presentations. Approved papers are published in ASHRAE Transactions.

ASHRAE Vice President Testifies at DOE Hearing on Sustainable Design Standards

ATLANTA – A newly published high-performance green standard would provide a solid foundation on which the federal government could build its efforts to make its buildings more sustainable, according to testimony today from ASHRAE.

The U.S. Department of Energy held a hearing Wednesday, July 27, on the notice of proposed rulemaking on energy efficiency and sustainable design standards for new federal buildings and major renovations of federal buildings.

Testifying at the hearing, ASHRAE Vice President Ross Montgomery encouraged the DOE's Federal Energy Management Program to reference ANSI/ASHRAE/USGBC/IES Standard 189.1, *Standard for the Design of High Performance, Green Buildings Except Low-Rise Residential Buildings,* compliance option of the International Green Construction Code (IGCC) as a means of meeting the requirements in the rulemaking.

"Standard 189.1 represents a revolutionary new step for building standards, as it provides a long-needed green building foundation for those who strive to design, build and operate green buildings," Montgomery said. "From site location to energy use and recycling, this standard will set the foundation for green buildings through its adoption into local codes. ASHRAE strongly believes that Standard 189.1 can help meet many of the Federal government's building needs."

Standard 189.1 was published in January 2010 and serves as a jurisdictional compliance option of the IGCC being developed by the International Code Council, the American Institute of Architects and ASTM International. ASHRAE's partners in developing 189.1 are the Illuminating Engineering society of North America and the U.S. Green Building Council.

Standard 189.1 is the first code-intended green building standard in the United States. It covers key topic areas similar to green building rating systems, including site sustainability, water use efficiency, energy ef-ficiency, indoor environmental quality and the building's impact on the atmosphere, materials and resources. For complete information on the standard, including a readable copy, visit www.ashrae.org/greenstandard.

Standard 90.1 Featured in ASHRAE Fall Educational Courses

ATLANTA – Two new courses related to Standard 90.1 are part of the 12 online professional development courses being offered this fall by ASHRAE through the ASHRAE Learning Institute (ALI). ALI courses provide professional development through in-depth information that is timely, practical and advanced beyond a fundamental level. The online courses allow attendees to log in to learn from anywhere with an Internet connection. Course participants earn three professional development hours, .3 continuing education units, or three American Institute of Architects learning units for each seminar completed. Courses are instructor-led, drawing upon professional knowledge of leading practitioners.

The courses are:

- *Understanding Standard 189.1 for High-Performance Green Buildings,* Sept. 22
- *Determining Energy Savings from Energy-Efficient Projects: Applying IPMVP and Guideline 14 to performance Contracting and LEED,* Sept. 27
- *Energy Management in New and Existing Buildings,* Sept. 29
- *Complying with Requirements of Standard 62.1-2010,* Ventilation for Acceptable Indoor Air Quality, Oct. 6
- *The Basics of Panel Heating and Cooling,* Oct. 13
- *Complying with Standard 90.1-2010: HVAC/Mechanical (New) – two dates* – Oct. 18 and 25
- *Complying with Standard 90.1-2010: Envelope/Lighting (New),* Oct. 20
- *The Commissioning Process and Guideline 0, The Commissioning Process* (co-sponsored with Building Commissioning Authority, Illuminating Engineering Society of North America and National Environmental Balancing Bureau), Oct. 27
- *Engineering for Sustainability: Understanding Air-to-Air Energy Recovery Technologies and Applications,* Nov. 1
- *Introduction to Cleanrooms*, Nov. 3
- *Understanding and Designing Dedicated Outside Air Systems*, Nov. 10

The cost of each course is $224 ($164, ASHRAE members). Site licenses are available to organizations that will be having five or more seminar participants. For more information, e-mail edu@ashrae.org or call 678-539-1146. To register, visit www.ashrae.org/onlinecourses.

ASHRAE, NEMA Partner on Standard to Create Facility Smart Grid Model

ATLANTA – We may not be traveling in flying cars or have talking robot maids as shown in the television cartoon "The Jetsons," but homes, commercial and institutional buildings and industrial facilities are about to get a lot "smarter" when it comes to electrical use. Under a national Smart Grid effort, ASHRAE and the National Electrical Manufacturers Association (NEMA) are jointly developing a standard that would provide a common basis for electrical energy consumers

to describe, manage and communicate about electrical energy consumptions and forecasts.

A kickoff meeting to begin work on the proposed standard is taking place Aug. 30-31 at ASHRAE Headquarters in Atlanta.

ASHRAE/NEMA Standard 201P, *Facility Smart Grid Information Model*, will define an object-oriented information model to enable appliances and control systems in homes, buildings and industrial facilities to manage electrical loads and generation sources in response to communication with a "smart" electrical grid and to communicate information about those electrical loads to utility and other electrical service providers.

"Smart grids lead to smart meters lead to smart systems," ASRHAE President Lynn G. Bellenger, P.E., said. "As the smart grid adjusts to suit load distribution and maintain power quality and reliability, one of the steps will be to communicate with building metering systems which, in turn, will communicate with building systems and equipment. This ties into demand response control to reduce peak demand. One day in the future, we likely will have real-time pricing with dramatic differences in power costs dependent upon the time of day or grid load."

"NEMA and the members of their smart grid and high-performance buildings councils see the creation of this standard as a strategic element in driving development of a nation-wide smart electrical grid while increasing energy efficiency, occupant productivity and cost-effectiveness in safe secure buildings," Jim Lewis, manager, High Performance Buildings, NEMA, said.

The standard is part of ASHRAE's supporting efforts for the Smart Grid Interoperability Panel, a public-private partnership initiated by the National Institute of Standards and Technology to speed development of interoperability and cyber security standards for a nationwide smart electric power grid.

The proposed ASHRAE/NEMA standard will coordinate with work by the North American Energy Standards Board to develop a basic energy usage data model standard and create a facilities data model that provides additional energy usage data elements for commercial and industrial buildings. This includes lighting, heating, HVAC&R and other electrical loads.

ASHRAE Encourages States to Meet Current Building Energy Codes

ATLANTA – As the developer of the nation's first standard for energy efficiency in buildings, ASHRAE applauds a recent announcement by the U.S. Department of Energy regarding funding to states to implement the most current energy codes.

This week, the U.S. Department of Energy (DOE) announced it is seeking proposals to support activities related to the adoption and implementation of the most current building energy codes. Proposals must address activities to adopt the target codes, which includes ANSI/ASHRAE/IESNA Standard 90.1-2007, *Energy Standard for Buildings Except Low-Rise Residential Buildings,* training activities or activities that advance the state's level of compliance with state building codes. States are allowed to partner with technical and other organizations, such as ASHRAE, and consultants in their proposals.

As of June 2010, the building codes of 14 states and four territories do not meet the requirements in 90.1-2007.

A total of $5 million is available to be awarded for up to 20 states (only one award per state). Award sizes will vary with a maximum of $250,000 available for each award.

"ASHRAE is committed to continually improving building energy performance, so we are pleased with this call from the Department of Energy encouraging states to meet the target codes, which includes the ASHRAE/IES Standard 90.1-2007," ASHRAE President Lynn G. Bellenger said. "To encourage energy conservation in buildings, we must always strive toward higher efficiencies. Later this year, ASHRAE and IES will release the 2010 version of Standard 90.1. The revised version implements a significant reduction in energy consumption over the 2004 standard."

States are encouraged to express initial interest by Aug. 17 by contacting Bryan Colley at the Pacific Northwest National Laboratory: bryan.colley@pnl.gov or 509-375-2585.

The call to meet current building codes comes as ASHRAE and IES celebrate the 35th anniversary of publication of Standard 90.1. Since being developed in response to the energy crisis in the 1970s, Standard 90.1 has become the basis for building codes, and the standard for building design and construction throughout the United States.

Encouraging Sustainable Design Worldwide: ASHRAE Standards Translated

ATLANTA – Tools to help further the fast growing green market in South America have been developed by ASHRAE and partnering organizations in that region.

Two ASHRAE standards regarding energy efficiency and sustainability recently were translated into Spanish and Portuguese.

"South America is very progressive and aggressive when it comes to green building," Ross Montgomery, ASHRAE vice president who works closely with members in South America, said. "There are many green building engineering firms, contractors and vendors who are working to deliver green building design and green technology products to the marketplace. These translations, along with the cooperation between ASHRAE and other building industry groups in the region, provide new tools to help further green building technologies."

ASHRAE's Argentina Chapter recently translated ANSI/ASHRAE/USGBC/IES Standard 189.1-2009, *Standardfor the Design of High Performance, Green Buildings Except Low-Rise Residential Buildings,* into Spanish.

The Argentina Chapter, along with other groups including the Asociación Argentina del Frío (AAF), are working to increase the market for green buildings in the country, notes Florentino Roson, past president of the Argentina Chapter, vice president of AAF and a green building controls expert in Argentina.

"Making our society aware of the benefits of sustainable buildings is one of our most important priorities," he said. "The translation was spurred by our desire to save energy through responsible building. Although application of the standard is not yet mandatory in Argentina, we believe Standard 189.1 will be used as a benchmark in the design, building and maintenance of sustainable buildings in the near future."

On Sept. 2 and 3, the Argentina Chapter hosted a seminar on Standard 189.1.

In addition, ASHRAE also worked with the Green Building Council Brasil on the Portuguese translation of Standard 90.1-2007, *Energy Standard for Buildings Except Low-Rise Residential Buildings*. The Council wanted a translation of the standard for use in the Leadership in Energy and Environmental Design (LEED®) rating program in that country.

"We will use Standard 90.1 to guide energy efficient practices in the Brazilian civil construction industry," Felipe Faria, operational manager, the Green Building Council Brasil, said. "The standard is used by the engineers in Brazil, but the language is still a barrier for the dissemination of this knowledge. With this translation, we believe this barrier will disappear and the professionals can project buildings suitable in our current scenario of environment concern in terms of energy efficiency, low operational costs, CO2 emission reduction, indoor air quality, etc."

In addition, ASHRAE past president Kent Peterson visited Brasil earlier this month to support ASHRAE chapters and the Society's work with ABRAVA, SMACNA and Green Building Council Brasil.

"The building industry groups in South America have a common goal – to encourage green building," Montgomery said. "We strive to work together to continue the synergy of sustainability."

Both translations are available for purchase from ASHRAE. 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.

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