



Pile of Bones

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

President's Message

by Heric Holmes

Hi everyone,

Next month's meeting will be the ASHRAE Presidential visit with Lynn Bellenger. Lynn's presidential theme is Modeling a Sustainable World. A timely topic as building modeling is a necessary tool in the design of modern buildings.

This will be our second presidential visit in two years. This honour is due to the involvement of our members at all levels of ASHRAE. If you happen to see any of the RVC's: Murdoch MacPherson, Ray Sieber, or Rob Craddock, make sure you thank them for their work. This meeting is on Tuesday, January 11th, so please adjust your schedules.

Last month's commissioning panel discussion was very interesting. I enjoyed hearing the different views of all of the people involved in the commissioning process. A big thank you to Murdoch MacPherson from MacPherson Engineering, Vern Rogne from the University of Regina, Doug Christie from Christie Mechanical, and Ian Stewart and Rob Sentis from Integrated Designs Inc. for making the panel discussion enjoyable and informative. Also thanks to Jason for doing a great job as a moderator to this discussion.

Our Christmas party was held on November 25th. The party was at the Casino Regina and featured a night of entertainment with the Blues Brothers Revue. Trevor did a great job organizing it. Everyone appeared to have a good time. It was also nice to see so many members and significant others out.

I wish everyone Happy Holidays and hope to see you in the new year!



Meeting Notice

Tuesday, January 11, 2011
ASHRAE Presidential Visit!

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

5:15 pm - Cocktails

5:45 pm - **ASHRAE President:**

Lynn Bellenger

Modeling a Sustainable World

6:45 pm - Dinner

7:30 pm - Chapter Meeting



2010-2011 ASHRAE President
Lynn Bellenger, P.E.

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Trevor Hobman
Cypress Sales Partnership

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

Regina Chapter Website Address:
<http://regina.ashraechapters.org/>



Congratulations to Janel Walter and her husband,
Jason on the birth of their beautiful little boy,
Pierce Laurence Sorrell.

Pierce was born on November 5, 2010
at 4:37 a.m. weighing 5 lbs, 10 oz.

2010/2011 MEETING & EVENT SCHEDULE

September 15, 2010

Tech. Talk: Ed Niznik of Refrigerative Supply Ltd.
Speakers: Garry Wasyliw, Manager of Building Standards & Brian Woronoski, Manager of Mechanical Review from the City of Regina

October 14, 2010

Distinguished Lecturer: Tom Watson - ASHRAE
Overview & Updates

November 10, 2010

Panel Discussion on "Commissioning for High Performance Buildings"

November 25, 2010

Christmas Social Event: Casino Regina Show Lounge (Featuring the Original Blues Brothers Revue & Learn to Gamble)

January 11, 2011

Presidential Visit - Lynn Bellenger

February 9, 2011

Distinguished Lecturer: Tim McGinn – European Technologies and their applications in North America

March 9, 2011

Tentative Tour: Loblaw's Facility

April 13, 2011

Student Night

April 21, 2011 -

ASHRAE Society Satellite Webcast
Ground Source Heat Pump Systems –
Putting the Earth to Work for You

May 11, 2011

Tech Talk: TBD

Speaker: TBD

June 2011

ASHRAE Research Golf Tournament
Date TBD



COMMITTEE CHAIR REPORTS

President Elect & CTTC

by Jason Danyliw

Last month's meeting was a panel discussion on Commissioning for High Performance Buildings. Thank you to those 5 industry members (Ian Stewart & Rob Sentis from Integrated Designs Inc., Murdoch MacPherson from MacPherson Engineering, Doug Christie from Christie Mechanical and Vern Rogne from the University of Regina) that sat on the panel for the discussion, and offered their insight into the building commissioning process. There was a great group discussion on the topic with input from ASHRAE members in attendance. It was evident that the building commissioning process is of great importance within our industry, and imperative for all parties to work together to ensure that buildings and systems are operating as the design intended.

This month's meeting was the Christmas Social Event that was held on Nov. 25th at the Casino Regina Show Lounge. The evening comprised of dinner, entertainment by the Original Blues Brothers Revue, along with a learn to gamble session afterwards. It was very well attended, and a great evening of

entertainment! Thank you to all those that attended, and I believe a great time was had by all.

We have the honor of having an ASHRAE Society Presidential visit for next month's January meeting. ASHRAE Society President, Lynn Bellenger will be visiting us on January 11th, and providing us with a Presidential update and her theme of Modeling a Sustainable World. Please plan to attend next month's meeting for an informative presentation, and to show the strength and support for our local chapter.

There is currently one meeting that presentations are not yet confirmed, and this is the May meeting. If anyone has a suggestion for the May meeting program (or any other comments pertaining to the programs), please feel free to contact me at jason@skhvac.com.

I would also like to take this opportunity to wish you and yours all the best this holiday season, with health and prosperity for the New Year!

Student Activities

by Janel Walter

A reminder to all chapter members if you have any old ASHRAE handbooks, can you please bring them to January's meeting, so we can donate them to the University of Regina. If you have handbooks to donate and cannot bring them to the meeting, please contact me at jwalter@hdaeng.com to make arrangements to get them to the University. The students will be needing them for this upcoming semester.

Vice President & Newsletter

by Alana Yip

Just a reminder that the next YEA (Young Engineers in ASHRAE) Leadership Weekend is April 1-3, 2011 in Denver. If anyone is interested in attending, please let me know at alana.yip@sasktel.sk.ca. To attend, you need to be 35 years of age or younger and an ASHRAE member. You do not need to be an engineer. It's a great opportunity to meet other young people in the industry and learn about becoming a leader in our workplaces and within ASHRAE. The registration deadline hasn't been announced yet, but you should express your interest to me before February 1st, 2011.

As well, for those going to the Winter Conference, the YEA Hospitality Suite is held on Sunday, January 30th from 4-7 pm.

Membership Promotion Chair

by Rob Craddock

I would like to take a moment and wish all the members and their families a Merry Christmas and a safe and happy New Year. I would also like to thank Trevor for all the work he put into organizing of the Christmas Party last week.

We have a few people who have expressed interest in membership and I have received one completed application to date but I know that there have been applications filled out online. We have 4 new chapter memberships so far this year! If there is anyone who you think should be a member or if you would like help in upgrading your membership, please let me know. If you are going to Las Vegas for the winter meeting there will be a Regional Dinner on Monday January 31st. I will send out more information once I get it.

I have included the PDF of the Technical Programs that is attached to the newsletter and a link to register for the winter meeting.

https://eweb.ashrae.org/eweb/DynamicPage.aspx?WebCode=CSCEventInfoSC&evt_key=e98de4d0-57c5-4f52-9ef3-8785e8d4dd67

Historian

by Jerry Boulanger

Back in the good ol' days (the sixties) our chapter was in Region II. A fine gentleman named John Ross was the Regional Chair and he decided to start an annual curling competition to promote fellowship among the Prairie Chapters. This event used to be hotly contested, with most of the eligible Chapters holding playdowns to pick the team they would send to pursue the trophy.

In recent years it has become more difficult to stage the event, and last year it was cancelled. Jack Scott in Saskatoon has again offered to host the event in the spring of 2011 and has asked that each of the Prairie Chapters and the regional executive if they will be able to send a team.

It is a one-day event, to be held on a Saturday in March or early April. There is no cost, and you don't need to have an impressive curling record. It's always fun, and you will get to meet people from the other Chapters. If you are interested in participating please contact me – 352-0656 or jclan@sasktel.net.

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.

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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

NOTE: You may register up to 24 hours prior to an online seminar. Courses are in Eastern Time Zone.

Ways & Means
by Trevor Hobman

Thank you to everyone who came out to the Christmas Social on November 25th.



Winter Conference Technical Program to Focus on Net-Zero Energy Design, Greening the Industry

ATLANTA—Highlighting the importance of finding balance in design, the extravagant setting of Las Vegas serves as a unique contrast to the 2011 ASHRAE Winter Conference Technical Program's theme of net-zero energy design.

The Technical Program features a wide-range of programs and papers addressing the real cost of net-zero energy design, the efficient use of energy, the greening of the industrial base and other topics related to design, standards, codes and professional skills. In total, the program includes paper-related sessions – five technical paper sessions, 24 conference paper sessions and a poster session – application-oriented, non-paper seminars (57) and open discussion forums (8).

Numerous sessions address the “real cost of net-zero energy buildings” and cover modeling and design, applications and equipment. Also, several sessions examine how countries around the world have approached net zero, such as *Cutting-Edge Japanese Technologies for Zero-Energy Buildings*, *Zero Energy Buildings around the World* and *European Net-Zero Energy Activities and Buildings*.

As a nod to the Conference location, several sessions focus on HVAC systems for casinos, such as *Designing for Improved Air Quality in Casinos with ETS and Historical Perspectives: Las Vegas Casino Design Past to Present*.

Other sessions address the growing demand for green buildings and the importance of integrated design: *Mechanical Engineer's Role in Green Building and Building Development: High Performance Teamwork for High Performance Buildings*.

Additional sessions of interest include:

- *Smart Grid and Net Zero Buildings: Where Are We Now?*
- *Energy Modeling of Existing Buildings*
- *Modeling Extreme Events*
- *Controls for Central Chiller Plant Optimization*
- *Next Generation Heat Exchangers for Net-Zero Design*
- *Thermal Comfort Evaluation and Standards*

With so many to choose from, Conference attendees are often forced to narrow down which technical sessions they attend to only a few. However the Virtual Conference, free for paid Conference registrants, allows attendees to catch up with sessions they might not have been able to attend in person due to conflicting schedules. The Virtual Conference includes access to all speakers' PowerPoint and audio presentations, an open forum for a two-week period

following the conference and the ability to rate presentations.

The 2011 ASHRAE Winter Conference and will take place at the Las Vegas Hilton hotel, Las Vegas, Nev. For complete conference information, including abstracts on all technical program sessions, or to register, visit www.ashrae.org/lasvegas. Those who take part in the early-bird registration before Dec. 31 can save up to \$160 from on-site costs.

International Code Council (ICC) Takes Action on ASHRAE Proposals

ATLANTA – International building codes will incorporate requirements from a new load calculation standard from ASHRAE and ACCA as well as match requirements from Standard 90.1 under several recent proposals recently approved by the ICC membership.

Final action hearings took place during the last week of October to determine the final disposition on ASHRAE proposals to the ICC, which develops model codes that may be adopted by code jurisdictions in the United States or internationally. The actions taken will next appear in the 2012 I-Codes – due out in April 2011.

Under a proposal to the International Mechanical Code (IMC), inspection and maintenance of HVAC systems will be required by ANSI/ASHRAE/ACCA Standard 180-2009, *Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems*. The standard establishes minimum requirements for inspection and maintenance of HVAC systems to ensure proper functionality which will save energy and money for the building owner in addition to preventing potential accidents by failing systems.

“Inclusion of Standard 180 in code documents is an important advance,” Robert Baker, chair of the Standard 180 committee, said. “Proper maintenance is critical to preserving an HVAC Systems ability to continue to realize the energy efficiency capabilities that are designed into today's systems. If we are to realize the vital energy independence goals that we have established, excellence in maintenance will be an important part of the package of things we must achieve.”

“Correctly designing and installing an HVAC system are only the first steps to proper performance of the system,” John Sedine, president, Engineered Heating & Cooling; ACCA chairman of the BOD, said. “An HVAC system must be properly maintained or it does not perform as

originally designed; contributing to unhealthy environments, consuming excess energy, and reducing comfort levels. ACCA congratulates the code enforcement community's adoption of the ACCA/ASHRAE 180 Commercial Maintenance Standard; providing code officials with a nationally-recognized standard to which they can refer. This is an important step toward safer and more efficient commercial buildings."

Also approved were proposed changes regarding energy stringency based on requirements in ANSI/ASHRAE/IES Standard 90.1-2010, *Energy Standard for Buildings Except Low-Rise Residential Buildings*. These changes include:

- Adding requirements for areas under skylights, including lighting controls in areas where skylights are used in order to take advantage of natural light in conditioned spaces.
- Modifying equipment efficiency requirements for heat rejection and heat transfer equipment including open and closed circuit cooling towers, chillers, unitary air-conditioning and condensing units, unitary and applied heat pumps, single package vertical air conditioners and packaged terminal air conditioners.
- Modifying the piping insulation requirements

Also related to 90.1 was a proposal that rewrote the majority of the commercial chapter of the IECC. This proposal maintained the reference to the prescriptive requirements of Standard 90.1, and made the following requirements consistent with 90.1-2010:

- Fenestration leakage
- Demand control ventilation
- Energy recovery
- Economizer efficiency
- Lighting controls, including daylight zone controls and manual lighting controls
- Lighting system functional testing
- Building area and space by space lighting power densities

The proposal calls for an additional path of compliance for water-cooled chillers and consolidation of and new requirements for some of the existing categories.

ASHRAE Awards NIST Grant to Study IAQ in Retail Stores

ATLANTA – Research on improving ventilation and indoor air quality in big box retail stores has begun under a research project awarded by ASHRAE and funded with a \$1.5 million grant from the National Institute of Standards and Technology (NIST) as part of the 2009 Recovery Act Measurement Science and Engineering Research Grants Program.

Given that there are some 14.6 billion ft² of retail space in the United States where people shop up to 24/7, it is vital that ventilation systems operate as efficiently as possible while maintaining good indoor air quality.

Currently, there is little published information about air quality and ventilation rates in retail spaces. Ventilation requirements for retail and other space types have been set largely by data for commercial office buildings.

The three-year project, *Ventilation and Indoor Air quality in Retail Stores*, is one of 27 projects funded by NIST for measurement science and engineering research. ASHRAE awarded the project under a collaboration to principal investigator Dr. Jeffrey Siegel at the University of Texas at Austin and co-investigator Dr. Jelena Srebric at Penn State University. Siegel is an associate professor and J. Neils Thompson Centennial Teaching Fellow in Civil Engineering, Department of Civil, Architectural and Environmental Engineering.

"We are working to develop a robust database of indoor air quality, ventilation, occupant surveys and building measurements for the U.S. retail building stock," Siegel said. "This database will be used to determine the relationship between ventilation rate and indoor air quality and occupant satisfaction with a goal of recommending appropriate minimum ventilation rates for different categories and locations of retail establishments. This will help further the industry by improving the energy efficiency of ventilation systems in retail stores while maintaining air quality."

The building measurements will take place in at least 16 buildings – general merchandise, department, supermarket, restaurant and home improvement/hardware. Half of the buildings will be located in the hot and humid climate of central Texas and the other half in the cold and dry climate of central Pennsylvania.

The results will provide a more rigorous basis for the ventilation rate requirements in retail spaces and provide incentives for improved maintenance if it can be shown that well-maintained spaces lead to lower pollutant concentrations and improve the perception of good air quality.

The project started in September and is slated to end in December 2012.

New ASHRAE GreenGuide Features Guidance on Sustainable Planning, Carbon, Water Efficiency and Existing Buildings

ATLANTA – The newly published third edition of the *ASHRAE GreenGuide: The Design, Construction and Operation of Sustainable Buildings* is an updated version of this easy-to-use reference that covers the need-to-know information on what to do, where to turn, what to suggest and how to interact with other members of the design team in a productive way.

The book features new information on guidelines on sustainable energy master planning; updates on teaming strategies; information on how issues related to carbon emissions affect building design and operational decisions; building information modeling (BIM); strategies for greening existing buildings; updates on newly developed green building rating systems and standards; and compliance strategies for key ASHRAE standards. Also, the GreenTips found throughout this edition highlight techniques, processes, measures or special systems in a concise format.

“The ASHRAE GreenGuide is a living document meant to be used by proactive design engineers working on green building design projects as part of a team that provides *ideas and guidance* of what to do, where to turn, what to advise and how to interact with other team members in a productive way,” John Swift, co-author and co-editor of the GreenGuide, said. A new chapter covers architectural design and planning impacts, including sustainable master planning. Such planning addresses resource use, landscape concerns and environmental, economic and social concerns. A major part of such planning is energy and water use.

“As a smart building services engineer, one must be familiar with the flows of energy from generation through transmissions to consumption,” Tom Lawrence, co-author and chair of ASHRAE’s technical committee on building environmental impacts, said. “Understanding these flows is critical to being able to provide solutions that increase overall system efficiencies and facilitate energy reductions at all levels.”

The cost of the ASHRAE GreenGuide is \$98 (\$83, ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit www.ashrae.org/bookstore

Newest Version of Thermal Comfort Standard Provides New Provisions on Elevated Air Speeds

ATLANTA – New requirements regarding air speeds, analysis and documentation are included in the newly published ASHRAE thermal comfort standard, ANSI/ASHRAE Standard 55-2010, *Thermal Environmental Conditions for Human Occupancy*.

“The standard continues to focus on defining the range of indoor thermal environmental conditions acceptable to a majority of occupants, while also accommodating an ever increasing variety of design solutions intended to provide comfort and to respect today’s imperative for sustainable buildings,” Stephen Turner, of the Standard 55 Committee, said.

The standard specifies the combinations of indoor thermal environmental factors and personal factors that will produce thermal environmental conditions acceptable to a majority of the occupants within the space.

Standard 55 incorporates recent research innovations such as the use of elevated air speeds to widen the acceptable range of thermal conditions. The standard previously allowed modest increases in operative temperature beyond the Predicted Mean Vote/Percentage of Persons Dissatisfied (PMV/PPD) limits as a function of air speed and turbulence intensity.

The 2010 standard also includes a new method for determining the cooling effect of air movement above 0.15 m/s (30 fpm). This allows ceiling fans, or other means to elevate airspeed, to provide comfort at higher summer temperatures than were previously permissible. New provisions based on field study research allow elevated air speed to broadly offset the need to cool the air in warm conditions, replacing requirements that originated primarily from climate chamber studies.

Another revision makes clearer the mandatory minimum requirements for analysis and documentation of a design to show that it meets the standard’s requirements. In addition, a compliance form for documentation of design is included in an informative appendix. This compliance template mirrors the United States Green Building Council’s LEED® template for the thermal comfort design credit in LEED New Construction-2009, simplifying the LEED credit template for the designer during a project.

The 2010 version of the standard also includes improved and expanded graphics that better guide users of the standard in simple

applications. Improvements to the SI and IP versions of the traditional “comfort zone” chart include enlargement, clarification and notes to aid users of the standard.

Standard 55 combines Standard 55-2004 and the 10 approved and published addenda to the 2004 edition into one easy-to-use, consolidated standard.

The cost of Standard 55 is \$69 (\$59, ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit www.ashrae.org/bookstore.

User’s Manual Key to Meeting Requirements of the Green Standard

ATLANTA—Knowing what to do is not the same as knowing how. A new User’s Manual educates industry professionals on how to meet the requirements of a green building standard published by three leading industry organizations.

Standard 189.1-2009, *Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings*, was published earlier this year by ASHRAE in conjunction with the Illuminating Engineering Society of North America (IES) and the U.S. Green Building Council (USGBC). The standard provides a long-needed green building foundation for those who strive to design, build and operate green buildings.

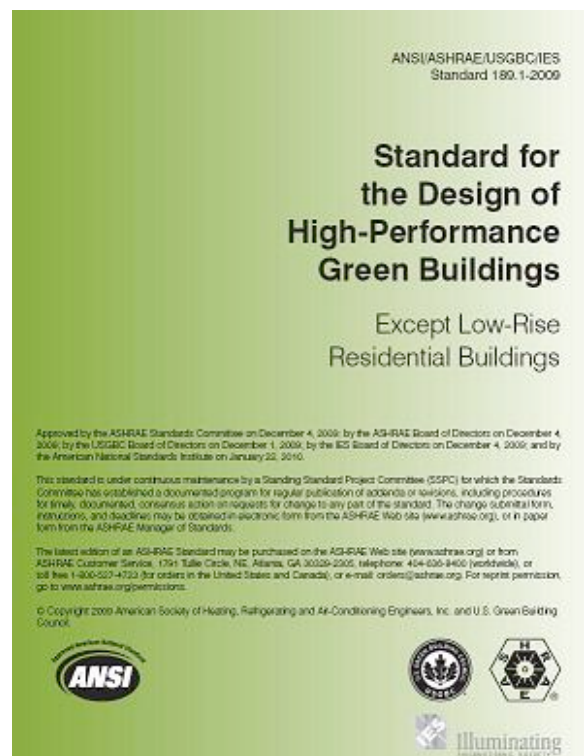
A newly published User’s Manual is now available. “Because of the breadth of the key topic areas covered in the standard – site sustainability, water use efficiency, energy efficiency, indoor environmental quality and the building’s impact on the atmosphere, materials and resources – it is important for users to have a thorough understanding of how they come together to create a sustainable building,” Kent Peterson, former chair of the Standard 189.1 committee, said. “The User’s Manual aids architects and engineers in applying the standard to design; general and specialty contractors in constructing buildings that are in compliance; and plan examiners and field inspectors in enforcing the standard where adopted into code.”

The new User’s Manual provides explanations of the standard’s requirements and examples of its application. It contains sample calculations, forms to demonstrate compliance and references to helpful resources and websites. This User’s Manual can also be suitable for use in educational programs.

For complete information on the standard, including a readable copy, visit www.ashrae.org/greenstandard.

Standard 189.1 also serves as jurisdictional compliance option to the International Green Construction Code authored by the International Code Council, ASTM International and the American Institute of Architects.

To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit www.ashrae.org/bookstore. The cost of the Standard 189.1 User’s Manual is \$93 (\$79, ASHRAE members)



ASHRAE Holds the Sustainability Cards

Join ASHRAE at the 2011 Winter Conference, Jan. 29–Feb. 2, Las Vegas, Nevada



A full-house of professional and personal development activities are offered!

Technical Program—focused on the efficient use of energy, the greening of the industrial base, the real cost of zero-energy design

Register before
November 5 and SAVE!

The early bird fee is \$505
(\$685 non-members)



Virtual Conference—if you can't make it to Las Vegas, don't miss out on the knowledge shared in the technical program with the Virtual Conference

AHR Expo—the ASHRAE co-sponsored AHR Expo takes place Jan. 31–Feb. 2 at the Las Vegas Convention Center. www.ahrexpo.com

ASHRAE Certification—launch of a sixth certification program, targeting building energy assessors. Five existing certification programs also offered

ASHRAE Learning Institute—offers six Professional Development Seminars and 14 Short Courses – includes a new course on building energy modeling and updates to courses covering Standards 62.1 and 90.1

www.ashrae.org/lasvegas



Concurrent with the ASHRAE Winter Conference . . .



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