

# Pile of Bones

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

## NOVEMBER 2009

### President's Message

by Greg Flutter

Hey, how about those Riders! Does anyone else feel another Grey Cup coming our way?

For our October meeting we had two speakers. First was Darren Alexander from TWA Panel Systems who gave a quick but interesting talk on Radiant Sail technology and their applications. Second was an ASHRAE Distinguished Lecturer, Dr. Stanley Mumma, from Penn Sate University, who gave an excellent lecture on "Does More Air Mean Higher Costs?" I would like to extend a thank you to both speakers for making the time to present at our chapter meeting.

For this month's meeting, Heric has worked together with the Construction Specification Canada (CSC) Regina Chapter to organize a tour of the new Saskatchewan Disease Control Laboratory currently under construction at Research Park in Regina. The dinner portion of the meeting will be held at the University Club, #215 College West Building. An invitation was sent out earlier this week (also attached to this newsletter).

Please respond to Heric ([h.holmes@mac-eng.ca](mailto:h.holmes@mac-eng.ca)) or myself ([g.fluter@mac-eng.ca](mailto:g.fluter@mac-eng.ca)) to confirm your attendance as space will be limited.

Finally, in regard to next month's meeting, Trevor Hobman has put together what should be a fun-filled night of entertainment at the Lazy Owl at the UofR with Jack Skrip – Magician and Mentalism. The invite was previously sent out to members (also attached to this newsletter). If you are interested in attending, please respond to Trevor by December 7<sup>th</sup> at [t.hobman@cypresssales.com](mailto:t.hobman@cypresssales.com). Cost is \$29.00 for members and \$54.00 for non-members. Please feel free to bring your spouse along or even a few friends.

Hope to see you on Wednesday.

## Meeting Notice!

Wednesday  
November 18, 2009

University Club  
University of Regina  
215 College West Building  
Regina, Sk.

5:00 - Registration

6:00 - Dinner

7:00 – Presentation and Tour  
of the Saskatchewan Disease  
Control Laboratory

**Please note:** Our ASHRAE and engineering community sadly lost a valuable member this week in Les Miki of LML Engineering. Our thoughts and prayers go out to Les's family.

**Please note:** Please remit your payment as soon as possible for Chapter dues, if you haven't done so already. If mailing, the payment should be sent to the Post Office Box number noted on the invoice. Feel free to bring your cheques to this month's meeting as well.

**Please note:** Anyone not having received their invoice, please contact via email: [ashraeregina@accesscomm.ca](mailto:ashraeregina@accesscomm.ca)

## Technical Program for November

For our November meeting, we will be having a joint meeting and tour with CSC (Construction Specifications Canada).

The meeting will take place at the University Club located in College West and will be followed up by a tour of the Saskatchewan Disease Control Laboratory. Please see our flyer for additional details. Please contact myself ([h.holmes@mac-eng.ca](mailto:h.holmes@mac-eng.ca)) or Greg Fluter ([g.fluter@mac-eng.ca](mailto:g.fluter@mac-eng.ca)) by Friday November 13<sup>th</sup> if you plan to attend as space is limited.

The presenters at the meeting are P3Architecture for CSC and HDA Engineering Ltd. for ASHRAE.

The tour will be hosted by Dominion construction.

## 2009/2010 Meetings and Events Schedule

September 9, 2009: Darron Rempel - Chilled Beams and Displacement Ventilation

October 14, 2009: Darren Alexander (TWA Panel Systems) – Radiant Sails & Stanley Mumma, Distinguished Lecturer (DL) - DOAS Systems & Radiant Panels

**November 18, 2009: CSC & HDA Engineering Ltd. - Saskatchewan Disease Control Laboratory Tour**

December 10, 2009: Christmas Social – To be determined

January 12, 2010: Presidential Visit

February 10, 2010: To be Determined

March 10, 2010: Tentative DL

April 14, 2010: Student night

May 12, 2010: To be Determined

June, 2010: ASHRAE Research golf tournament

## Committee Chair Reports

### President Elect and Chapter Technology Transfer Chair

*by Heric Holmes*

This month's meeting will be a joint meeting with CSC (Construction Specifications Canada) which will include a tour of the new Saskatchewan Disease Control Laboratory. We hope to see everyone out at the University Club on the 18<sup>th</sup>.

Last month, we had Darren Alexander, P.Eng from TWA Panels systems present Radiant Sails, and Stanley Mumma, Ph.D, P.E. from Penn State University present on greater than 30% outside air. I would like to thank them and Eileen Jensen our regional CTTC chair for attending. I would also like to thank Jason Danyliw for arranging a speaker from TWA Panel Systems for our meeting.

There are currently two meetings that presentations are not yet confirmed. We are still looking for some other local presentations for February and May. Right now, I have one presentation from SRC, tentatively for February. If anyone has other suggestions for programs this year, please forward them to Heric at [h.holmes@mac-eng.ca](mailto:h.holmes@mac-eng.ca).

Heric Holmes

President Elect and Chapter Technology Transfer Chair

## **Vice President – Newsletter**

by Jason Danyliw

### **Regina Chapter Email Address:**

<mailto:ashraeregina@accesscomm.ca>

### **Regina Chapter Website Address:**

<http://regina.ashraechapters.org/>

### **ASHRAE HVAC&R Industry eNewsletter**

If you wish to subscribe to the ASHRAE HVAC&R Industry eNewsletter, e-mail [subscribe-enews@ashrae.org](mailto:subscribe-enews@ashrae.org) with “Subscribe this address to The HVAC Industry eNewsletter” in the e-mail subject line.

### **ASHRAE Winter Conference 2010**

January 23-27, 2010

Orlando, Florida

Please see the attached information.

### **AHR EXPO**

January 25-27, 2010

Orange County Convention Center

Orlando, Florida

Go to [www.ashrae.org](http://www.ashrae.org) for more information.

### **ASHRAE Learning Institute**

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.

### **Dates Confirmed for Next Satellite**

#### **Broadcast/Webcast**

The April 22, 2010, ASHRAE Webcast, “**Right From the Start – Commissioning for High Performing Buildings,**” will provide the building community with tools to overcome commissioning hurdles and make the process “business as usual.” This **free** webcast will be transmitted **live** via the internet from 1:00 – 4:00 p.m. EDT.

Webcast participants may earn three (3) Professional Development Hours (PDHs) or (3) AIA Learning Unit and chapters can earn 100 PAOE Points for hosting the program.

The webcast presenters are:

- o **Rick Casault, P.E., CCP, CDT**, President, Casault Engineering, Seattle, WA
- o **H. Jay Enck, CxAP, HBDP, LEED™AP, CPMP**, Founder/Principal/Senior Commissioning Agent, Commissioning & Green Building Solutions, Inc., Buford, GA
- o **Michael L. Weiss, Ph.D. ABD, HCCP**, Managing Principal and President, WorkingBuildings, LLC, Atlanta, GA
- o **Ronald Wilkinson, P.E., LEED™AP**, Senior Commissioning Project Manager, AKF Group, LLC, New York, NY

**Online registration via the ASHRAE website will begin March 2, 2010.** There is no fee for registration.

Watch for additional information regarding registration and the program and via email, [www.ashrae.org](http://www.ashrae.org), and *ASHRAE Insights*. Please share this information with your colleagues to assist them with scheduling. If you have questions, please contact [rdouglas@ashrae.org](mailto:rdouglas@ashrae.org) or call (678) 539-1128.

### **Advancing Affordable Housing Solutions – National Housing Day**

5<sup>th</sup> Annual National Housing Day Luncheon –

Date: November 25, 2009

Time: 11:45 am – 1:30 pm

Location: Jacquie Schumiatcher Room, CONEXUS Arts Center, 200A Lakeshore Drive, Regina, Sk.

Presented by the Government of Canada, Government of Saskatchewan, and the City of Regina.

## **Building Energy Use Highlighted in Newest ASHRAE Certification Program**

ATLANTA—As building owners and developers become increasingly concerned about rising energy costs and potential obligations under climate change programs, building energy modeling helps provide a preview into a building's likely energy use and allows decisions affecting energy use to be made before a shovel even hits the ground.

To ensure that professionals modeling a building's energy use have the skills necessary to produce an accurate model, ASHRAE is launching a Building Energy Modeling Professional certification.

The first exam for the new certification program will be administered on Jan. 27, 2010, at the Winter Conference in Orlando, Fla. To register for the exam, visit [www.ashrae.org/BEMP](http://www.ashrae.org/BEMP).

“Energy modeling is one of the most effective ways to achieve energy efficiency when designing sustainable buildings,” Gordon Holness, ASHRAE president, said. “Since buildings consume 40 percent of all U.S. primary energy supplies, and energy modeling is only as good as the consultant who uses it, ASHRAE's newest certification program strives to ensure that engineers and architects achieve the highest possible standards when it comes to sustainable design.”

Criteria to improve the accuracy of building energy models will help address some of the growing concerns within the building community that building designs do not necessarily translate to actual energy use once a building is constructed.

Additionally, energy modeling will play a vital role in ASHRAE's soon-to-be launched Building Energy Quotient (bEQ) program, which will feature both an “As Designed” and “In Operation” component. While the “In Operation” rating is based on actual energy use, the “As Designed” rating is based on the results of a building energy model.

Careful and consistent energy modeling will allow modeling results to be compared with the results of models from other buildings. According to Holness, the certification will be an essential element for guaranteeing the quality of the bEQ program by assuring that there is a competent pool of building energy modelers.

Professionals who pass the certification exam will have demonstrated their ability to evaluate, choose, use, calibrate and interpret the results of energy modeling software, as well as confirm their competence to model new and existing buildings and systems with their full range of physics.

The certification will also highlight a consultant's ability to act as a leader for projects that focus on energy efficiency, especially projects that deal with green buildings and building labeling programs, such as bEQ.

The Building Energy Modeling Professional program will help the individuals who earn it to distinguish themselves by providing confirmation of their skills and specialties by an internationally recognized engineering society. Professionals with such certifications have better chances of being hired, promoted and/or tapped for working on certain types of design projects.

ASHRAE's newest certification will become available at testing centers located around the world in March 2010 and was developed in collaboration with the U.S. affiliate of the International Building Performance Simulation Association and the Illuminating Engineering Society of North America.

## **Energy Efficiency Today Ensures Prosperous Economic Future, Declares President Obama**

ATLANTA—President Obama has declared October National Energy Awareness Month, claiming that “a more prosperous future for our Nation's economy means making investments in energy efficiency and clean energy today.”

In his official proclamation, the President emphasized the importance of focusing on energy efficiency, promoting sustainable industries and setting effective and achievable standards for the generation and use of clean energy in order to advance energy and climate security.

“The declaration as an opportunity for Americans to become more aware of how their everyday choices and actions impact energy use—particularly in their homes and the buildings where they work and play,” Gordon Holness, ASHRAE president, said. “Most Americans do not cite buildings as the sector responsible for the greatest

energy use and greenhouse gas emissions. Hopefully by becoming more aware, Americans will demand greater efficiency.”

Obama has also issued an executive order focused on Federal leadership in environmental, energy and economic performance.

“As the largest consumer of energy in the U.S. economy, the Federal Government can and should lead by example when it comes to creating innovative ways to reduce greenhouse gas emissions, increase energy efficiency, conserve water, reduce waste and use environmentally-responsible products and technologies,” the President said.

ASHRAE responded to the executive order by commending Obama’s leadership to establish the Federal Government as a leader in increasing the energy efficiency of buildings, as well as to offer ASHRAE’s standards and new labeling program as resources for achieving the President’s goal of energy efficiency.

ASHRAE has long been doing its part to promote energy efficiency and sustainability through research, standards writing and education. For example, Standard 189.1P, *Standard for the Design of High Performance, Green Buildings Except Low-Rise Residential Buildings*—which is currently up for its fourth public review—addresses sustainable sites, water use efficiency, energy efficiency, a building’s impact on the atmosphere, materials and resources and indoor environmental quality.

Additionally, ASHRAE’s building energy labeling program, the Building Energy Quotient, provides building owners and the public with valuable information on the energy use of buildings by measuring both the energy the building is designed to use and the energy actually being consumed, thereby helping to close the gaps between intention and operation. The label is currently in its pilot stage and will be available in 2010.

## **ASHRAE Seeks Proposals on User’s Manual for Green Buildings**

ATLANTA—There are many ways to define a green building. Energy-saving measures, water efficiency, indoor environmental quality, materials and building orientations all play a role, but it is the way that all of these come together that makes a building truly high performing.

Requirements to achieve green buildings will soon be available from ASHRAE, the U.S. Green Building Council and the Illuminating Engineering Society of North America in the form of a standard. Standard 189.1P, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*, will define the minimum requirements for high-performance green buildings.

And to make following those requirements easier, a user’s manual also is being developed. ASHRAE is currently accepting research proposals for development of a user’s manual for Standard 189.1P. Proposals are due Nov. 9. For more information, visit [www.ashrae.org/technology/page/548](http://www.ashrae.org/technology/page/548).

“The manual will provide users with a better understanding of how to apply the standard, as well as serve as a guide for self-education and training about the requirements and appropriate strategies to meet them,” Kent Peterson, chair of the Standard 189 committee, said. “It will include worksheets and examples that can be used to determine compliance.”

As part of its energy efficiency efforts, ASHRAE also is accepting proposals for a User’s Manual for Standard 90.1-2010, *Energy Standard for Buildings Except Low-Rise Residential Buildings*. The 2010 standard, which will be published next year, is being developed with the goal of achieving a 30 percent energy cost savings improvement compared to the 2004 standard.

More information on both projects can be found at [www.ashrae.org/technology/page/548](http://www.ashrae.org/technology/page/548).

## **ASHRAE Headquarters Receives Highest LEED Certification**



ATLANTA—ASHRAE has always prided itself on providing the gold standard in research, standards writing, publishing and continuing education. However, when it comes to energy efficiency and sustainability, gold just isn't good enough: That's why the ASHRAE Headquarters has gone a step further and has been awarded a LEED Platinum Certification in the New Construction 2.2 rating system.

The Society's office building in Atlanta, Ga., which underwent a major renovation in 2008, is one of only six buildings in the state of Georgia to receive a LEED Platinum rating, the highest certification the program offers. LEED, which stands for Leadership in Energy and Environmental Design, is a program of the United States Green Building Council (USGBC), a non-profit which seeks to promote green building practices.

"While our first objective was to provide a healthy, comfortable and productive environment for our staff, we also wanted to set an example of what can be done to renovate existing buildings," ASHRAE President Gordon Holness said. "Given that 75 to 80 percent of all existing buildings will still be around in 2030, our greatest opportunity for a sustainable future is through the upgrade and retrofit of these buildings. It is extremely gratifying to achieve the USGBC's highest rating and confirm ASHRAE's leadership and commitment to supporting a sustainable built environment."

"The strength of USGBC has always been the collective strength of our leaders in the building industry," said Rick Fedrizzi, President, CEO & Founding Chair, U.S. Green Building Council. "Given the extraordinary importance of climate protection and the central role of the building industry in that effort, ASHRAE demonstrates their leadership through their LEED Platinum certification of their renovated Headquarters."

LEED takes into account five key measurements when evaluating new construction: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. Bonus points may be obtained through innovation in design and regional priority.

In order to qualify for the highly sought-after Platinum certification, ASHRAE took into consideration a number of concerns such as energy

use, heat island reduction, water efficient landscaping, material reuse and water use reduction, to name just few.

ASHRAE addressed these issues, among others, by installing a cool, white reflective roof membrane to minimize heat island effects; updating the landscaping and eliminating the need for landscaping irrigation; retaining more than 75 percent of the existing building structure as part of this renovation; and reducing its estimated overall annual water consumption per year by almost 50 percent by utilizing low-flow fixtures throughout building. Additionally, the ASHRAE headquarters received bonus points for innovation and design.

As a leader in energy efficient technology, ASHRAE viewed its headquarters renovation as the perfect way to "walk the talk." The 34,500 ft<sup>2</sup> office building, built originally in 1965, now acts as a showcase of energy efficiency and sustainability through its living lab—which provides recourses on building, system and equipment performance—and learning center.

The LEED Platinum Certification acts as third-party verification of ASHRAE's efforts to create an environmentally friendly, energy-efficient, sustainable workplace.

### **Winter Conference Technical Program to Focus on Humidity, Indoor Environments**

ATLANTA— What better place to learn about the latest developments in humidity control than Florida? The 2010 ASHRAE Winter Conference, which takes place January 23-27, 2010 in Orlando, Fla. will focus on developments that contribute to making indoor environments sustainable in humid climates, while also addressing a myriad of other HVAC&R industry issues.

The technical program will be based on the theme *Building Sustainability from the Inside Out*. According to Dennis Wessel, the Orlando Conference chair, "the technical program presents state-of-the-art concepts and design techniques on a wide range of hot topics."

"The technical program features a mix of presentations and papers concentrated in 11 tracks, including the impact of ASHRAE standards 90.1 and 62.1, sustainability, and a combined energy

conservation and alternative energy solutions track, the largest track,” Wessel said.

The technical program focuses on humidity control and the industry’s ability to improve comfort for occupants and save energy. Sessions address *Operating Cost Implications in Humid Environments, Enhanced Dehumidification Strategies with Energy Recovery in Hot and Humid Climates, Humidity Control Issues and Solutions for High Performing Buildings, Ensuring the Performance of Your UFAD System* and *Solving Moisture Problems Created by Energy Retrofits*.

Current interest programs include building information modeling, design of healthcare facilities, wireless sensing and control networks, commissioning, data centers, LEED and ground source heat pumps. In addition, the professional skills track includes business management sessions on billing and collection practices.

The technical plenary will discuss H1N1 and look at the importance of building ventilation as compared to vaccination and quarantine in infection control. The technical plenary will take place Sunday, Jan. 24, 9:45 – 10:45 am.

Additionally, two free contractor-related sessions will be presented in conjunction with the AHR Expo held at the Orange County Convention Center. *Construction Management* will be held Monday, Jan. 25, 2-3 pm and *Cost/Benefit Analysis Methodology and Tools Needed by Owners* will be held Tuesday, Jan. 26, 2-3 pm.

In all, the technical program features more than 90 programs and 300 speakers. The 2010 ASHRAE Winter Conference and will take place at the Rosen Shingle Creek hotel, Orlando, Fla. For complete conference information, including abstracts on all technical program sessions, or to register, visit [www.ashrae.org/orlando](http://www.ashrae.org/orlando).

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

ATLANTA – Two sessions to assist contractors in construction management and high-performance

building are being offered by ASHRAE at the AHR Expo.

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

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

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

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

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

### **ASHRAE, UNEP Further Work in Protecting the Ozone**

ATLANTA—ASHRAE and the United Nations Environment Programme have launched a joint program of work in order to reduce emissions and

encourage energy-efficient refrigeration and air conditioning systems and building designs.

The First Annual Cooperation Work Plan between ASHRAE and UNEP, an organization that promotes the wise use and sustainable development of the global environment, was presented on October 5, 2009 at the Region-at-Large Chapter Regional Conference in Kuwait. The program of work sets goals and timelines for phasing out ozone-depleting refrigerants and the management of ozone-depleting substance refrigerant banks, to name just a few.

One of the ways ASHRAE will support the established goals is by providing Distinguished Lecturers to present the latest achievements in non-Ozone depleting refrigeration technology to both ASHRAE chapters and technical activities organized by UNEP. ASHRAE will also support an ozone literacy course developed by UNEP.

“By partnering with UNEP, ASHRAE can more efficiently respond to the growing demand for new technologies that do not contribute to ozone depletion and are energy efficient,” Gordon Holness, ASHRAE president, said. “Through collaboration, continuing education and provision of experts on the topic, ASHRAE, UNEP and the global community can look forward a healthier environment.”

The program of work is the result of a memorandum of understanding signed between ASHRAE and UNEP in June of 2007.

UNEP was formed in 1972 and acts as “the voice for the environment within the United Nations system.” The Programme works with a wide range of partners to assess global, national and regional environmental conditions and trends; strengthen institutions for the wise management of the environment; and facilitate the transfer of knowledge and technology for sustainable development.

### **ASHRAE Handbook Becomes More Accessible in Online Format**

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

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

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

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

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

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

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



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

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

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

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

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

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

Proposed Standard 189.1P has been written by experts representing all areas of the building

industry, including engineers, lighting designers, sustainability experts, building owners, designers, architects, code and compliance officials, utilities, materials experts and equipment manufacturers. These volunteer experts have contributed tens of thousands of man hours valued at millions of dollars.

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

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

## Investment in Non-Residential Building Construction

Third quarter 2009 ([Previous release](#))

Investment in non-residential building construction reached \$10.4 billion in the third quarter, down 3.9% from the second quarter. This was the third consecutive quarterly decrease attributable largely to lower spending on commercial and industrial building construction.

Investors injected \$6.0 billion into commercial projects, down 7.5% from the second quarter. For the industrial component, investment fell 8.8% to \$1.1 billion.

In contrast, spending in the institutional component continued to rise, up 5.5% to \$3.3 billion.

## Commercial Construction

Of the six provinces that posted decreases in the third quarter, Alberta, Ontario and British Columbia reported the sharpest drops, mainly as a result of lower spending on commercial construction. The most significant declines occurred in Alberta (-13.2% to \$1.4 billion), Ontario (-6.5% to 2.2 billion) and British Columbia (-10.8% to \$785 million).

In contrast, New Brunswick posted the strongest quarterly increase, as a result of higher spending in the

institutional and commercial components. Investment fell in 17 of the 34 census metropolitan areas. The most pronounced decreases were in Toronto, Vancouver and Calgary, mainly because of the decline in commercial construction projects.

Ottawa–Gatineau (Ottawa part) posted the most substantial growth in the third quarter, with investment rising by 4.8% to \$309 million. This increase was attributed to gains in all three components.

### Industrial Construction

Spending in the industrial component was down for a fifth consecutive quarter, in the wake of lower spending on the construction of manufacturing plants and utilities buildings in eight provinces. Provincially, the most substantial contributions to the quarterly decline were those recorded in Alberta, where investment fell 19.9% to \$216 million, and in Quebec, where it was down 13.1% to \$250 million. However, Manitoba and Nova Scotia posted strong increases in the third quarter, mainly because of higher spending on the construction of buildings for the primary sector.

### Institutional Construction

With regard to institutional spending, Alberta showed the largest gain, as a result of higher spending on health and educational institutions. In Quebec, higher investment in the construction of educational institutions more than offset the declines observed in the other categories of institutional buildings. In contrast, Ontario posted the sharpest drop. This decrease was largely explained by lower spending on the construction of health care facilities and homes for the aged.

### Investment in non-residential building construction

Investment in non-residential building construction				
	Third quarter 2008	Second quarter 2009	Third quarter 2009	Second quarter to third quarter 2009
Seasonally adjusted				
\$ millions				% change
Canada	10,837	10,807	10,387	-3.9
Newfoundland	74	89	75	-15.2

Investment in non-residential building construction				
	Third quarter 2008	Second quarter 2009	Third quarter 2009	Second quarter to third quarter 2009
and Labrador				
Prince Edward Island	23	36	32	-10.6
Nova Scotia	160	171	169	-1.3
New Brunswick	147	158	175	10.4
Quebec	1,836	1,842	1,844	0.1
Ontario	4,024	4,065	3,896	-4.2
Manitoba	205	213	224	5.3
Saskatchewan	302	386	388	0.5
Alberta	2,686	2,505	2,305	-8.0
British Columbia	1,353	1,305	1,222	-6.3
Yukon	9	6	11	89.1
Northwest Territories	11	24	38	55.6
Nunavut	7	7	7	13.1

### ASHRAE Government Affairs Update

Welcome to ASHRAE's Government Affairs Update. Along with the Government Affairs webpage, these periodic e-mail updates feature 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>).

Please pass this information on to interested colleagues who also may subscribe from the ASHRAE Government Affairs webpage. Should you wish to unsubscribe, information appears at the end of this e-mail.

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ASHRAE Government Affairs Update, 10/23/09

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### [\*\*DOE to Strengthen Enforcement of Product Energy Efficiency Standards\*\*](#)

DOE announced three new steps to strengthen its ability to enforce energy efficiency standards. DOE has formed a new enforcement team within the Office of the General Counsel; established a program to randomly review manufacturers' compliance with DOE certification requirements; and is publishing guidance that provides further details about DOE's energy efficiency enforcement regulations.

In its new guidance, DOE confirms that under existing regulations, it can take enforcement action and assess civil penalties if a manufacturer fails to properly certify a covered product and retain records. Specifically, the agency clarifies that any failure to certify covered products according to DOE's rules violates the Energy Policy Conservation Act of 1975 and DOE regulations. DOE will randomly select previously filed certification reports for review, request certification records as needed, and hold manufacturers accountable for failing to certify covered products according to DOE rules.

These new steps are part of the DOE's ongoing effort to save energy for U.S. residents and businesses by clearing the backlog of energy efficiency standards for appliances and aggressively enforcing energy efficiency standards. This summer, DOE initiated investigations of alleged

violations against both an air conditioner manufacturer and a freezer manufacturer. Both investigations are expected to be concluded shortly. See the DOE press release (<http://www.energy.gov/news2009/8129.htm>).

### [\*\*DOE Resource to Help Local Governments Expand Solar Energy\*\*](#)

The U.S. Department of Energy announced the availability of a new online resource for local governments that assists community leaders and local stakeholders in building sustainable local solar markets. The online publication, *Solar Powering Your Community: A Guide for Local Governments*, provides local governments with proven best practices enabling them to drive economic development, support clean energy jobs, and reduce carbon emissions by building a robust local solar market.

The publication outlines best practices and lessons learned from 25 Solar America Cities and other local governments across the nation that have successfully increased solar energy use in their communities. It also describes the country's most innovative solar programs and policies, explains the benefits, provides implementation tips, and includes brief case studies.

The best practices outlined in the Guide have been designed to meet the needs of local governments from small municipalities to large counties and metropolitan centers in diverse geographic areas. Topics included in the Guide include: strategies for solar initiatives, incentives, updating and enforcing local rules and regulations, engaging utilities, creative solar jobs and supporting economic development, outreach and education, and leading by example by installing solar on government buildings.

*Solar Powering Your Community: A Guide for Local Governments* is available on the Solar America Cities Web site (<http://www.solaramericacities.energy.gov/GuideForLocalGovernments>).

### [\*\*Vice President Biden Unveils Home Retrofit Plan for Energy Efficiency\*\*](#)

Vice President Biden released on October 19 the "Recovery Through Retrofit" report, which lays out a plan to help U.S. residents upgrade the energy efficiencies of their homes. The scheme aims to increase green jobs and save energy through residential retrofits. At the same time, DOE issued a solicitation that offers \$454 million in American Recovery and Reinvestment Act funds—including \$390 million for a "Retrofit Ramp-Up" program—to support energy efficiency efforts throughout the country.

At a Middle Class Task Force meeting earlier this year, the vice president asked the White House Council on Environmental Quality (CEQ) to develop a proposal for federal action to lay the groundwork for a self-sustaining industry for home energy efficiency retrofits. Their response comes in the October 19 report and includes these federal recommendations: provide U.S. homeowners with home energy retrofit information, including an energy performance label for existing homes; get past cost barriers by making financing more accessible, including long-term municipal loans repaid through the owners' property tax bills, a concept known as Property Assessed Clean Energy (PACE); and establish national workforce certifications and training standards, creating a uniform set of national standards to qualify workers for energy efficiency retrofits. See the Recovery Through Retrofit report ([http://www.whitehouse.gov/assets/documents/Recovery\\_Through\\_Retrofit\\_Final\\_Report.pdf](http://www.whitehouse.gov/assets/documents/Recovery_Through_Retrofit_Final_Report.pdf)).

DOE's new solicitation will support the retrofit objectives with a series of "Retrofit Ramp-up" awards, ranging from \$5 to \$75 million, for states, local governments, and Indian tribes. DOE seeks innovative programs that are highly leveraged, are broadly replicable and scalable, can achieve cost savings when scaled up, and are likely to be self-sustaining beyond the funding period. The programs should achieve high-quality retrofits for a large fraction of the buildings within entire neighborhoods and communities, and they can include PACE programs and programs that employ Home Performance with Energy Star, a national program from DOE and the U.S. Environmental Protection Agency. DOE also offered \$64 million in energy efficiency grants for local governments and

state-recognized Indian tribes that are not eligible for direct funding under DOE's Energy Efficiency and Conservation Block Grant Program. Applications are due on December 14. See the DOE press release (<http://www.energy.gov/news2009/8148.htm>) and download the full solicitation ([http://www.eecbg.energy.gov/Downloads/EECBG\\_CompetitiveFOA148MON.pdf](http://www.eecbg.energy.gov/Downloads/EECBG_CompetitiveFOA148MON.pdf)).

### **Team Germany Wins the 2009 Solar Decathlon**

Team Germany took top honors in the 2009 Solar Decathlon, followed by the University of Illinois at Champaign-Urbana in second place, and Team California in third. The winners were announced on October 16 by DOE Deputy Secretary Daniel Poneman at the competition site on the National Mall in Washington, D.C. Team Germany—students from Darmstadt, Germany, whose team had won the previous Solar Decathlon in 2007—again triumphed by designing, building, and operating the most efficient solar-powered home among 20 university-led entries. Team Germany's winning "Cube House" produced a surplus of power despite three days of rain during the two-week contest. The 2009 Solar Decathlon challenged 20 teams from across the United States, as well as from Germany, Spain, and Canada, to compete in 10 contests, most of which related to the design and energy performance of the teams' solar homes.

Of those ten contests, Team Germany's surplus power production earned the Net Metering award, which carried the greatest weight at 150 points. Team Germany also won the Comfort Zone contest for 100 points by best maintaining a comfortable temperature and humidity in their home. Coming in second place overall, the University of Illinois took top honors in the Appliances contest, which involved running a refrigerator and freezer, dishwasher, washer, and dryer; the Hot Water contest, which required producing enough hot water for regular showers; and the Home Entertainment contest, which involved not only running a television, computer, lights, and a cooking appliance, but also hosting two dinner parties and a movie night, which were rated by their fellow contestants. And although the team didn't place in the top three, the University of Minnesota claimed the top spot in two juried design contests: Lighting



Design and Engineering. The Engineering award honors the solar home that best exemplified excellence in energy systems design, savings, innovations, and reliability.

The Solar Decathlon concluded on Sunday, October 18, after which the teams started partially disassembling the homes and shipping them back to their places of origin. And although the 2009 Solar Decathlon has just ended, the application process for the next Solar Decathlon, to be held in fall 2011, has already begun. The Request for Proposals (RFP) for the 2011 Solar Decathlon is available on the Solar Decathlon Web site, and technical questions on the RFP will be accepted until October 22. Applications are due by November 17, and the selected teams will be notified by December 18. See the DOE press release (<http://www.energy.gov/news2009/8143.htm>), the Solar Decathlon Web site (<http://www.solardecathlon.org/>), and the RFP ([http://www.solardecathlon.org/pdfs/2011\\_rfp.pdf](http://www.solardecathlon.org/pdfs/2011_rfp.pdf)).

ASHRAE was pleased to serve as a sponsor of the Decathlon.

### **California Expands Rules for Feed-In Tariffs and Net Metering**

California is seeking to encourage utility customers to feed power into the grid from their renewable energy systems with two legislative bills signed by Governor Arnold Schwarzenegger. The first bill expands California's "feed-in tariff," under which large utilities have to pay their customers for the power they produce and "feed in" to the grid, at standard rates or "tariffs" that are adjusted to account for the time when the power is produced. Power produced during times of peak demand earns the highest rate. The new law doubles the maximum system size from the current 1.5 megawatts to 3 megawatts and requires long-term agreements that will be in effect for 10 to 20 years. It also increases the statewide cap for such feed-in tariff agreements to 750 megawatts, up from 500 megawatts. Utilities buying power under the feed-in tariff will be able to take credit for the renewable energy under the state's Renewable Portfolio Standard (RPS), which requires utilities to draw on renewable energy for one third of their power needs by 2020. See the

feed-in tariff bill

([http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb\\_0001-0050/sb\\_32\\_bill\\_20091011\\_chaptered.html](http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb_0001-0050/sb_32_bill_20091011_chaptered.html)) and the summary from DSIRE, the Database of State Incentives for Renewables & Efficiency ([http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=CA167F&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CA167F&re=1&ee=1)).

Utility customers that are not interested in such long-term agreements, or who want to take advantage of incentives that are prohibited under the feed-in tariff, are more likely to opt for "net metering," which allows customers to carry forward a credit on any month when they generate more power than they use. Currently, any credit for net power generation is lost at the end of the year, but the state's new net metering law will give customers the option of either rolling over credits from year to year or selling the excess power to their utility at a predetermined rate. In turn, the utility can take credit for that power under the state's RPS. The new law goes into effect on January 2011, after the California Public Utilities Commission sets the compensation rates. Both laws are aimed at helping utilities meet the RPS while encouraging utility customers to install renewable energy systems. See the net metering bill

([http://www.leginfo.ca.gov/pub/09-10/bill/asm/ab\\_0901-0950/ab\\_920\\_bill\\_20091011\\_chaptered.html](http://www.leginfo.ca.gov/pub/09-10/bill/asm/ab_0901-0950/ab_920_bill_20091011_chaptered.html)) and the summary from DSIRE ([http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=CA02R&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CA02R&re=1&ee=1)).

### **Report Examines Hidden Health and Environmental Costs of Energy Use**

The energy you use to heat and cool your home, power your electric devices and appliances, and fuel your car may seem expensive enough already, but according to a new report from the National Research Council (NRC), there are plenty of health and environmental costs that aren't reflected in your energy bills. Quantifying mainly the health effects from the major air pollutants—sulfur dioxide, nitrogen oxides, ozone, and particulates—the NRC report estimated such "external" costs at \$120 billion for the United States in 2005. More than half of that cost is attributed to the nation's 406 coal-fired power plants, with only 10% of those plants

accounting for 43% of those damages. The other big offender is motor vehicles, which caused an estimated \$56 billion in damages in 2005.

The NRC committee declined to tackle some of the more nebulous costs of energy production and use, including harm to ecosystems; risks to national security; effects of other pollutants, such as mercury; and climate change. The report does note that coal-fired power plants are the single largest source of greenhouse gases in the United States. And while the committee didn't place a precise cost on climate change, it noted that climate-related damages caused by each ton of carbon dioxide will be far greater in 2030 than they are now. The committee estimated that if the total amount of greenhouse gas emissions remains steady, the damages caused by each ton of carbon dioxide will increase 50%-80% by 2030. See the National Academies press release (<http://www8.nationalacademies.org/onpinews/newsite.aspx?RecordID=12794>) and the full report ([http://www.nap.edu/catalog.php?record\\_id=12794](http://www.nap.edu/catalog.php?record_id=12794)), which can be read online for free.

Jason Danyliw  
Vice President – Newsletter

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# ASHRAE Inside

Building Sustainability from the Inside Out



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**2010 Winter Conference**  
January 23-27  
Orlando, Florida

## Full-Day Professional Development Seminars

**Registration fees:**  
\$485



\$395 for ASHRAE members  
Each course earns 6 PDHs/AIA LUs or .6 CEUs

### Saturday, January 23

#### Complying with ASHRAE Standard 62.1-2007

8 a.m. – 3 p.m.

**Instructor:** Hoy Bohanon, P.E. (Working Buildings)

#### Energy Management in New and Existing Buildings: A Sustainable Activity



8 a.m. – 3 p.m.

**Instructors:** Richard Pearson, P.E. (Pearson Engineering, LLC) and Kevin Little, Ph.D. (Informing Ecological Design, LLC)

#### Complying with ANSI/ASHRAE/IESNA Standard 90.1-2007

8 a.m. – 3 p.m.

**Instructors:** McHenry Wallace, P.E., (TXU Energy) and Joseph Deringer, AIA, LEED-AP (Institute for Sustainable Building Performance)

#### Data Center Energy Efficiency

8 a.m. – 3 p.m.

**Instructors:** Roger Schmidt, Ph.D., P.E. (IBM), Don Beaty, P.E. (DLB Associates) and Jack Glass, P.E. (Citigroup)

#### The Commissioning Process in New & Existing Buildings

8 a.m. – 3 p.m.

**Instructor:** Richard Casault, P.E., CCP (Casault Engineering)

### Half-Day Short Courses

#### Registration fees:

\$159

\$119 for ASHRAE members

Each course earns 3 PDHs/AIA LUs or .3 CEUs

### Sunday, January 24

#### The Basics of Panel Heating & Cooling

2:00 p.m. – 5:00 p.m.

**Instructors:** Birol Kilkis, Ph.D. (Baskent University) and Robert Bean, R.E.T.

#### Using Standard 90.1 to Meet LEED Requirements

2:00 p.m. – 5:00 p.m.

**Instructors:** McHenry Wallace, P.E., (TXU Energy) and Joseph Deringer, AIA, LEED-AP (Institute for Sustainable Building Performance)

#### Engineering for Sustainability: Understanding Air-to-Air Energy Recovery Technologies and Applications



2:00 p.m. – 5:00 p.m.

**Instructor:** Paul Pieper, P.Eng, (Venmar CES Inc.)

Chilled Beam Technology for Excellent Indoor Climate in an Energy Efficient Manner  
(Co-sponsored by REVHA)



2:00 p.m. – 5:00 p.m.

**Instructor:** Maija Virta, M.Sc-Eng (Halto Oy)

**Monday, January 25**

Successful Solar Applications

2:30 p.m. – 5:30 p.m.

**Instructor:** Henry Healey, P.E. (Healey & Associates)

District Cooling & Heating Systems: Central Plants



(Co-sponsored by ASHRAE, BCA, IESNA, and NEBB)

2:30 p.m. - 5:30 p.m.

**Instructors:** Donald Bahnfleth (Bahnfleth Group Advisors, LLC) and William Bahnfleth, Ph.D., P.E. (Penn State)

Grooved Mechanical Piping System Technology and Design



2:30 p.m. – 5:30 p.m.

**Instructor:** John Rutt (Victaulic Company, Inc.)

Introduction to BACnet

2:30 p.m. – 5:30 p.m.

**Instructor:** David Fisher (Polarsoft, Inc.)

The Basics of a Proposed Standard on High Performance Green Buildings (Standard 189.1)

2:30 p.m. – 5:30 p.m.

**Instructor:** Tom Lawrence, Ph.D., P.E., LEED-AP (University of Georgia)

**Tuesday, January 26**

Healthcare Facilities: Best Practice HVAC Design, Construction & Criteria

8:00 a.m. – 12:00 p.m.

**Instructors:** Robert Cox, P.E. (Carter & Burgess), Daniel Koenigshofer, P.E. (IES Engineers) and Michael Sheerin, P.E. (TLC Engineering for Architecture)

Determining Energy Savings from Energy Efficiency Projects: Applying IPMVP and Guideline 14 to Performance Contracting and LEED

9:00 a.m. – 12:00 p.m.

**Instructor:** Mark Stetz, P.E. (Stetz Consulting, LLC)

The Commissioning Process & Guideline 0

(Co-sponsored by BCA, IESNA and NEBB)

9:00 a.m. - 12:00 p.m.

**Instructor:** Walter Grondzik, P.E. (Ball State University)

Introduction to Cleanrooms



9:00 a.m. - 12:00 p.m.

**Instructor:** R. Vijayakumar (Aerfil, LLC)

**Healthcare Facilities: Best Practice Applications of HVAC Systems**

1:00 p.m. – 5:00 p.m.

**Instructors:** Robert Cox, P.E. (Carter & Burgess), Daniel Koenigshofer, P.E. (IES Engineers) and Michael Sheerin, P.E. (TLC Engineering for Architecture)

**Understanding & Designing Dedicated Outside Air Systems (DOAS)**

2:00 p.m. – 5:00 p.m.

**Instructor:** Stanley Mumma, Ph.D., P.E. (Penn State University)

**Designing Toward Net Zero Energy Commercial Buildings**



2:00 p.m. - 5:00 p.m.

**Instructors:** Dunstan Macauley, P.E. (Encon Group, Inc.) and Frank Mills, P. Eng. (Environmental Design Consultants Limited)

**IAQ & Productivity: How to Maximize Investments in Indoor Climate**



(Co-sponsored by REHVA)

2:00 p.m. - 5:00 p.m.

**Instructor:** Pawel Wargocki (Technical University of Denmark)