

The

Pile of Bones

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OCTOBER 2009

President's Message

by Greg Fluter

Well, that was a short summer in September, hey!

The SMACNA seminar held last month was very successfully attended. There were well over 70 attendees. All 4 sessions were well presented by Mark Terzigni from SMACNA. I think every attendee learned something new or, at least, refreshed their memory from each session. A big thank you needs to go to Rob Craddock for putting it all together. He did a great job. Also thank you to Norm Grusnick, from the B.C. Chapter, for putting this together with Rob.

Our first Chapter meeting for the year was also held at the Conexus Art Centre after the seminar. Darron Rempel from E.H. Price in Winnipeg gave two interesting presentations – one on displacement ventilation & the other on chilled beams. Thank you to Mike Malden from E.H. Price Regina for setting this up.

For this month's meeting Heric has been able to line up an ASHRAE Distinguished Lecturer to give a talk on

Dedicated Outdoor Air Systems and Radiant Panels. I'm sure it will be an interesting presentation.

I would like to remind everyone that the Regina Chapter is hosting the 2010 Region XI Chapters Regional Conference (CRC) next May. Jerry Boulanger, the CRC chair, will need members to volunteer to make this event succeed. If you are interested, please let Jerry know ASAP. Jerry will have more information as the year moves forward.

Hope to see you on Wednesday.

Meeting Notice!

**Wednesday
October 14, 2009**

**Hotel Saskatchewan
Radisson Plaza
2125 Victoria Avenue
Regina, Sk.**

5:00 -Social/Cocktails

**5:30 – Darren Alexander
from TWA Panel Systems
will present on radiant sails**

**5:45 – Stanley Mumma from
Penn State University will
present on Dedicated
Outdoor Air Systems**

6:30 - Dinner

7:15 - Chapter Meeting

Please note: Kris Pockett has sent out the 2009 / 2010 Chapter dues invoices. Please remit your payment as soon as possible, 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

Technical Program for October

For our October meeting, we will be having two presentations from two different speakers.

The first presenter is Darren Alexander, P.Eng a systems engineer from TWA Panel Systems. The topic he will be discussing is radiant sails.

For our second presentation, we have the pleasure of having our first Designated Lecturer for the year. Stanley Mumma, Ph.D, P.E, FASHRAE will be speaking on Dedicated Outdoor Air Systems. Stanley Mumma is an ASHRAE Fellow and Professor Emeritus at Penn State University.

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: Provincial Lab 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 we will be having Darren Alexander, P.Eng from TWA Panels systems presenting on Radiant Sails, and Stanley Mumma, Ph.D, P.E. from Penn State University presenting on DOAS.

Last month's presentation on Chilled Beams and Displacement Ventilation by Darron Rempel from E.H. Price was quite informative. Thanks to Mike Malden for helping to arrange this.

Our next meeting will be a joint meeting with CSC (Construction Specifications Canada which will include a tour of the new provincial lab. We are still trying to finalize the location for the meeting and will let you know when we do.

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

Heric Holmes
President Elect and Chapter Technology Transfer Chair

Membership Promotion Chair

by Rob Craddock

The ASHRAE year is well on its way again. Our chapter currently has 4 members that are delinquent. I have attached the quick and easy way to go on line and renew your membership and to update you ASHRAE Bio.

Members can follow these steps for dues renewal with the following steps:

1. Go to www.ashrae.org
2. Login as yourself
3. Click **Update Your Bio** the in left-hand column
4. Click **Member Dues Renewal** – it will generate a file you can print or save to PDF

And while here, members can also update their bio to advance to Member grade if interested!

If there is anyone who you think should be a member, please let me know and I will contact them about joining ASHRAE.

Rob Craddock
Membership Promotion Chair

Past President & Research Promotion Chair

by Ted Cooke

As discussed at September's meeting, we are looking at a joint Research Golf Tournament in May with the Saskatoon chapter. The tournament would be held on neutral ground, somewhere between both cities. Participants would be bussed to the site for 18 holes of golf, with dinner to follow. Based on 35 participants from Regina, it is expected that the costs would be \$115 per participant. We will hold a vote at the October meeting to see if members want to pursue this option for this year. If we do not hold the joint tournament, we will hold the Regina Chapter tournament at Fort Qu'Appelle with a social to follow at Grant Dawson's "Cabin".

Ted Cooke

Past President & Research Promotion 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 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 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, and *ASHRAE Insights*. Please share this information with your colleagues to assist

them with scheduling. If you have questions, please contact rdouglas@ashrae.org or call (678) 539-1128.

Advancing Affordable Housing Solutions – National Housing Day

5th 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.

New Introductory Guide Released by ASHRAE

ATLANTA— A newly released guide from ASHRAE on building information models and building information modeling (BIM) serves as a resource for professionals considering BIM tools and applications for their businesses.

According to *An Introduction to Building Information Modeling*, BIM is “a digital representation of the physical and the functional characteristics of a facility.” Unlike 2-D or 3-D CAD, BIM software utilizes intelligent objects to create models.

The benefits of using BIM applications are numerous, including enhanced interoperability which will improve Integrated Building Design and Integrated Project Delivery, according to Dave Conover, a member of the BIM Steering Committee who wrote the guide. Most important, however, is BIM’s ability “to create an accurate model that is useful throughout the entire life of the building, from initial design through occupancy and operation.”

Conover feels that that in addition to the actual benefits of the BIM process, the guide itself offers advantages in that it gives those unfamiliar with BIM “a fast and high level introduction.”

He went on to explain that even those already familiar with BIM could benefit from downloading the guide: “It provides some broad level insight into how BIM will affect the building industry in general.”

In addition to BIM’s advantages and tips for getting started with the application, the guide also includes a list of helpful software so that engineers might choose the best program for their company.

An Introduction to Building Information Modeling is available as a free download on ASHRAE’s Web site at www.ashrae.org/publications.

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE 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 Learning Institute is Sustaining Energy by Sustaining Professional Development

ATLANTA—One third of the energy consumed by buildings in the United States has the potential to be conserved right now. In order to equip engineers with the knowledge to stop this energy loss, a new full-day Professional Development Seminar (PDS), *Energy Management in New and Existing Buildings: A Sustainable Activity*, will be offered as part of the ASHRAE Learning Institute at the 2010 Winter Conference.

“Sustained energy management is the quickest, cheapest, cleanest way to expand our world’s energy supplies and reduce greenhouse gas emissions,” Dick Pearson, P.E., ASHRAE Fellow, co-developer and instructor of the new PDS, said.

The seminar is an expansion of the popular Short Course on energy management guided by Technical Committee 7.6 and weaves together energy management principles of the *ASHRAE Handbook*, ENERGY STAR® guidelines and the practical experience of successful energy managers.

Energy Management in New and Existing Buildings relies on case-example exercises that use energy data and facilities information to reinforce presentation material. This hands-on approach allows attendees to gain skills in analyzing the state of energy management at their own organizations and plan steps to enhance it. According to Kevin Little, Ph.D., co-developer of the course, these exercises prepare participants to apply what they learn immediately following the Conference.

The ENERGY STAR management flow chart will play a crucial role in guiding the presentation. The flow chart will help participants gain skills in extracting information from energy data and knowledge of basic tools like ENERGY STAR's Portfolio Manager.

Becoming familiar with the most up-to-date resources in energy management will encourage participants to seek out and use the information available in modern building automation systems with confidence.

"Facilities managers and their consulting engineers need a foundation of energy management skills in order to take advantage of advanced developments, like ASHRAE's new Building EQ [Energy Quotient] program, and related initiatives to achieve net-zero energy buildings," Little said.

In addition to helping participants manage the energy use of their respective organizations, the seminar will offer the opportunity to earn six professional development credits/American Institute of Architecture learning units or 0.6 continuing education units.

The ASHRAE Learning Institute will also feature the PDSs [Complying with ASHRAE Standard 62.1-2007](#), [Complying with ANSI/ASHRAE/IESNA Standard 90.1-2007](#), [Data Center Energy Efficiency](#) and [The Commissioning Process in New & Existing Buildings](#), as well as 17 half-day Short Courses. Registration information for both the 2010 Winter Conference and the ASHRAE Learning Institute can be found at visit www.ashrae.org/orlando.

If You Can't Stand the Heat...Manage the Humidity: ASHRAE Heads to Florida for 2010 Winter Conference

ATLANTA—"It's not the heat, it's the humidity," is often used to explain the less-than-comfortable temperatures in Florida. With that in mind, there seems to be no better place to discuss this winter's conference theme: *Building Sustainability from the Inside Out*. Whenever the temperatures outside are too hot or humid to handle, ASHRAE ensures that indoor environments are comfortable and, most important, sustainable.

ASHRAE's 2010 Winter Conference will be held in Orlando, Fla., from Jan. 23-27, at the Rosen

Shingle Creek hotel. The International Air-Conditioning, Heating, Refrigerating Expo, held in conjunction with the Conference, will run Jan. 25-27. The Expo will take place at the Orange County Convention Center, a short distance from the Conference headquarters hotel.

The technical program will feature more than 90 programs and 300 speakers addressing challenges and solutions to such industry issues as key ASHRAE standards' impact, humidity control applications, sustainable buildings' performance, energy conservation and alternative energy practices and professional skills improvement. The complete technical program will be posted online Sept. 30 at www.ashrae.org/orlando.

In keeping with ASHRAE's goal of continuing education the Conference offers over 200 Professional Development Credits, as well as Continuing Education Units, which can be applied toward a Professional Engineering license.

Full-day Professional Development Seminars will include the new *Energy Management in New and Existing Buildings: A Sustainable Activity*, as well as *Complying with Standard 62.1-2007*, *Complying with Standard 90.1-2007*, *The Commissioning Process in New and Existing Buildings* and *Data Center Energy Efficiency*. An additional 17 Half-day Short Courses are also being offered, including the new *District Heating & Cooling Systems* and *Basics of Cleanroom Design* courses.

The Conference will also serve as the launch of ASHRAE's newest certification program, the Building Energy Modeling Professional certification. For information on the four other certifications offered by ASHRAE visit www.ashrae.org/certification.

This winter's technical tours will spotlight how technology developed by ASHRAE members is practically applied in buildings and includes Darden Restaurants' new headquarters, the University of Central Florida's Burnett School of Biomedical Sciences, the Climate Change Education Center at the Orange County Convention Center and the Florida Solar Energy Center.

When members are not attending courses at the Conference, observing the technological advancements featured at the AHR Expo or touring the local sustainable buildings, they are encouraged to explore popular Orlando destinations, such as the

Kennedy Space Center, by taking a general tour or dominate the competition at the Wii Tourney being held as part of Members' Night Out.

Those who take advantage of the early-bird registration before Oct. 31 have the opportunity to save up to \$180. Complete information is available at www.ashrae.org/orlando.

ASHRAE Proposes Mechanical Ventilation Requirements for Naturally Ventilated Buildings.

This release contained erroneous information about proposed changes in addendum r to ANSI/ASHRAE Standard 62.1-2007, *Ventilation for Acceptable Indoor Air Quality*. Requirements regarding mechanical ventilation for naturally ventilated buildings are actually included in addendum n, which has completed public review and will be included in the 2010 version of Standard 62.1, which is expected to be available in spring 2010.

The proposed changes open for review in addendum r focus on the IAQ procedure, which is a performance-based approach to compliance with the standard, and allows for designers to adjust the ventilation requirements for a building or space based on performance factors which are unique to the building. These performance factors might include the use of low-emitting materials in the space or the known presence of a contaminant source. The first public review draft of Addendum r removed a method of complying with the IAQ procedure by designing the ventilation system in the same way as an existing successful building. Based on public review comments, this approach was put back into the standard, but with new restrictions. These include a requirement that a mass-balance analysis of the building's air quality be performed in every case. This will require that the designer identify contaminants of concern for every building or space where the IAQ procedure is used, along with associated concentration or exposure limits.

Call for Nominations: ASHRAE New Faces of Engineering 2010 Reminder

Young ASHRAE engineers are encouraged to apply for New Faces of Engineering for 2010 Engineers Week. Entry deadline is October 15, 2009.

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.

The top New Face from each society will be featured in a full page ad in USA Today during Engineers Week, February 14-20, 2010. 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, 2009, 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 Thursday, October 15, 2009. 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 14-20, 2010. For more information on Engineers Week, visit: eweek.org.

Carbon Monoxide Alarms Proposed for ASHRAE Residential Ventilation Standard

ATLANTA – In a change that would bring its residential ventilation and indoor air quality standard closer in line with that of the 2009 International Residential Code, ASHRAE is proposing that carbon monoxide alarms be required in homes.

Under proposed addendum *l* to ANSI/ASHRAE Standard 62.2-2007, *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*, carbon monoxide alarms would be required to be installed outside of each sleeping area. The proposed addendum is open for public comment until Oct. 26, 2009.

Nine other addenda, unrelated to CO, also are open for review. Steve Emmerich, chair of the Standard 62.2 Committee, said that as the standard becomes more widely used as a result of its adoption into building codes and green building programs, several clarifications are being addressed through proposed changes.

Carbon monoxide (CO) poisoning leads to hundreds of deaths and thousands of injuries each year in homes. Such poisoning results primarily from automobiles left running in attached garages but also from portable generators, power tools and heaters, according to Emmerich. A small fraction of poisonings also result from failed central heating combustion appliances.

“Residents have very little ability to sense the presence of CO without detectors, unlike many other indoor polluting events,” he said.

Whether to include CO alarms as a requirement in the standard has been discussed since the standard was first proposed. Debate has focused on the unreliability and cost of alarms. But Emmerich said the committee believes the time has come to make this change, noting that it will bring the standard into closer alignment with the 2009 International Residential Code, which requires alarms if the house has combustion appliances or attached garages, and with many states that have passed laws requiring CO alarms.

“This proposed requirement goes a step further, expanding the protection to all homes, regardless of fuel type or garage configuration, reflecting the fact that many CO exposures occur due to causes completely independent of these

factors,” he said. “It also requires that alarms be hard-wired with battery backup to address an increased likelihood of high CO exposure events during power outages.”

Also open for public comment is proposed addendum *s*, which would give credits for different types of residential ventilation systems. The proposed change increases mechanical ventilation system flow rates for systems that are unbalanced or not fully ducted, unless they have a provision for mixing. Emmerich said this is a fairly significant change that has been under extensive study by the committee.

Standard 62.2 addenda open for public comment until Oct. 11 are addenda *m*, *n*, *s* and *t*, while those open until Oct. 26 are *j*, *l*, *o*, *p*, *q* and *r*.

To view a copy of the addenda open for public review, go to www.ashrae.org/publicreviews. Copies of public review drafts are only available during public review periods.

Proposed High-Performance Building Standard 189.1 Draws Nearer to Publication Date

ATLANTA – The total building sustainability package, addressing everything from design and commissioning to plans for high-performance operation, is covered in a proposed green building standard currently open for public review.

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. It is expected to be published in early 2010.

“This is one of the most highly-anticipated building standards ever released,” ASHRAE President Gordon Holness, said. “ASHRAE’s commitment to excellence and transparency in true consensus standards development is reflected in the quality of and interest in Standard 189.1.”

The proposed standard is currently open for a fourth public review. It is an “independent substantive change” review so only changes from the third public review, which ended in June 2009,

are open for comment. The public comment period started Sept. 18 and remains open until Nov. 2, 2009.

“IES is pleased to co-sponsor this standard for high-performance green buildings and supports the goal shared with ASHRAE and USGBC of environmental responsibility toward current needs as well as those of future generations,” Rita M. Harrold, IES director of technology, said.

“The key to a prosperous future is cost-efficient and energy-saving green buildings and is imperative as we move forward,” Scot Horst, senior vice president of LEED, USGBC, said. “Standard 189.1 will help increase adoption of green building practices, leading to a prosperous and sustainable future for our nation.”

“The standard, once published, provides a ‘total building sustainability package’ for those who strive to design, build and operate green buildings,” Kent Peterson, chair of the committee writing the standard, said. “From site location to energy use to recycling, this standard will set the foundation for green buildings through its adoption into local codes. The dedication of those tasked with writing the standard has been unwavering. There are no short cuts to creating a quality, comprehensive green building standard that reflects input from all corners of the building community.”

Among the biggest proposed changes is in the exterior light pollution section, including elimination of the Total Site Lumen approach. The draft of the standard that went out for a third public review earlier this year required users to limit exterior lighting according to one of three methods for determining total initial lamp lumens, or light output, for all outdoor lighting. While site lumen limits are being explored in other model lighting pollution efforts, it complicates application and enforcement significantly, according to Nick Ferzacca, vice chair of the committee and IES representative. The current draft maintains the use of Backlight, Uplight and Glare ratings from the IES Luminaire Classification System for Outdoor Luminaires (IESNA TM-15-07). Also, exterior lighting power densities and lighting zone definitions were modified to align with recent ASHRAE 90.1 addenda.

Another proposed change is in the Outdoor Air Delivery Monitoring section. Under the

proposal, measurement of outdoor airflow rates at the system level would be required for all spaces ventilated by mechanical systems, except for constant volume systems. The exception allowing CO₂ monitoring as an alternative for systems serving only densely occupied spaces has been removed. Also proposed would be removal of all requirements for outdoor airflow monitoring in naturally ventilated spaces.

The standard development committee will meet again to review comments received during this “independent substantive change” public review during the USGBC GreenBuild conference in November.

To view a copy of the public review draft, go to www.ashrae.org/publicreviews. Copies of public review drafts are only available during public review periods.

Memorandum of Understanding with IGBC to Promote Sustainability around the World

ATLANTA—The signing of a memorandum of understanding between ASHRAE and the Indian Green Building Council (IGBC) represents the country’s potential as a market for constructing energy efficient buildings.

The MOU between ASHRAE and IGBC, a not-for-profit organization that promotes energy efficiency in buildings, allows the two societies to share products, jointly promote educational programs and, where appropriate, cross-market each other’s products and services.

“IGBC and ASHRAE signed the MOU to share their best practices and information on their research and development; codes and standards for climate change initiatives; and net-zero and energy-plus built environment,” Prem Jain, Fellow ASHRAE, Life Member, chair of the IGBC, said. “This will help the international community of designers, builders and researchers to partake in the best of the two eminent organizations dedicated in improving the health of the planet Earth and her inhabitants.”

The memorandum is the latest in strengthening ASHRAE’s ties with India, a country that’s fast growing population demands an even faster growing construction industry; ASHRAE has some 700 members in India with four chapters—India, Western India, South India and Chennai .

“ASHRAE is looking forward to working closely with IGBC,” Gordon Holness, ASHRAE president, said. “This memorandum of understanding opens doors to resources, educational material and member expertise that will benefit ASHRAE and IGBC members alike. Most important, a broader knowledge of energy efficient and sustainable building practices will be gained on both sides.”

IGBC was formed in 2001 and is a consensus not-for-profit organization representing the building industry, consisting of architects, builders, consultants, manufacturers, institutions and others. The vision of the Council is to facilitate India to become one of the world leaders in green buildings by 2010.

ASHRAE Standard Provides Guidance for DOE Federal Standard

ATLANTA—Savings over the next 30 years from a proposed federal standard for vending machines could equal that of the energy consumed by more than 830,000 American households in a single year.

The federal standard issued by the U.S. Department of Energy is based on ANSI/ASHRAE Standard 32.1-2004, *Methods of Testing for Rating Vending Machines for Bottled, Canned and Other Sealed Beverages*, which establishes uniform testing of refrigerated vending machines to determine energy consumption. The DOE issued its ruling on Aug. 31, 2009 via the Federal Register

“As a technical organization with interests in both refrigeration and reducing energy use, we are pleased that DOE and the beverage industry look to ASHRAE as the source for standards in this critical area,” Gordon Holness, ASHRAE president, said. “We look forward to continued work with the Department and the relevant stakeholders to develop standards that meet the needs of the nation and the world.”

Given that refrigerated vending machines consume 2,500 to 4,400 kilowatt-hours (kWh) of energy per year, DOE is adopting new energy conservation standards, finding that such standards “would result in significant conservation of energy and are technologically feasible and economically justified.”

By 2042, DOE expects the energy savings to result in cumulative greenhouse gas emission reductions of 0.6 million metric tons of carbon dioxide, an amount equal to that produced by 2 million cars every year.

Fully-cooled medium capacity vending machines, the most common type currently being sold, cost \$2,625 with annual energy costs of \$188. To meet the new standards, the DOE estimates the installed prices of such equipment will increase by \$239 to \$2,864, which will be offset by annual energy savings of \$69.

Though DOE utilized the testing methods laid out in ANSI/ASHRAE Standard 32.1-2004, the department employed a test point of 75°F/45 RH rather than the 90°F/65 RH specified in the Standard. Also, DOE will take into consideration the fact that ASHRAE is currently updating Standard 32.1-2004 and will consider any changes that may result from the update.

The standards will apply to all beverage vending machines manufactured for sale in the U.S. or imported to the U.S., starting three years after publication of the final rule.

Role of HVAC&R Systems in Infectious Disease Transmission Addressed by ASHRAE

ATLANTA –As health and school officials deal with a second wave of the H1N1 virus, commonly referred to as swine flu, new information is available on health consequences of exposure to such airborne infectious diseases and the implications on the design, installation and operation of HVAC&R systems.

“While the long-standing public health view is that influenza transmission occurs through direct contact or large droplets, newer data suggests it also occurs through the airborne route, meaning HVAC&R systems may contribute far more to transmission of the disease and, potentially, to reduction of that same transmission risk,” said Gordon Holness, president of the American Society of Heating, Refrigerating and Air-Conditioning Engineering (ASHRAE) that developed the guidance.

ASHRAE’s *Airborne Infectious Diseases Position Document* addresses the impact of ventilation on disease transmission, the disease for which ventilation is important for either

transmission or control and the control strategies that are available for implementation in buildings.

The paper can be read at

www.ashrae.org/positiondocuments.

Since the first reported case in the spring of 2009, the H1N1 virus has spread to nearly 170 countries, resulting in 1,154 deaths and some 160,000 illnesses. With a better understanding of ventilation's effect on the transmission of disease, future incidents of the H1N1 virus may now be easier to prevent, according to Holness. He said several technical solutions are available to assist in avoiding transmission. These include: dilution ventilation, airflow strategies, room pressurization, personalized ventilation, source control, filtration and ultraviolet germicidal irradiation.

Airborne transmission through building ventilation systems can be significantly reduced by provision of adequate air filtration and pressurization, Holness said. ASHRAE's other guidance of relevance includes Standard 170, *Ventilation of Health Care Facilities*, and Standard 611, *Air Quality Within Commercial Aircraft*.

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.

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

ASHRAE Government Affairs Update, 9/25/09

• [**DOE to Fund up to \\$454 Million for Retrofit Ramp-Ups in Energy Efficiency**](#)

- [**22 States get \\$354 Million for Energy Efficiency and Conservation Projects**](#)
- [**Reports Emphasize Monetary and Security Costs of Climate Change**](#)
- [**Massachusetts Solicits Proposals for Energy Solution Demonstration Projects**](#)
- [**DOE Delivers \\$36 Million to Pennsylvania for Energy Efficiency Projects**](#)
- [**DOE Announces \\$144 Million in Recovery Act Funding for the Smart Grid**](#)
- [**New DOE Campaign Encourages Everyone to "Stay Warm, Save Money"**](#)

DOE to Fund up to \$454 Million for Retrofit Ramp-Ups in Energy Efficiency

U.S. Secretary of Energy Steven Chu announced a new \$450 million program designed to catalyze a nationwide energy upgrade that experts estimate could save \$100 million annually in utility bills for households and businesses. The Recovery Act's "Retrofit Ramp-Up" program will pioneer innovative models for rolling out energy efficiency to hundreds of thousands of homes and businesses in a variety of communities. Much like past roll-outs for cable TV or the Internet, the Department of Energy (DOE) intends to create models that, when undertaken nationally, will save consumers billions of dollars on their utility bills and make the huge savings of energy efficiency available to everyone.

The Request for Information (RFI) is for competitively selected local energy efficiency projects. This competitive portion of the Energy Efficiency and Conservation Block Grant (EECBG) Program will target community-scale retrofit projects that make significant, long-term impacts on energy use and can serve as national role models for grassroots energy efficiency efforts. The DOE is seeking public comment on this newly funded program under the Recovery Act. Public comment ends on Sept. 28, 2009.

The DOE is accepting feedback on both the competitively-selected portion of the EECBG program for up to \$390 million for neighborhood-scale building retrofits, as well as up to \$64 million for local governments that were not eligible to receive the formula grants announced earlier this

year. The EECBG program empowers local communities to make strategic investments to meet the nation's long-term goals for energy independence and leadership on climate change.

This first topic area under the funding solicitation will target a select number of innovative programs that are structured to provide whole-neighborhood building energy retrofits. These will be projects that demonstrate a sustainable business model for providing cost-effective energy upgrades for a large percentage of the residential, commercial, and public buildings in a specific community. Possible approaches could include innovative partnerships between the public and private sector, utility retrofit and audit programs, alternative financing, retail partnerships, and others. The DOE will award up to \$390 million for these projects.

The second topic area for up to \$64 million is reserved for cities, counties and state-recognized Indian tribes that were not eligible to receive population-based formula grant allocations from DOE under the Energy Efficiency and Conservation Block Grant program. These funds are intended to help expand local energy efficiency efforts and reduce energy use in the commercial, residential, transportation, manufacturing, or industrial sectors.

View the Request for Information (<http://doe-iips.pr.doe.gov/iips/faopor.nsf/1be0f2271893ba198525644b006bc0be/daf445e535572106852576310046fae5?OpenDocument>). Public comment is requested by Sept. 28, 2009. The funding opportunity announcement is expected to be released in early October, following the public comment period.

For more information on the EECBG program, visit the program's Web site (<http://www.eecbg.energy.gov/>).

22 States get \$354 Million for Energy Efficiency and Conservation Projects

Energy Secretary Steven Chu announced that more than \$354 million in funding from the American Recovery and Reinvestment Act is being awarded to 22 states to support energy efficiency and conservation activities. Under the Department of Energy's Efficiency and Conservation Block Grant

(EECBG) program, these states will implement programs that lower energy use, reduce carbon pollution, and create green jobs locally.

States receiving funding under this announcement include: Alabama, Arizona, Arkansas, California, Connecticut, Georgia, Illinois, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New York, Rhode Island, Texas, Washington, Wisconsin, and Wyoming.

These awards to the state energy offices will be used to support state-level energy efficiency priorities, along with funding local conservation projects in smaller cities and counties. At least 60% of each state's award will be passed through to local cities and counties not eligible for direct EECBG awards from the Department of Energy. The EECBG Program was funded for the first time by the American Recovery and Reinvestment Act and provides formula grants to states, cities, counties, territories and federally-recognized Indian tribes nationwide to implement energy efficiency projects locally.

Energy efficiency and conservation projects that are eligible for awards include the development of an energy efficiency and conservation strategy, energy efficiency audits and retrofits, transportation programs, the creation of financial incentive programs for energy efficiency improvements, the development and implementation of advanced building codes and inspections, and installation of renewable energy technologies on municipal buildings.

For a full list of awards to date, visit the Energy Efficiency and Conservation Block Grant Program Web site (<http://www.eecbg.energy.gov/>).

Reports Emphasize Monetary and Security Costs of Climate Change

The significant challenges needed to convert the world's energy systems to sources that emit less carbon dioxide are giving pause to leaders throughout the world, but three recent reports highlight the overwhelming cost of inaction. Some have pointed to estimates made by the United

Nations Framework Convention on Climate Change (UNFCCC), which pegged the global annual costs of adapting to climate change at \$40-\$70 billion, or about three Olympic Games per year—a cost that some may find acceptable, if they're able to continue business as usual. However, a new report published by the International Institute for Environment and Development (IIED) and the Grantham Institute for Climate Change at Imperial College London has found the real costs of adaptation to be two to three times greater than the UNFCCC estimate, because the earlier estimate didn't include key sectors such as energy, manufacturing, retailing, mining, tourism, and ecosystems. That could put the annual cost above \$200 billion. See the IIED press release (<http://www.iied.org/climate-change/key-issues/economics-and-equity-adaptation/costs-adapting-climate-change-significantly-under-estimated>) and the full report (<http://www.iied.org/pubs/display.php?o=11501IIE D>).

Two other reports take a closer look at the economic impacts in the United States. The Union of Concerned Scientists (UCS) found that unchecked climate change could result in hundreds of billions of dollars in damages to the United States. The report, an overview of more than 60 scientific studies, found costs were mainly driven by rising sea levels, more intense hurricanes, more flooding, declining public health, strained energy and water resources, and impaired transportation infrastructure. UCS notes that the cost of taking preventative action would be dramatically less than the cost of allowing climate change to continue. Meanwhile, the American Security Project (ASP) has issued a new report highlighting dire security threats to the United States if climate change remains unchecked. ASP warns of competition for dwindling resources, especially water, and how that can result in weakened or poorly functioning governments throughout the world. See the UCS press release (http://www.ucsusa.org/news/press_release/failing-to-curb-global-0275.html) and report (http://www.ucsusa.org/assets/documents/global_warming/climate-costs-of-inaction.pdf) and the ASP press release (<http://www.americansecurityproject.org/press/amer>

[ican_security_project_us_will_face_dire_security_consequences_if_climate_change_is_left_unchecked](#)) and report (http://www.secureamericanfuture.org/resources/ClimateSecurityIndex_lowres.pdf).

Massachusetts Solicits Proposals for Energy Solution Demonstration Projects

As part of Governor Patrick's Massachusetts Recovery Plan to secure the state's economic future, the Department of Energy Resources (DOER) is inviting proposals for \$15 million in American Recovery and Reinvestment Act (ARRA) funding for projects that demonstrate dramatic increases in energy efficiency in buildings across the Commonwealth. The stimulus funding opportunity is open to both public and private entities, including businesses, hospitals, universities, municipalities, community organizations, and others.

DOER's Program Opportunity Notice seeks proposals for innovative projects offering solutions to long-standing building energy challenges. The Massachusetts High Performance Buildings Grant Program is a key component of the Commonwealth's State Energy Program for investment of ARRA funding, which the US Department of Energy approved in July. Demonstrating ways to significantly reduce energy use, as well as substituting clean energy alternatives for fossil fuel, the program will pave the way for widespread building energy performance improvements beyond measures provided through existing state- and utility-run efficiency programs.

Successful proposals, which are due to DOER by October 30, must be shown to work throughout Massachusetts in buildings of similar size and type. Proposals must also provide evidence that projects will yield significant economic, energy, and environmental benefits.

DOER's solicitation of proposals for high performance building projects is in line with Governor Patrick's March 2008 challenge to the building industry to put the Bay State on a path toward zero net energy buildings. A zero net energy building generates energy on site with clean

renewable resources equal or greater to the total amount of energy consumed over the course of a year. The Governor's Zero Net Energy Task Force recommended two state building projects to strive for near zero net energy performance.

The High Performance Buildings Grant Program is designed to advance the state's clean energy policy agenda, which includes statutory goals to reduce fossil fuel use in buildings 10 percent and to decrease electric load 25 percent by 2020.

DOER is seeking projects that address one or more of these challenges:

- Demonstrate a deep energy retrofit at one or more existing buildings that achieves at least a 50 percent reduction in annual energy consumption at each building;
- Demonstrate technologies such as high efficiency and ultra low emissions biomass-fired boilers and furnaces, solar thermal space heating and/or cooling systems, passive and/or active thermal energy storage; and high efficiency cold-climate heat pumps;
- Implement high impact energy conservation measures in buildings heated with fuel oil, propane and other unregulated fuels;
- Mobilize community approaches to achieve energy efficiency improvements and renewable energy deployment through significant increases in the rate at which energy customers choose to participate in energy savings programs.

Awards under this program are expected to range from \$500,000 to \$5 million each for projects that are ready to begin immediately after the award and can be completed within three years. DOER expects to announce awards in December.

For more information see mass.gov/doer.

DOE Delivers \$36 Million to Pennsylvania for Energy Efficiency Projects

DOE awarded more than \$36 million in American Recovery and Reinvestment Act funding to support energy efficiency and conservation projects in communities across Pennsylvania. Under DOE's Energy Efficiency and Conservation Block Grant (EECBG) Program, the funds will be channeled to

Pennsylvania's State Energy Office (namely, the Office of Energy & Technology Deployment (<http://www.depweb.state.pa.us/energy/cwp/view.asp?a=3&Q=482723>) within the Pennsylvania Department of Environmental Protection) as well as local cities and counties to help lower energy use, reduce carbon pollution, and create green jobs across the Keystone State.

Pennsylvania's Office of Energy & Technology Deployment will receive more than \$23.5 million to establish the "PA Conservation Works! Program" which will award grants to local governments and non-profit entities with shovel-ready projects that promise energy efficiency improvements of at least 25%. Eligible projects include the installation of energy-efficient streetlights; retrofitting of high-efficiency furnaces, boilers, and air conditioners; efficiency upgrades at wastewater treatment plants; and the deployment of renewable energy technologies on or in government buildings. Other recipients of the EECBG awards include Allegheny and Delaware Counties, as well as Abington Township, Altoona, Cheltenham Township, Middleton Township, and York. DOE is continuing to review applications and will be making awards to additional cities and counties in the weeks to come. See the DOE press release (<http://www.energy.gov/news2009/8021.htm>).

DOE Announces \$144 Million in Recovery Act Funding for the Smart Grid

DOE announced more than \$144 million in American Recovery and Reinvestment Act funds for the electric power sector, including a \$100 million solicitation for smart grid workforce training programs, plus \$44 million in awards to state public utility commissions. The workforce initiative will expand job creation and career advancement opportunities associated with smart grid and electricity transmission projects, and will help establish training programs for workers in the utility industry and electrical manufacturing sectors who will play a key role in modernizing the country's electrical grid.

The training will follow a two-pronged approach. First, \$35-40 million is tabbed to develop training programs, strategies, and curricula that will be used

as models for how to train or retrain workers in the electric power sector, with a focus on achieving a national smart grid to enable clean energy technologies. This funding will be open to a range of applicants, including utilities, colleges and universities, trade schools, and labor organizations. Secondly, \$60-65 million will be spent to conduct workforce training programs for new hires and retraining programs for electric utility workers and electrical equipment manufacturers to further their knowledge of smart grid technologies and how to implement those technologies.

Also, state public utility commissions (PUCs), which regulate and oversee electricity projects in their states, will receive more than \$44.2 million in Recovery Act funds to hire new staff and retrain existing employees to ensure they have the capacity to quickly and effectively review proposed electricity projects. The funds will help the individual state PUCs accelerate reviews of the large number of electric utility requests that are expected under the Recovery Act. State PUCs will be reviewing electric utility investments in projects such as energy efficiency, renewable energy, carbon capture and storage, transmission lines, energy storage, smart grid, demand response equipment, and electric and hybrid-electric vehicles. Awardees include the PUCs in every state except Massachusetts and Nebraska. See the DOE press release

(<http://www.energy.gov/news2009/8030.htm>), the solicitation for workforce training (<https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000152&agency=DOE>), and the full list of grantees (http://www.oe.energy.gov/DocumentsandMedia/A_RRA_State_PUC_Awards.pdf).

New DOE Campaign Encourages Everyone to "Stay Warm, Save Money"

DOE has launched a new Web site and educational campaign to help people be more energy efficient and save on their energy costs this winter. Titled "Stay Warm, Save Money," the campaign focuses on providing simple, cost-effective, energy-saving solutions for individuals and small businesses. The "Stay Warm, Save Money" Web site lists no-cost and low-cost energy-

savings tips, financial assistance links, long-term solutions for saving energy, and a blog that covers energy-saving topics. You can also find information on performing an energy audit to find out where your home is losing energy—and money! See the Stay Warm, Save Money Web site (<http://www.energysavers.gov/seasonal/>).

Jason Danyliw
Vice President – Newsletter

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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.

Instructors: 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)