



# BUFFALO TALES

## Newsletter of the Manitoba Chapter

*The Manitoba Chapter of the American Society of Heating, Refrigerating and Air Conditioning Engineers was chartered in September 1935. It is the second oldest ASHRAE Chapter in Canada. ASHRAE Manitoba is part of ASHRAE Region XI and covers ASHRAE members in Manitoba and Northwest Ontario.*



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## ASHRAE Supper Meeting Victoria Inn, 1808 Wellington Avenue Thursday April 14, 2011

# What Better Building Envelopes Mean for HVAC System Designers

5:00 pm - Cocktails

6:00 pm - Dinner

7:00 pm –Presentation by Kevin Knight

Comprehensive building envelope testing ensures that owners get functional, durable and airtight building envelopes. This reality changes the demands on the building's mechanical systems to overcome gross building envelope inadequacies. This presentation will discuss functional performance testing, from pre-construction laboratory materials and assembly testing, to mockup testing, through to quality control and quality assurance onsite field testing, and how improved building envelopes reduce uncontrolled air and moisture movement through the building envelope, and thus loads that must be met by the mechanical systems.

**Kevin Knight** is a building envelope authority with 25 years experience in the field, as a researcher, and as a trainer. Kevin is Technical Director – Architectural Commissioning (ARCx) for Architectural Testing Canada and its parent company Architectural Testing Inc., a company that provides industry leading building envelope commissioning, inspection, testing, and design for the construction industry. He has collaborated with federal and provincial governments, utilities, and private sector companies on numerous projects. Kevin is the co-inventor of patented testing equipment used for finding leaks in air/vapour barrier and roofing membranes. He has had numerous papers published, and is a frequent lecturer on building envelope science. He currently sits on the ASTM E06 subcommittee, ULC Standards Committee for Air Barriers, and CSA Z320\_Building Commissioning Architectural Subcommittee, is a member of the Society of Protective Coatings (SSPC) and Manitoba Building Envelope Council (MBEC), and is a founding member of the Air Barrier Association of America (ABAA).

***CONFIRM YOUR ATTENDANCE*** by April 12, 2011 by emailing Stephen Norsworthy at [stephen.norsworthy@snclavalin.com](mailto:stephen.norsworthy@snclavalin.com). Indicate any special meal requirements (vegetarian, allergies, etc.)

ASHRAE dinner meetings are open to all. Non member cost is \$45. The cost for a first time guests accompanied by an ASHRAE Manitoba member is \$25. Pre-registration is required. To pre-register or to get information on the cost of ASHRAE events, e-mail [stephen.norsworthy@snclavalin.com](mailto:stephen.norsworthy@snclavalin.com) or visit [www.ashraemanitoba.ca](http://www.ashraemanitoba.ca).

## Coming Events

**April 20 and 21 – Building for Tomorrow – 2011 Better Buildings Conference** - Manitoba's premier conference and trade show related to sustainable building design and environmental best practices. Day 1 keynote John Kokko, lead project engineer for Drake Landing Solar Community, will describe how this district system in Okotoks, Alberta meets 90% of each home's space heating requirements from solar energy. Day 2 keynote Bruce Kuwabara played a major role in raising the profile of Canadian architecture internationally, with projects such as Vaughan City Hall, the Canadian Embassy in Berlin, Canada's National Ballet School in Toronto, and Winnipeg's own Manitoba Hydro Place. For additional information, visit <http://www.betterbuildings.org>.

**April 21, 2011- ASHRAE WebCast - Ground Source Heat Pump Systems – Putting the Earth to Work for You** – noon to 3 PM Manitoba time or you can watch it on line at your leisure for a couple of weeks afterward. **It is free but you must register.** The webcast will highlight critical factors in the evaluation and design process that are essential to deliver system efficiency. From understanding ground characteristics, to avoiding pitfalls of design and installation, the webcast is a must see for owners and designers alike. For On-line registration go to [www.ashrae.org/GHPwebcast](http://www.ashrae.org/GHPwebcast) for details.

**May 10 - 13, 2011 - The Future of the Building Envelope ... Building Upon Our Past** – the 13th Canadian Conference on Building Science & Technology will be at the Fort Garry Hotel in Winnipeg. For information about this conference including sponsorship opportunities, visit the conference website <http://www.becwinnipeg2011.com/>.

**May 11 - 14, 2011 – Region XI CRC in Portland Oregon** – This is where incoming ASHRAE chapter officers learn the ropes for their new duties.

**Windup** – The Chapter's wind-up event, which will be held in May or early June, is in the planning stages. This is a social event at which significant others are welcome. When the date and venue are confirmed, you will get email notice.

**September 25-27, 2011 - The Canadian Healthcare Engineering Society 2011 National Trade Show & Education Forum** & 31st Annual National Trade Show & Education Forum in Winnipeg Manitoba. The Conference theme is "Sustaining Healthcare Infrastructure". More detailed information can be found on our website at <http://www.ches.org/en/professional-development/2011-conference.html>.

**Wednesday September 28, 2011 – The Canadian Healthcare Construction Course.** For details visit <http://www.ches.org/en/professional-development/canadian-healthcare-construction-course.html>.

**May 2012 – Region XI CRC in Winnipeg** – see the call for volunteers elsewhere in this newsletter for more details.

We don't grow up so much as learn how to act in public.  
Knowledge is knowing tomatoes are a fruit. Wisdom is not putting them in fruit salad.

## **Standard 62.1 User's Manual and Spreadsheet**

The newest guidance for using Standard 62.1-2010 includes the latest updates pertaining to the new version of the standard, explanatory material, detailed information, figures and examples to guide users in designing, installing and operating buildings in accordance with ANSI/ASHRAE Standard 62.1-2010, Ventilation for Acceptable Indoor Air Quality.

Also highlighted is the application of useful tools used for compliance including a newly revised spreadsheet that assists in Ventilation Rate Procedure calculations. The spreadsheet provides calculations for the multiple spaces procedure and has been significantly improved, made more user friendly and now includes two example spreadsheets focusing on cooling and heating. The spreadsheet and new examples have been revised in response to user feedback and have much improved usability. It should significantly reduce the effort needed to perform the calculations needed for multi-zone recirculating systems.

The Manual encourages users of the standard to apply the principles of good indoor air quality and effective ventilation when designing buildings and building systems, and provides useful reference material to assist designers in efficiently completing a successful and compliant design.

The cost of the 62.1 User's Manual is \$75 (\$64 ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 or visit [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore).

## **ASHRAE Standard 90.1-2010 User's Manual**

Detailed guidance on how to apply ANSI/ASHRAE/IES Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings is provided in a newly published user's manual.

There have been 109 addenda to the 90.1 since the 2007 standard was published. The new User's Manual helps guide practitioners by explaining the intent of provisions in the standard and how they apply to buildings through not only written word but also illustrations and example problems. This edition of the manual specifically identifies what changes have taken place since the 2007 edition and through use of calculations and examples tells how the new provisions apply. Specific examples of how the User's Manual assists users in regard to the 2010 standard include:

- Application of new requirements regarding data centers.
- Application of new requirements for building envelopes including vestibules, continuous air barriers, skylights, daylighting controls and the use of dynamic glazing.
- Explanation of new lighting power density requirements and application of revised lighting controls. Maximum allowed interior lighting power densities were lowered for most space types, additional occupant sensing controls and mandatory daylighting requirements are added for specific spaces and a new five-zone exterior lighting power density table has been added.
- Explanation of how to apply new HVAC requirements, including higher equipment efficiencies, energy recovery provisions in more applications, economizers required in more climates and smaller system sizes and more energy-conserving controls.
- Changes to modeling requirements (e.g. for U.S. Green Building Council LEED® certification) that were clarified and expanded.

The 90.1-2010 User's Manual costs \$99 (\$84, members). To order, contact ASHRAE Customer Service at 1-800-527-4723 or visit [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore)

## **ASHRAE Online Courses Feature High-Performing Guidance**

Being offered April 27 as part of ASHRAE's ALI online series is **Basics of High Performance Building Design**. It focuses on basic application of Standards 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings and 189.1-2009, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings, to achieve high-performance building design. The course focuses on the differences in purpose and requirements between Standards 189.1 and 90.1. **Advanced High Performance Building Design**, May 4, focuses on advanced concepts involved in applying Standards 90.1 and 189.1 to achieve high-performance building design. More emphasis is placed on case studies to move beyond the minimum requirements of these standards.

Development of high-performance green building methods, strategies and technologies has given designers the tools to reach for energy efficiency levels in buildings that exceed minimum code requirements and, in fact, are beginning to approach net-zero-energy building status. To advance the performance of buildings, designers must rethink 'business as usual' and begin to maximize the performance of buildings – beyond the codes. The advanced energy design course will give attendees an insight into how these principals can be integrated into practice.

Other upcoming courses and dates are:

- Understanding Standard 189.1 for High Performance Green Buildings, April 18
- District Cooling & Heating Systems: Central Plants, April 20
- Understanding Air-to-Air Energy Recovery Technologies and Applications, April 25
- Complying with Standard 90.1-2010 HVAC/Mechanical, May 2
- Complying with Standard 90.1-2010 Envelope/Lighting, May 11

The three-hour courses are taught in real-time, from 1 p.m. to 4 p.m. EDT. A full list of courses and registration information can be found at [www.ashrae.org/onlinecourses](http://www.ashrae.org/onlinecourses).

## **A Call for Volunteers**

**1 - Johann Baetsen** - President Elect 2011-2012, is looking for volunteers for the **ASHRAE Manitoba Board of Governors**. You will gain insight the society that drives the HVAC and Refrigeration industry; influence local, provincial and national building codes and; meet other HVAC&R professionals. Persons serving on ASHRAE boards and committees gain leadership and organizational experience that will benefit their career development and EITs can use time spent on ASHRAE committees to meet voluntary service requirements. Contact Johann at epp siepman engineering, 453-1080, [jbaetsen@eppsiepman.com](mailto:jbaetsen@eppsiepman.com) and tell him you are interested.

**2 -** In May of 2012, the **Manitoba Chapter will host the annual ASHRAE Region XI Chapters Regional Conference**. Twelve chapters, including some 100 visitors, will meet at the Hotel Fort Garry for three days of activities including business meetings, technical sessions, and social activities. The event has many facets, including social event planning, a golf tournament (or alternate event depending on weather...), technical session coordination, and logistical issues are among the tasks at hand. Contact 2012 Region XI CRC Chair **Russell Lavitt** at SMS Engineering Ltd., 789-2312 [rlavitt@smseng.com](mailto:rlavitt@smseng.com) to volunteer.

## ASHRAE Manitoba Chapter Officers

President	Jesse Sandhu		996 7684	jsandhu@smseng.com
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Honors and Awards	Bert Phillips	UNIES Ltd	633 6363	phillips@unies.mb.ca
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Refrigeration	Robert Bisson	Public Schools Finance Board	945 8452	robert.bisson@gov.mb.ca
Chapter History				
Accommodations				
Roster				
Special Events	Gary Bailey	Manitoba Hydro	360 5156	gbailley@hydro.mb.ca

## ASHRAE Region XI Officers

Director & Regional Chair	Erich Binder	Erich Binder Consulting	Calgary	erich.binder@worleyparsons.com
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Student Activities	Doug LeCren	Colt Engineering	Anchorage	douglas.lecren@nanworleyparsons.com
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Resource Promotion	Ray Sieber	Sask. Research Council	Regina	sieber@src.sk.ca
Nominating Committee	Norm	ECCO Manufacturing	Langley	ngsrnick@ecomfg.com
	Grusnick			
	Kevin Marple	Benz Air Engineering	Portland	kmarple@benzco.com
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Treasurer	Rob Craddock	Inland Metal Manufacturing	Regina	rob@inlandmetal.ca
Web Page Editor	Kathy Habke	SAC ASHRAE	Calgary	chapter.administrator@sac-ashrae.com
CRC Chair, 2011	Keith Yelton	Air Commodities Oregon	Portland	keithY@air-commodities.com

**ASHRAE needs you, but more importantly you need ASHRAE.** ASHRAE always has room for more professionals, just like you. For information regarding ASHRAE membership, contact Manitoba Membership Chair Steven Norsworthy [Stephen.Norsworthy@snclavalin.com](mailto:Stephen.Norsworthy@snclavalin.com) or visit ASHRAE Manitoba at [www.ashraemanitoba.ca](http://www.ashraemanitoba.ca)

ASHRAE, founded in 1894, is an international organization of 50,000 persons. Its sole objective is to advance through research, standards writing, publishing and continuing education the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve the evolving needs of the public. Visit ASHRAE at [www.ashrae.org](http://www.ashrae.org).

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