



Capital Communiqué

2005–2006

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<http://www.ashrae.ottawa.on.ca> OTTAWA VALLEY CHAPTER e-mail: contact@ashrae.ottawa.on.ca

February 2006

EVENING PROGRAM

- DATE:** Tuesday **February 21st, 2006.** Social: 18:00 Dinner: 18:30 Program: 20:00
at La Contessa Banquet Hall, 156 Cleopatra Drive, Nepean, K2G 5X2
- THEME:** **Membership**
- PROGRAM:** **Boiler Room Design and the Kyoto Accord**
Note – no Tech/Tour this month
- SPEAKER:** **Mr. Harald Prell**
Viessmann North America, General Manager
- OVERVIEW:** The presentation will give a brief overview of boiler room design, the considerations involved, and the driving factors that impact heating plant solutions. Some modern technologies will be discussed as well as the impact of the Kyoto Accord and other efficiency standards on boiler room design.
- SPEAKER BIO:** Harald Prell is the General Manager of Viessmann in North America and works out of the North American headquarters located in Waterloo Ontario. He is responsible for North American operations including Canada and the United States. Harald has been with Viessmann since 1980 and started in his role as General Manager of Viessmann NA in 1987.
- Harald obtained his technical education in Germany, graduating from a German technical institute, and obtained engineering experience in hydronic heating working for his father's mechanical consulting engineering firm (also located in Germany). Mr. Prell is well known within the Ottawa Engineering community for his technical expertise with regard to boiler room design and his passion as a strong proponent of hydronic heating.

Menu

Mixed Greens Salad with Balsamic Vinaigrette
Chicken Kiev Served on a Bed of Rice with Assorted Vegetables
Strawberry Shortcake



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President &
CRC Delegate



President's Message

by Jay Doshi

As I look out the window to see the beautiful landscapes of winter, I am reminded of how lucky we are to have central heating systems in our work environment and homes. This allows us to have the comforts of a stable indoor environment, unaffected by the variations and extremes of the outdoor environment. Many people around the world aren't as fortunate, as we continue to hear the impact of cold weather in other parts of our planet. Some may call it building science, others global warming, or just plain temperature control. I call it *Membership in ASHRAE* and the *application of ASHRAE knowledge*.

Therefore, *membership*, which is the theme for the February Chapter meeting, is an important aspect of ASHRAE. Why ASHRAE? Membership in ASHRAE allows access to information about state-of-the-art HVAC&R technology, and provides many opportunities to participate in the development/application of that technology. Membership also provides an opportunity for us to become involved in the Society at the local level. Members, who otherwise might not be able to participate, can further their knowledge of the industry, network with others in the same industry, mentor younger members and contribute to their community at large through Chapter programs.

To all the new members of ASHRAE, I welcome you to our chapter. To all the existing members; I encourage you to reach out to your friends, bring them to our chapter meetings, and promote our membership program.

Your membership committee chair, Christine Kemp and her team have been busy all season trying to attract new members to Chapter meetings, encouraging renewal of your membership, providing you with name badges, tracking meeting guests, and surveying attendees after meetings. This committee is about to embark on an important task, which is to contact our delinquent members to renew their membership. When they call you, please work with them to renew your membership.

There are also many members that qualify for an advancement of their membership but have yet to make this application. Please take the time to advance your membership or alternatively, please contact one of my colleagues in the membership committee, who will be happy to help you in this regard.

If you still have any doubt of the value of ASHRAE membership, we would like to invite you to our February program featuring, Mr. Harald Prell, General Manager of Viessmann Manufacturing Company Inc. (North America) as the program speaker. His presentation will expand your knowledge and renew your faith in ASHRAE membership.

Hope to see you all at the February program meeting.

Thank you for your participation and support

In your service,

Jay Doshi
President 2005/2006
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John Lowery, P.Eng.
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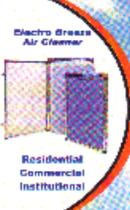
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ANNOUNCEMENT

ASHRAE Laboratory Seminar Tuesday, March 21, 2006

ATTENTION ASHRAE OTTAWA MEMBERSHIP! You will not want to miss this half-day event featuring the leading technical experts in laboratory system design and maintenance. There will be speakers from the laboratory control systems community, the consulting community, the commissioning community and a perspective from an owner. Manufacturers in this field will also be present with tabletop displays showcasing the latest technological developments in their field.

The seminar and subsequent chapter meeting will take place at our usual meeting place, La Contessa. Members will be advised in the near future about registration details.

If you are interested in providing a table top display, please contact Cathy Godin at 748-7277 (e-mail: cathygodin@bellnet.ca). The cost for a table top is \$200.

MARK YOUR CALENDARS NOW!

Committee
Chair



Theme Membership Promotion by Christine Kemp

February is **Membership Promotion** month. Each month we do get a couple of new members and that's great. I still believe that the best way to increase membership is through you. We should all be encouraging our co-workers to join and get involved.

ASHRAE has many things to offer; networking, knowledge & socializing. On the socializing side, the upcoming ASHRAE curling bonspiel would be a great place to bring someone who may be interested in joining our group. It is nice for new comers to see our fun side as well as our more professional side.

We are happy to welcome two new members to our chapter, **Erin Hillier & Dan Sima**.

To join, visit the main ASHRAE website at www.ashrae.org.

To join our Chapter, visit http://www.ashrae.ottawa.on.ca/ashraeoc_howtojoin.shtml.



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Secretary



What You Missed

by Robert Lefebvre

January's meeting was another packed house event. There were a couple of distinguished guests in attendance: **Jean Bundock** - Region II Director Regional Chair, and **Darryl Boyce** - President of ASHRAE Research Canada. M. Bundock gave a presentation on how ASHRAE "works" and what direction it is taking in the future.

Student Activities committee chair **Chris Fudge**, put out a request for judges for the upcoming student design competition and also congratulated the two Carleton University students who were nominated for ASHRAE Canada grants. A draw for Senators tickets donated by Engineered Air was held to raise money for students. **Herb Dean** won the tickets, but more importantly, over \$500.00 was raised for the students.

The evening's speaker was **Mick Schwedler, PE** from Trane. He presented an overview of the LEED (Leadership in Environmental and Energy Design) Canada program and focused on the water efficiency, energy and IAQ aspects of the program.

Swell Guy



Business Card Ads

by Rod Lancefield

You can support your chapter and promote your business by placing your business card in the Capital Communiqué. It will appear in the electronic and printed version as well as on the Chapter website.

Cost is \$225.00 for the year; contact Rod Lancefield, rodl@htseng.com, 728-7400

*A woman has the last word in any argument.
Anything a man says after that is the beginning of a new argument.*



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Governor



Table-Top Display

by Gary Hartmann
Table-Top Committee Chair
and all-round Mover and Shaker



Total HVAC is pleased to show its Chimney line by **Selkirk Canada**.

Selkirk has recently moved manufacturing to Stoney Creek Ontario, just outside of Toronto. We now have zero clearance grease duct with a fire rated integral chase. Selkirk has a wide range of chimney products and along with our local expertise we will be happy to answer your breeching questions.



Carrier 3V Zoning System

Carrier created and trademarked the first Variable Volume/Variable Temperature (VVT™) System nearly two decades ago, when it provided building owners, consulting engineers and contractors individualized levels of zone control from a single constant volume heating and cooling unit. Using its knowledge and expertise, Carrier has raised the bar on precision control and comfort for packaged systems with the introduction of the 3V system.

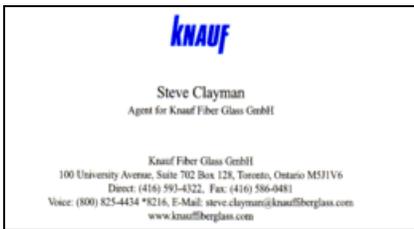
Carrier's 3V control system integrates advanced start-of-the-art control components that deliver unparalleled comfort and unmatched energy efficiency for constant volume, VVT or packaged variable air volume systems.

The system pilot is the main component of the 3V control system and serves as the user-interface and navigation tool for each system. Supported by an easy to read 8-line LCD display, the system pilot ensures quick and easy system commissioning and unit diagnostics.

Carrier's 3V system is an affordable and efficient comfort control system for a wide range of building types.

Please stop by our interactive table top display to learn more.

Old aunts used to come up to me at weddings, poking me in the ribs and cackling, telling me, "You're next." They stopped after I started doing the same thing to them at funerals.



(your card here!)



Past President



ASHRAE Research Canada Ottawa Valley Chapter Campaign

by Cathy Godin
2005-2006 OVC Research Promotion Chair

As we have just passed the half-way point of our 2005-2006 season, I note that we have also reached the half-way point of the ASHRAE Ottawa Valley Chapter Research Promotion Campaign. The goal set for us by our Regional Vice-Chair, **Jeff Clarke**, is conservative and achievable at \$16,000. At the time of preparing this article, our campaign pledge total is \$8,285 with approximately 1/3 of past contributors having been contacted.

Of course, we received a huge kick-start with Enbridge Consumers Gas Ontario-wide pledge of \$10,000, which has been divided between Toronto, Hamilton and Ottawa Valley. Many thanks go out to the **Toronto Chapter** and to **Terry Whitehead** for their commitment to ASHRAE Research by their efforts towards renewing Enbridge's pledge. Locally, **Jay Jayaraman**, has advocated for this continued support for many years. We also owe our thanks to Jay for his efforts.

Part two of our local campaign will be underway in the very near future. Be prepared, if you are a past contributor, to be contacted by a member of my committee. You will be asked to renew or increase your past pledge. As pointed out in a previous article, Ottawa Valley Chapter is unique in that we historically successfully bid on research projects and a far greater sum is invested in our territory than we raise during our campaign.

Thank you to my committee members for the early start and the early results. Watch your table centerpieces for up-to-date contributors. As of January 22nd:

Full Circle—full participation of chapter officers

Catherine Godin
Jayendra Doshi
Glenn MacLean
Robert Lefebvre
Francois Belair

Gold Circle & Special Recognition \$1000 and above

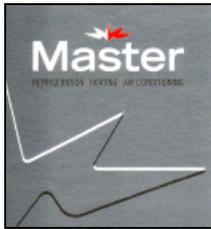
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Committee
Chair



TEGA Update Annual Technology Awards Program

by Robert Kilpatrick
2005-2006 TEGA Committee Co-Chair

At this time, the TEGA committee is encouraging the membership of the Ottawa Valley Chapter to submit a project for consideration in the annual Technology Awards Program.

The purpose of the ASHRAE Technology Awards is threefold:

- To recognize members who design or conceive proven innovative technological concepts;
- To communicate innovative systems to other ASHRAE members;
- To highlight technological achievements of ASHRAE to others, including associated professionals and societies.

The rules for submissions are few, and very simple:

- All entrants (or at least one member of a team submission) must be a member of ASHRAE;
- The entrant must have had a significant role in the design or development of the project;
- The project submitted must have been in operation for a minimum of 1 year.

The project can be from any category of building, either new or existing, including:

Commercial buildings	Public assemblies
Institutional buildings	Residential buildings
Health Care Facilities	Alternative and/or renewable energy use
Industrial Facilities or Processes	

The winners in each category at the Chapter level are automatically submitted in the Regional level competition, and winners at that level could be considered for an International award.

All that is required of you is to nominate an appropriate project, provide a minimum amount of documentation on the systems or concepts used in the design, and we will practically do the rest.

So, if you represent a consulting engineer, an owner, or whomever, think about an applicable project you have been involved with, and let us know about it.

We are confident that there are many deserving projects out there and look forward to a large number of submissions this year.

We will continue to bug you...I mean encourage you, throughout the campaign to participate in this year's awards program.

Go for that well deserved recognition!

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Jack Teevens
General Manager

Committee
Chair



2006 ASHRAE Curling Bonspiel

March 17, 2006

by Chris Healey

2005-2006 Special Events Committee Co-Chair

The 2006 ASHRAE Curling Bonspiel will be held on March 17, 2006 (St. Patrick's Day) at the Nepean Sportsplex.

Curling will be from 1:00 pm to 6:30 pm with dinner to follow at 7:00 pm upstairs in the Richmond Room. Spectators Bar & Grille will be open at 11:30 am for lunch, and refreshments for the balance of the day.

Cost is \$360.00 per team (please book in teams of 4 if possible). To book a team, please contact:

Christine Kemp – christine@walmart.net or

Chris Healey – chris@walmart.net or

by phone @ 225-9774 or

by fax @ 225-2972.

Green will be the color of choice! There will be a prize for the best dressed curler!

See you there

Chris Healey

Treasurer



Student Meal Sponsorship Drive

by Francois Belair

Fellow chapter members, with almost 70 students having attended monthly meetings to date, this has been an exceptional year for student involvement. The downside, with subsidies from the OVC (Close to \$25 per un-sponsored Student Meal), the chapter's coffers have been reduced to lower than comfortable levels. We are committed to having these potential captains of the HVAC industry eat for free in what we are calling the "Food for Oil" program...wait, wrong initiative.

We ask that all members who could spare the \$15/Student Meal, sponsor this and previous months' attendees. Please help keep these meals gratis. As a former student member I can attest to the benefits of their presence. Put into a students perspective, **"15 Bucks... that's like 3 beers or 1 1/2 pitchers"**.

Guy H.J. Bourbonnière P.Eng.
District Manager




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Swell Guy



Vacuumping for Dummies

By John Hammond, P.E.



This
Article
Sucks!

Way back in the mid-80's, I designed a vacuum system for a 5 million aluminum drink can/24 hr day, 355 day per year manufacturing plant, in the Midlands of England. It required 3 of 4 - 500 CFM (250 l/s) vacuum pumps operating at approx. 23" Hg (0.23 bar abs.) to meet this demand. Each vacuum pump moved approx. 115 CFM Free Air: i.e. 500×0.23 bar or $500 \times (30"-23"=7"$ divided by 30"). Isn't it so much easier to use the metric system and work in absolute pressure? I note that most vacuum pump manufacturers still use 23" Hg (mercury) to specify the vacuum pressure.

An 8" (200mm) diameter by approx. 100 meter long vacuum main supplied various machines in the factory which lifted metal sheet on to the can manufacturing machines which each required a minimum of 20" Hg.(0.33 bar abs.) to operate.

The factory engineers improved their can manufacturing machines and were able to speed up production to produce 7 million cans/day. This required the use of the fourth standby vacuum pump, but it still could not meet the demand because the vacuum pressure at the pumps dropped to only approx. 25" Hg (0.167 bar abs.) and approx. 83 CFM Free Air per pump.

The factory manager/engineer (BSc) therefore decided he would install two additional vacuum pumps which would require an additional 100 hp (75 kW) which with the increase in other factory electrical demands he did not have. Also he did not have extra readily available space to locate the additional vacuum pumps. He also required an additional electrical transformer for the additional 100 hp because the factory electrical demand had increased.

Having worked on laboratory vacuum systems, I realized there was another solution, which was to install an additional 8" (200mm) dia. vacuum main in parallel with the existing main, which halved the volume flow through each 8" dia. pipe and quartered the pressure drop between the vacuum pumps and the factory production machines (basic fan law formula & friction in pipes & ducts). The effect of this would be to raise the operating pressure at the vacuum pumps from 25" Hg (0.167 bar abs.) to approx. 21.25" Hg (0.2917 bar abs.). This raised the Free Air volume handled by each vacuum pump from approx. 83 CFM to approx. 146 CFM (500×0.2917 or $(30"-21.25"=8.75"$ divided by 30") and enabled the 3 existing vacuum pumps to provide the extra Free Air vacuum required for the 7 million cans/day, and still leave the fourth machine as a standby to be serviced and each of the other 3 machines rotated to standby/maintenance position periodically without affecting can production.

The factory manager said "*you had better be right*", and implemented the installation of the additional 8" (200mm) dia. vacuum main. It worked as I predicted and not only saved on electrical operating costs in not having to install additional vacuum pumps, but was installed in a few days instead of the weeks required to install the two new vacuum pumps and provide a space in which to install them. When you think each can was sold at approx. 15 cents each (back in the mid-80's) think of just how many extra cans the factory was able to produce and make money just by installing this additional 8" dia vacuum main.

I became their Wonder-man, and got a lot of consulting work for many of their factories nationwide.

A note about aluminum cans – the action of "extruding" the can is called "wall ironing". Aluminum pop cans do not require ridges because the pop "fizz" exerts enough pressure on the can to keep it stable. Typical normal cans such as dog food cans require ridges because they are sealed and the contents are "cooked" inside the can.

FRANK JEFFERIES, P.ENG.
OPERATIONS MANAGER

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Governor



Surveying 101

Top Ten Surveying Equipment List

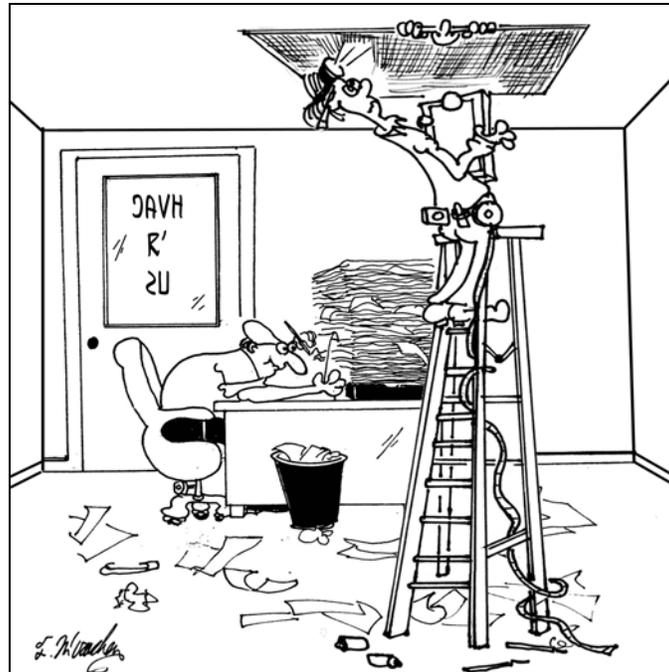
by Rod Potter
Editor, Governor, Gopher and Webmaster

I have been surveying mechanical/electrical systems for twenty years now, and I seem to have spent much of that time on top of a ladder with my head stuck between a 24x48" opening. This has afforded me a vast amount of somewhat useless information that I will attempt to put into words here. Following is the Rodders CAS Top Ten Surveying Equipment List:

1. The first thing on the list is a **high-quality clipboard**. I use one made of aluminum that was purchased for me from Lee Valley Tools, and besides the fact that it looks sexy, it also has a handy integrated storage box that can store many of the things listed below. It should be light, make excessive noise when dropped, and not be too expensive.
2. An absolute must is letter size photocopies or **mini-plots of the survey area**, typically an office or Lab space. These should be plotted at 1:50 - surveys are virtually useless at 1:100 unless you don't care about accuracy. Plot out as many as will be required (including spares) between coffee breaks and store them in the handy storage box - refer to item 1.
3. Our goal in this life is to make one self look as much like a geek as possible. Therefore I make use of a **"headlight"** flashlight which generally straps around my enormous head and likens me to a coal-miner. It is absolutely paramount that this flashlight is of high quality with an adjustable beam. This apparatus of course keeps my hands free to hold item 1. Always have replacement bulbs handy.
4. Item 3 leads me to state the importance of a large supply of **freshly charged batteries**. Flashlights drink battery power like they are manufactured by the battery companies. Wait a minute - my headlight says Rayovac on it!
5. You simply must have a high quality **tape measure** on your person. Don't even think about those flimsy 1/2" wide jobbies - they are rubbish. It should be at least 25' in length and 1" wide. And don't believe it when the manufacturer states 20' stand-out - that's rubbish too. When you have your tape, purchase a Magneto belt clip. One minute the tape is on your belt, the next it is in your hand, no messing. Your head is above a ceiling tile, you are holding item 1, your world is bright due to item 3. You don't want to fumble with item 5.
6. Surveying with pens is for perfect people. I am not perfect (not yet anyway). Surveying with 0.7 and 0.5 **projecting pencils** is the way to go. Keep plenty of spare leads in item 1. You will drop the pencils. Purchase Staedtler Mars Plastic erasers; carry two, both in item 1. These erasers are typically left above ceilings.
7. You will need a **straight edge** for making neat survey sketches on those letter size photocopies. This straight edge should preferably be a clear plastic ruler with both imperial and metric graduations. Clear plastic because you can see the lines you have already drawn through the ruler. Store the ruler in item 1.
8. A **digital camera** is a must. When you walk into an office or Lab space with a digital camera you can create all kinds of interest from those flighty ladies messing with test tubes. Keep the camera in a belt-pouch with a zip top. This adds to your general geeky appearance. The odd grenade and a web-belt will also increase the effect. See item 4.

9. Carry a **ladder**. Preferably one that will get you above a standard 9 foot ceiling. If you are lucky, the nice on-site guys will let you borrow one. In which case a standard 4 foot step-ladder is always handy - the top makes a superb tabletop for item 1 when you are in a steamy boiler room with no clean surfaces.
10. **Maintain a healthy Mojo**. That is, be confident at all times in your ability, and proceed with purpose. Enter rooms to be surveyed with a respectful look on your face, and state clearly what your intentions are. I like the old stand-by "*Hi there, I am here to check your pipes*". That always gets them. Another thing people love is when you simply stand in the middle of the room and gaze up at the ceiling as if there is something important happening up there (when there isn't).

What to do with all of this equipment? *That's the subject of a future editorial.*



*** end of Communiqué ***



(your card here!)

