Engineering for the World We Live In

Chapter President's Message

Chris Conley

Well, that's it; another year of ASHRAE done. It was an honour and a privilege to serve as your chapter president this year. A full year of speakers, tours and training that I'm happy we were able to deliver. A big thank-you to our Board of Governors who are responsible for all of that content. Great to see our Fundamentals series of courses continue another year, I started the program 5 years ago and I now believe that the program will continue to run and be strong as the training needs of our chapter continue to grow.

Behind the scenes we also saw a lot of upgrades to the ASHRAE Saskatoon Chapter. Our webpage is up, and is updating regularly, we've changed the mailing list to make it easier for newsletter and information distribution, we're using Google Apps for mailing distribution, and will continue to update our use of this powerful online application suite, we've upgraded to online banking… next year look to see ASHRAE Saskatoon on Facebook and Twitter.

Hope everyone has a great summer, and I look forward to seeing you all in September when we kick off an exciting year with Jonathan Bushman at the helm. I know for a fact that Jonathan's energy and enthusiasm will translate in to a fantastic year in ASHRAE.

Signing off, for the last time.

Christopher Conley
ASHRAE Saskatoon President 2009/2010

Evening Itinerary

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>5:30 - 6:00</td>
<td>Cash Bar</td>
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<tr>
<td>6:00 - 7:00</td>
<td>Supper</td>
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<tr>
<td>7:00 - 7:15</td>
<td>Meeting</td>
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<tr>
<td>7:15 - 8:00</td>
<td>Presentation</td>
</tr>
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</table>

RSVP

Please reply no later than noon on the Friday before the meeting if you plan to attend.

vicepresident@ashraesaskatoon.ca

Recent Announcements

Golf Tournament 2010

The 2010 edition of the ASHRAE Saskatoon Chapter Golf Tournament goes down in history as another successful event. Bob Daniels continued his streak in providing a weather guarantee.

40 golfers teed off in 5 foursomes on two separate nines which provided a reasonable time for refreshment while waiting for the

Upcoming Events

Monday, June 21

ASHRAE Annual Conference in Albuquerque

Saturday, June 26

ASHRAE Annual Conference in Albuquerque

Sunday, June 27

ASHRAE Annual Conference in Albuquerque

Monday, June 28

ASHRAE Annual Conference in Albuquerque

Tuesday, June 29

ASHRAE Annual Conference in Albuquerque

Wednesday, June 30

ASHRAE Annual Conference in Albuquerque

If the calendar doesn't show please refresh.

Chapter Programs

Jonathan Bushman

Hello ASHRAE Saskatoon,

This is my last message as the Saskatoon Vice-President /
Jaw, Saskatchewan.

MCA Saskatchewan held its AGM on May 28th, 2010 in Moose Jaw, Saskatchewan. They attended a technical session on energy efficiency in existing buildings, several chapter position workshops and business meetings.

Our chapter put forth a motion to have ASHRAE look at creating an Advanced Energy Design Guide for Industrial Buildings and we motioned to switch the year of our CRC to 2016 (the chapter's 50th anniversary).

Another interesting motion by another chapter was to advance the presence of ASHRAE Advocacy in Canada by creating a Canadian mailing address for the Washington based group. This is one step forward towards having a federal or provincial energy code.

We also cleaned up at the awards luncheon with Chris Watt of HVAC Sales won the low gross at 81. Long drive for the women was won by Susan Loewen of Interwest Mechanical Ltd. The long drive for the men was won by Chris Watt of HVAC Sales. Closest to the pin for women and men were won by Adia Lacoursiere of Venmar CES and Mike Nemeth of Daniels-Wingerak Engineering Ltd. respectively.

A big thank you from the committee and the golfers for all of the donated prizes and participation.

Posted 3 minutes ago by ASHRAE Saskatoon

Regina CRC
A delegation of 5 including Jonathan Bushman, Andrew Thomson, Bill Dean, Ryan MacGillivray and Michael Nemeth headed down to Regina May 5th to 8th for the 2010 CRC (Region XI Conference) joining representatives from the rest of the Region XI provinces and states: Alaska, Washington, Oregon, B.C., Alberta and Manitoba. They attended a technical session on energy efficiency in existing buildings, several chapter position workshops and business meetings.

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We also cleaned up at the awards luncheon with Chris Conley, our outgoing president, winning several design awards, including best overall. Bruce Waldbillig won an award for research promotion from when he had that role. And, Jonathan Bushman won an award for his stellar job booking speakers and events as the programs chairs. Congrats to all of you.

Bill Dean took up his position as the new Regional Historian. Thanks and congratulations Bill!

Posted Jun 16, 2010 10:00 AM by ASHRAE Saskatoon

Mechanical Contractors Association of Saskatchewan Inc. 2010 - 2011 Board of Directors
MCA Saskatchewan held its AGM on May 28th, 2010 in Moose Jaw, Saskatchewan. They are very pleased to introduce the 2010 - 2011 Board of Directors.

President: Allan Awrey, Saskwest Mechanical Ltd., Saskatoon
1st Vice President: John Baker, Luk Plumbing & Heating Ltd., Kindersley
2nd Vice President: Mauri Young, Ron’s Pibg. & Htg. (1980) Ltd., Meadow Lake

Directors at Large:
Bob Livingston - National Refrigeration Heating Ltd., Saskatoon
Julien LaFleche - Derksen Mechanical Services Inc., Regina
Kim Skjonsby - Mid City Plumbing & Heating Inc., Estevan
Luc Kadziolka - Mr. Plumber, Prince Albert
Mike Berkes - Ace Plumbing & Heating Inc., Saskatoon
Neil Douglas - Douglas Plumbing & Heating, Regina
Ryan Tynning - Swift Plumbing & Heating Ltd., Swift Current
Scott Kerr - C & E Mechanical Inc., Moose Jaw

National Director:
Dave Flamand - Peak Mechanical Ltd., Saskatoon

Affiliate Representative:
Todd Weller - Lennox Industries, Saskatoon

Ex-Officio:
Gord Williams - Chief Gas Inspector, SaskPower, Regina

Programs Chair and it has been fun, so thanks for letting me do this program stuff, bring in a mining speaker, have a discussion panel, etc., and letting me become President for next year. I will try to do my best. As incoming President, I won a free trip to Regina for the ASHRAE Region XI CRC (Chapter Regional Conference) and got to meet some great folks. See the CRC write-up for more information. Andrew Thomson is coming in as our new VP / Programs guy and he already has some great ideas. It should be a good year.

Thanks to everyone who let me know about stuff that earned our chapter PAOE (President's Award Of Excellence) points. PAOE points are a way to encourage sustainability and other ASHRAE focuses in the chapters. At the moment, we are third in our region, which is pretty good, considering that Regina had the CRC and has first place and second place goes to B.C. and its 500 members. (We were beating Regina for most of the year.) The Saskatchewan chapter should earn a Special Citation or a STAR award, so we did well.

Congratulations to Audun Klath on getting the lowest score and winning the 2010 ASHRAE Saskatoon Golf Tournament. Thanks to everyone who came out to the event, despite the grey skies, and thanks especially to Jack, Reg, Bob, and Bill for organizing the shindig. Hey Jack, I reckon I got around 150 on the first nine holes, so do think I got the highest score?

If you have any questions on ASHRAE, our chapter, etc., then you can contact me. Have a great summer and see you in the fall.

Posted Jun 18, 2010 4:49 PM by ASHRAE Saskatoon

Previous Meeting Minutes
Please find all meeting minutes here.

CTTC
Andrew Thomson
The Fundamentals of Refrigeration Course was well attended and received positive reviews. Thanks to all who participated, as well as Jerry Boulanger for instructing the course, and Venmar CES for providing both the venue and a factory tour.

ASHRAE is continually offering educational seminars to it’s members. To see a list of upcoming seminars, please click the following link:

http://www.ashrae.org/education/page/1623

Posted May 18, 2010 1:10 PM by ASHRAE Saskatoon

Research Promotion
Ryan MacGillivray
Congratulations! Our 2009-2010 Research Campaign year-to-date total is up to $11,711.07, 45% above of our goal of $8,000! Thank you for making this Research Promotion year a success! This success truly shows the support the Saskatoon and Saskatchewan community have for the work of ASHRAE. We have received money from the following donors:

Major Donors (Silver) - $1,000-$2,499
SaskEnergy
Venmar CES

Major Donors (Bronze) - $500-$999:
Bill Dean
Cypress Sales Partnership
Daniels-Wingerak Engineering Ltd.
Peak Mechanical Partnership
Saskatoon ASHRAE Chapter
Victaulic Company of Canada

ashraesaskatoon.ca/newsletter?tmpl=...
John Ross Curling

Jack Scott

The John Ross Curling bonspiel was not held this year due to lack of interest. We will try again next year.

Student Activities

Jonathan French

Student Nights:

As in previous years we will hold two Student Nights during our ASHRAE meetings this fall / spring.

These meetings provide an ideal opportunity for students to learn about our industry in a relaxed and informal setting.

Students will be charged a reduced dinner fee (only $5) to encourage their attendance.

Energy Answers

Rob Dumont

A Tale of Two Buildings

While in Edmonton on March 15 and 16, 2010, I had a chance to see two interesting buildings.

Grandin Green
The first was a multifamily residential building built in 2000. The building is a 55 unit co-operative built on the north edge of the North Saskatchewan River valley close to downtown. Communitas of Edmonton was the Developer. The building faces south. It was completed in 2001.

I received a tour of the building thanks to Brian Scott and Lynn Hanley of Communitas in the evening of March 15, and was so intrigued I returned the next day to take some photos. Here is a photo from the south.

Major Donors (Antique) - $250-$499:
- Air-Tech Management Ltd.
- Associated Engineering (Sask.) Ltd.
- Axiom Industries Ltd.
- Charter Mechanical Ltd.
- E.H. Price Limited – Saskatoon
- H.V.A.C. Sales Ltd.
- Key West Engineering Ltd.
- Prairie Controls Ltd.
- Saskatchewan Research Council
- Saskatoon Boiler Mfg. Co. Ltd.
- SaskWest Mechanical Ltd.
- Stantec Consulting Ltd.
- Suer & Pollon Mechanical Partnership
- Vortec Mechanical Sales Inc.

Honor Roll Donors - $150-$249 (minimum $100 for individual donation):
- Dynamic Agencies 2000 Ltd.
- Ecco Heating Products Ltd.
- Engineered Air – Saskatoon
- Inter West Mechanical Ltd.
- Johnson Controls - Saskatoon
- Andrew Thomson
- Bob Besant
- Carey Simondon
- Chris Conley
- Chris Watt
- Dennis Zbaraschuk
- Jonathan Bushman
- Jonathan French
- Michael Nemeth
- Mike Osborn
- Ryan MacGillivray

Other Donors:
- Bantle Engineering Research
- Johnson Controls

If I haven't already contacted you for this year's donation, and you would like to donate, please let me know. I will need to have the money received soon as June is the end of the campaign, and then we will be starting all over again in July. I can take cash, cheque or credit cards, or payments can be made on-line. I will have invoices available at the meeting, or please use the attached form. Donations can be made payable to ASHRAE Research Canada, and can be sent to me at:

Daniels-Wingerak Engineering Ltd.
3022 Louise Street
Saskatoon, Sk.
S7J 3L8.

On the other side of the Research Promotion trail, a University of Saskatchewan graduate student, Mohammad Rasouli, will be the recipient of an ASHRAE Graduate Student Grant-in-Aid. This will be $10,000 coming back to the University, to allow Mohammad to conduct his research on Building Energy Simulation of Air-to-Air Energy Recovery Ventilators, under the supervision of ASHRAE Saskatoon member Professor Carey Simonson. Congratulations to Carey and Mohammad! Hopefully we will be able to get updates as this research progresses.

Thank you for a great year!
This building is quite energy efficient compared with its peers. It consumes about 195 kWh/m² per year. For comparison, a survey of Saskatchewan high rise apartments found an average annual consumption of 410 kWh/sq.m per year. Grandin Green is thus using about 52% less energy on an equivalent floor area basis in roughly the same climate zone as the Saskatchewan multi-family buildings.

This energy efficiency translates into a dollar saving of about $150 per month per suite.

Some of the innovative features of the building include the following:

- Unobstructed South orientation
- An innovative floor plan that provides each of the four suites on each floor with a generous south view
- Use of Visionwall windows with their high R value, relatively good solar transmittance, excellent durability, and very good sound isolation
- External shading of some of the south windows by the balconies to limit solar gain in the cooling season
- Minimal windows on the north side of the building, which contains the elevator, some bedrooms, and not much of a view
- Compartmentalization of the suites to minimize the stack effect and accompanying air leakage. Cross transfer of cooking odours, tobacco smoke, etc. is also greatly reduced.
- A peel and stick membrane attached to the outside of the exterior gypsum board to ensure a well-sealed exterior envelope
- Individual heat recovery ventilators in each suite, which ensure ventilation of each room in the suite. In addition, space is saved in the penthouse because large central equipment is no longer needed.
- Mid-efficiency boilers

A view of the east entrance of the building is shown in Figure 2.

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**Company Bios**

**Daniels-Wingerak Engineering Ltd.**

Daniels-Wingerak Engineering Ltd. (with its predecessor firm, Daniels Engineering Ltd.) has been serving the building mechanical industry in Saskatoon since 1980. John Daniels and David Colquhoun formed Daniels Engineering in 1980. Darren Wingerak and Bob Daniels joined the Firm in 1982 and 1987 respectively. In 1997 Darren and Bob became majority shareholders and the firm name was changed to Daniels-Wingerak Engineering Ltd. The Firm now has sixteen employees, and is the largest locally owned building mechanical consulting firm in Saskatchewan, working in the fields of heating, ventilation, plumbing, fire protection systems, controls, and building automation systems. Recent achievements include the Premier’s Design Award of Merit and CES Brian Eckel Award of Excellence for the design of the Cameco Office Building. The design for the Cameco Office building also won the ASHRAE Region XI design award for best commercial building, and the Ralph Robson Plaque best overall design. The design for the Shaw Centre (the new City of Saskatoon leisure centre that adjoins two high schools) has won the ASHRAE Region XI design award for best institutional building as well as a CES Brian Eckel Award of Excellence.

Daniels-Wingerak Engineering Ltd. has been very involved with the Saskatoon chapter of ASHRAE. DWEL currently employs five past-presidents of ASHRAE Saskatoon: Darren Wingerak (1994-95), Bob Daniels (1999-2000, 2002-03), Kirk Campbell (2006-07), Ryan MacGillivray (2008-09), and Chris Conley (2009-10). In addition, other employees have served on the Board of Governors, and the Daniels-Wingerak Engineering office has hosted many of the ASHRAE Saskatoon board meetings. Daniels-Wingerak Engineering is a vital part of ASHRAE and HVAC industry in Saskatoon. For a complete listing of projects, employment opportunities, or design philosophy, please give us a call, or visit our website, www.dwel.com.

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**Victaulic**

Victaulic invented the grooved pipe joining method more than 85 years ago as an alternative to welding, flanging or threading of
View from the Northeast

Water consumption in the building was 114 cubic metres per suite per year, a 47% reduction from the average of 216 cubic metres per suite per year for a group of 88 multi-family buildings across Canada.

In a comparison of energy use of innovative multi-family buildings across Canada, Grandin Green was found to use 36 watthours of energy per square meter of floor area per heating degree day. This value was slightly lower than that of three other large multi-family buildings built incorporating energy efficiency features.

The innovative features for the building were financed in an equally innovative manner. As noted in the CMHC report, “The incremental costs associated with the many innovations embodied in the building were financed through a “green” loan of approximately $20,000 per suite. The monthly interest charges per suite for the green loan are offset by the monthly energy savings.”

Some retrofits that were recommended in the CMHC Innovative Buildings Report were the use of condensing boilers, which are now (2010) more readily available, ECM motors (brushless direct current) on the heat recovery ventilators and fan coils (now also more readily available), and changes to the basement parking lot temperature setting and the common hallway ventilation.

Grandin Green is a most impressive building. Natural Resources Canada through the Commercial Buildings Incentive Program was one of the sponsors for energy innovation in the building.

A new multi-family complex, Station Pointe, is to be built in Northwest Edmonton by Communitas. The complex will build on the strengths of Grandin Green.

Art Gallery of Alberta

The Art Gallery of Alberta opened in January 2010. A picture of the building from the northwest is presented in the following figure.

Art Gallery of Alberta in Downtown Edmonton

The appearance of the building reminds me of a comment, “It’s the kind of thing you like if you like that kind of thing.”

According to an Edmonton Journal article on March 16, 2010, the building cost $88 million dollars and has an exhibition space of 30,000 square feet. Assuring that the building has an equal amount of area for administration, programs, common areas, gift shop, restaurant, etc., the price per square foot is about $1500 per square foot. For comparison, new institutional buildings of a conventional nature cost roughly about one fifth that amount these days in Canada.

Use of Victaulic products contribute to sustainable, efficient and environmentally-friendly HVAC and mechanical systems. Victaulic products are made of 90 percent recycled steel using lean, responsible manufacturing processes. Compared to other piping methods, Victaulic mechanical grooved piping systems reduce waste, emissions and noise pollution on the jobsite, providing a safer and healthier work environment. Grooved couplings, valves and fittings also provide easy and quick access to piping systems essential to the energy efficiency of a building.

With global offices and manufacturing, Victaulic works closely with owners, system engineers, and contractors to support the design and installation of mechanical piping systems that lower costs, improve productivity, compress construction schedules, reduce risk, and allow for future system expansion. For more information, please visit www.victaulic.com.

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The firm was established in 1914, under the name of SASKATOON WELDING COMPANY, and operated as a welding repair and machine shop until the early 1940’s, when manufacturing started to play a role in its operations. The firm was widely known as being very progressive for its time. It obtained the second electric welder brought into Saskatchewan, the first portable electric welder in the province, and was the first to include a machine shop in its welding operations. This progressive philosophy has been maintained in its present day operations, keeping the development of its products up to date with the times. No competitor can offer anything in the Company’s market, that the Company cannot do just as well.

The Company has a history of steady growth and expansions are kept within the firm's financial and managerial capabilities, always maintaining a solid financial base. The Company presently employs approximately 50 people, illustrating its growth over the years. The company was incorporated in 1956 to reflect its endeavors.

The Company occupies a unique position in its market place as the firm's products, especially boilers, command a premium price due to their reputation built up over the years for quality and service. The Company takes advantage of being a "small firm". Decisions can be made quickly and customer service and attention can be on a higher level than is possible from a "giant" in the industry.

The Company has successfully melded re-sale items with its manufactured products. Customers who do not have an immediate need for the Company's manufactured product, are able to purchase re-sale items from the Company - thus allowing the Company to establish a reputation with these customers. When the Customer requires the Company's manufactured product, a comfortable relationship has already been established. The Company handles all its own sales within Saskatchewan and Alberta, and has distributors and service depots located in all major cities in Canada.

SASKATOON BOILER MFG. CO. LTD. is a locally owned, 100% Canadian company. There are 8 shareholders in the firm, each managing their respective departments. The firm has been largely a family firm and still carries this flavour to a certain degree. It is one of the few remaining small independent manufacturers offering a proprietary and complicated piece of equipment under its own brand name “SASKATOON” Boilers.
The gallery was closed at the time we wanted to visit, but I did take a quick look inside. Here is picture of the entrance doors:

Entrance Doors for the Art Gallery

A couple of things struck me about the “building science” aspect of the building. As you can see from the doors, they consist of single pieces of thick glass. There is no weather-stripping at the vertical joint of the two doors, and you can see daylight under the right hand door.

The chief architect for the building is Randall Stout of Los Angeles. I wonder if he has visited Edmonton in winter.

While looking at the building, I saw some workers tearing up part of the steps for the new building. The step treads and risers are not concrete but a type of cut stone. If you look carefully in the picture you can see that they have broken one of the treads while opening up the assembly.

Workers repairing the steps for the building

I asked why they were doing the work. The answer was as follows: There are pipes carrying warm glycol that pass underneath the steps. The purpose of the pipes is to melt snow. The glycol system is not working and they are trying to find the problem.

As a former researcher, I tend to look a lot at evidence and draw conclusions.

Here are a few:
1. The building envelope is incredibly complicated. We have difficulty in constructing regular buildings that don’t leak water and have condensation problems. An art gallery typically has to maintain a high interior relative humidity to meet accreditation standards, which adds to condensation problems.
2. Certain aspects of the building such as the single glazed front doors with no weather-stripping are very poorly detailed and highly inappropriate for a cold climate like Edmonton, where the annual average temperature is about +2 degrees C.
3. Using a glycol loop to melt snow is a very energy intensive operation. Most buildings in that climate seem to do fine with manual shoveling of snow.

PAOE Points

PAOE stands for Presidential Awards of Excellence and PAOE points encourage chapters to work towards the goals of the society and to some degree the current society president. If you are involved in any of the following activities, please send an e-mail to vicepresident@ashraesaskatoon.ca with the details so they can be included in our PAOE reporting:

- participating in a K-12 student activity
- mentor student design Team
- participation in National Engineering Week Activity
- hiring an Engineering College or Tech School Student (part-time or summer intern)
- renewed an ASHRAE certification (e.g. High-Performance Building Design Professional)
- won an ASHRAE award (e.g. Technology Award)
- nominated someone for an award or as an ASHRAE Fellow
- published an article in the ASHRAE Journal, Handbook, or other publication
- attending the ASHRAE Winter or Annual Meetings this year

Meeting Details

The ASHRAE Saskatoon meetings are almost always held at the Park Town Hotel, on the second Tuesday of the month. The Park Town Hotel is located at 924 Spadina Crescent East, at the corner of Spadina and 25th Street, right by the University Bridge. There are bus stops at 25th Street and Spadina, with six bus routes stopping there (click "Directions" on the map and then select "by public transit"). Free parking is available in the hotel main lot and the first 2 levels of the parkade.

Park Town Hotel

Current Board of Governors
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<th>Name</th>
<th>email (@ashraesaskatoon.ca)</th>
<th>Phone Number</th>
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<td>President</td>
<td>Jonathan Bushman</td>
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<tr>
<td>Vice President</td>
<td>Andrew Thomson</td>
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<td>306 667 2513</td>
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<td>Treasurer</td>
<td>Chris Watt</td>
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<td>306 931 4773</td>
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This document describes the activities of the Saskatoon Chapter of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE). It does not present official positions of the Society nor reflect Society policy. ASHRAE is not responsible for this content. To learn more about ASHRAE activities on an international level, contact the ASHRAE home page at http://www.ashrae.org.

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Saskatoon