



Capital Communiqué

2005–2006

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**ASHRAE - AMERICAN SOCIETY OF
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<http://www.ashrae.ottawa.on.ca> **OTTAWA VALLEY CHAPTER** e-mail: contact@ashrae.ottawa.on.ca

April 2006

EVENING PROGRAM

DATE: Tuesday **April 18th, 2006**. Social: 18:00 Dinner: 18:30 Program: 20:00
at La Contessa Banquet Hall, 156 Cleopatra Drive, Nepean, K2G 5X2

THEME: **TEGA**

PROGRAM: **Hospital Filtration Systems and Airborne Contaminant Control**

SPEAKER: **Brian P. Monk, P.Eng.**
Vice President Sales/Marketing, Circul-Aire

OVERVIEW: Mr. Monk will be examining the very unstable topic of hospital filtration and contaminant control. Since the epidemic of Severe Acute Respiratory Syndrome (SARS), the medical community has reacted in enforcing strict standards for hospital filtration. Mr. Monk will touch on the design application of various types of filtration technologies as well as airborne contaminant control.

SPEAKER BIO:



Brian P. Monk, P.E. is Vice-president, Sales / Marketing, at Circul-Aire (Dectron Internationale), Montreal, Canada, a North American leader in Air Purification and Energy Recovery equipment design and manufacturing. Mr. Monk has been a member of ASHRAE since 1988, and as Director of Engineering, has spent the last 10 years in the application and design of air filtration and energy recovery systems, in the industrial and commercial HVAC market. His academic background comprises of a college degree in Applied Science (Building Systems Engineering Technology) from Vanier College of Montreal, and a Bachelor of Building Engineering from Concordia University of Montreal. Mr. Monk is a Registered Professional Engineer with the Province of Quebec, Canada, and the Association of Professional Engineers and Geoscientists of British Columbia, Canada. Affiliations include AEE (Association of Energy Engineers), ASME (American Society of Mechanical Engineers), AWWA (American Water Works Association), and AQME (Quebec Association for Energy Conservation).

Menu

Spring Mix Salad with Balsamic Vinaigrette
Roast Beef with Parisian Potatoes and Steamed Garden Vegetables
Chocolate Cake
Coffee or Tea

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President &
CRC Delegate



President's Message

by Jay Doshi

The theme for April's meeting is **TEGA** (Technical, Energy and Government Activities). TEGA is an important part of the Society and HVAC & R industry. TEGA has disseminated valuable information and technical knowledge for application in our industry, buildings and homes that affect every aspect of our daily lives. At the chapter level, TEGA fulfills a number of key tasks, namely:

- It keeps Chapter members informed of ASHRAE Society's technical activities and publications;
- It encourages Chapter member participation in technical activities at local, regional and Society level - this includes providing Chapter input on standards, publications, research, handbook, and position papers;
- It administers Technology and Government Affairs awards at the Chapter level.

The Chapter Curling Bonspiel tournament was a great success thanks to the organizing leadership of Chris Healey and his committee. On behalf of ASHRAE Ottawa Valley Chapter I would like to thank the Companies and individuals for supporting this event.

The Ottawa Chapter is one of the many active chapters in the region and with the help of all its members, we hope to continue this tradition of having a great program, learning experience and an opportunity to network with your peers.

We have a distinguished lecturer, Mr. Brian P. Monk, who will be speaking about Hospital Filtration & Airborne Contaminant Control at the April Chapter meeting. As always a distinguished lecturer is an event not to be missed, as it instills knowledge and experience in the issues of the presentation. Come out for this April meeting and join us for this educational event.


As a reminder, May's meeting will be Past Presidents/History/Companion night and I invite you all with your companion to attend. We have a fantastic program and a special tour being planned. Please see your upcoming Communiqué for further details.

Hope to see you all at the April program meeting.

Thank you for your participation and support.

In your service,
Jay Doshi
President 2005/2006
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Committee
Chair



Theme - TEGA

by Niraj Chandra
2005-2006 OVC Committee Co-Chair

The theme for this month is Technical, Energy, and Government Affairs (**TEGA**) and we have quite a few “goodies” to report.

Technical

We had a very successful Laboratory Seminar last month, which was very well attended. No less than 11 people showed up from the Government alone, which could be something of a record for our chapter.

Herb Dean from the University of Ottawa described the requirements for Laboratory HVAC systems, while Chris Frawley from Mckee Engineering provided us with an excellent case study of how the design requirements are met. Frank Vaculik enlightened us about commissioning these systems and the Siemens crew – Karen Peck, James Coogan – talked knowledgeably about the controls. Many thanks to TTC committee member Robert Kilpatrick for putting the show together.

Government Affairs

We have been very successful in publicizing ASHRAE within Government circles. PWGSC is sending more people to ASHRAE meetings and seminars, and is also hosting the ASHRAE web-cast “Sustainability and the built environment” on April 19th, for PWGSC employees. The event has been well publicized within PWGSC and adds to the ASHRAE image. We now need to build up the same momentum in other Government departments. Many thanks to Timothy Ma who has been instrumental in publicizing ASHRAE within PWGSC.

ASHRAE document reviews

Gemma Kerr has provided us with a very scholarly review of ASHRAE Fundamentals Handbook, Chapter 12 that will be sent to the Society. You will also find a review of ASHRAE Standard 62.2 – 2004 in this Communiqué. This, too, will be sent to the Society.

Chapter Awards

Robert Kilpatrick is ably handling the Chapter awards. The pace always picks up during the last few months, and we do need more submissions from you ASAP. Please send them to Robert Kilpatrick.

ASHRAE Library

We have added more books to the ASHRAE Library including the latest ASHRAE Publication, “HVAC Simplified” by Dr Steve Kavanaugh. We will keep adding more publications from time to time, and if you have any suggestions, please send them to me or to Robert Kilpatrick. As always, we are looking for more donations of books and library material. Also, please do visit the library located at the Ottawa Construction Association office at 196 Bronson Avenue.

Energy

What can I say about the energy part of TEGA? We definitely need more energy to run the committee and we are always looking for new sources of energy. So, please do join this committee and make a difference to the ASHRAE Ottawa Valley Chapter.



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Secretary



What You Missed

March 21st, 2006 Chapter Meeting
by Robert Lefebvre

A half day Lab Seminar was held prior to the evening's meeting. The event was a resounding success. Everyone I talked to who attended the seminar said they got something useful out of the seminar. Kudos to Karen Peck and Cathy Godin for organizing the event.

For the evening meeting, Bob Martel and Henri Richard of the Mechanical Contractor's Association (MCA) were guests of the chapter. Cathy Godin recognized the MCA for their continuing commitment to support ASHRAE Research. The evening program was given by **Jim Coogan, P.E.**, Principal Engineer for Siemens Building Technologies on Building Automation for High Performance Laboratories. Items discussed included the challenges of high performance labs, means to reduce energy, the use of building automation systems within a lab context and new technologies available.

Committee
Chair



New Members

by Christine Kemp
2005-2006 OVC Committee Chair

ASHRAE Ottawa Valley Chapter would like to welcome our new members this month:

David Petry, Charles Junek & Garry Tollefson.

We also have one new student member, **Alexandre Heroux-Therriault.**

We are glad to have you all as part of our group. Enjoy your experience.

Christine Kemp
Membership Promotion Chairperson



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Governor



Table-Top Display

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



Longhill Energy present Circul-Aire:

Circul-Aire specializes in high-efficiency air filtration products.



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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, rod@htseng.com , 728-7400



(your card here!)



Committee
Chair



2006 ASHRAE Curling Bonspiel

March 17, 2006

by Chris Healey

2005-2006 Special Events Committee Co-Chair

This year's ASHRAE Curling Bonspiel was held, once again, at the Nepean Sportsplex this past March 17th. Sixteen teams took part in the salute to St Patrick's Day event. The grand winners were the team from **Engineered Air**, consisting of: Glen MacLean, Dave McClatchie, Kevin Thompson and George Chinkiwski. Congrats guys.

The winner of the best dressed curler, keeping in mind the theme of the day, was also Glen MacLean. Good job Glen, a little gutsy, but good job none the less. Thanks to Capone's Catering for a great dinner and thanks to Stan Millross for acting as emcee (and his never ending list of blonde jokes).

Everyone had a great day and many people participated in the St Pat's theme - please see the attached snapshots. See you at the Golf day!





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Committee Chair



Review of ASHRAE Standard 62.1-2004

by Niraj Chandra
2005-2006 OVC TEGA Committee Co-Chair

Standard 62.1-2004 marks a radical departure from the earlier Standard 62.1-2001 that has widely been accepted by the HVAC industry. In its 2004 version, ASHRAE has replaced the simple ventilation rate prescribed in the 2001 Standard with a more complex procedure requiring greater design effort. However, the science on which the new procedures are based is not indicated in the Standard.

The Foreword to Standard 62.1-2004 indicates that the Ventilation Rate Procedure has been revised to reflect recent information regarding ventilation impacts on indoor air quality. Could more details be provided about this “recent information”? Does it relate to case studies or to results of research on the new ventilation rate procedure?

The Foreword also indicates that the breathing zone ventilation rate now includes an area-related component as well as an occupant-density related component that are added together. Can more details be provided about what test results or experimental data supports this new approach? In many cases, this approach results in a reduction in the minimum ventilation rate i.e. for office spaces. What effect would this reduction have on indoor air quality?

Section 5.9 requires the use of particulate matter filters with a minimum MERV rating of 6, in accordance with ASHRAE Standard 52.2-1999. However, recent research by H.E Barney Burroughs, chair of the Standard 52.2 committee (ref. 3) indicates that MERV 6 is inadequate, and a minimum of MERV 8 should be prescribed. Standard 62.1-2004 should be amended to reflect this information.

Table 6 -1 prescribes values for People Outdoor Rate (Rp) and Area Outdoor Rate (Ra) for various occupant categories. An explanation should be provided as to how these factors were developed and what research they are based upon.

This comment also applies to Table 6 -2 and 6 – 3, that indicate a number of factors related to Zone Air Distribution Effectiveness and System Ventilation Efficiency. The values indicated for these factors are critical to the ventilation rate procedure, and an explanation should be provided as to how these values were obtained.

Historically, the minimum ventilation rates prescribed by ASHRAE, and its predecessor ASVE, have changed substantially over time, as indicated in Table 1 below:

Table 1: Brief Ventilation Rate History.

Year	Publication	Minimum Ventilation Rate Cfm/person
1945	ASVE Guide	10
1968	ASHRAE Handbook	15
1973	ASHRAE std 62-73	15
1981	ASHRAE std 62-81	5
1989	ASHRAE Std 62-89	20
2001	ASHRAE Std 62-2001	20
2004	ASHRAE Std 62.1-2004	Varies; generally lower than 20 cfm/person



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...cont.

It is seen that the minimum ventilation rate was initially 10 cfm/person, then it was increased to 15 cfm/person, reduced to 5 cfm/person, and then increased to 20 cfm/person. The latest Standard 62.1-2004 has changed the ventilation rate again, and with the new procedure, it is generally less than 20 cfm/person for a typical office space. An explanation of the science behind this shift should be provided, so that users can have more confidence in the validity of the latest recommendations.


This is particularly important as many building codes reference the latest version of the ASHRAE ventilation standards, so that these documents often carry the force of law behind them.

Although Appendix G (Application and Compliance) of Standard 62.1-2004 indicates that it applies mainly to new buildings, there are no clear indications on what should be used for existing buildings, e.g. retrofit of a floor in a building. Should one use the previous Standard 62.1-2001 (using 20cfm/person minimum ventilation rate), or go through calculating the ventilation requirements for the whole building (using Standard 62.1-2004) to arrive at the single floor ventilation requirements in a consistent fashion?

References:

1. *ASHRAE Standard 62.1-2004* "Ventilation for Acceptable Indoor Air Quality".
2. *Fred Kohloss* "History and Background of Ventilation Rates" *Kansas City, Seminar 4, June 29, 2003.*
http://tc512.ashraetcs.org/docs/KOHLLOSS_PDF
3. *H.E. Barney Burroughs* "Improving Filtration Effectiveness" *HPAC Engineering, December 2005*

Guy H.J. Bourbonnière P.Eng.
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March 2006 Lab Seminar Summary

by Cathy Godin
2005-2006 OVC Research Promotion Chair

Your ASHRAE Ottawa Valley Chapter recently presented a half-day professional development seminar on March 21, 2006 entitled [Laboratory Design Considerations, Applications and Commissioning Strategies](#). This event was deemed a success by both the organizers and the participants. The day began with a tasty hot and cold buffet lunch, prepared by La Contessa, and the food was fabulous and plentiful as always. The event went forward in a presentation format with five segments in total, each one presented by a professional in their field.

The segments were:

Identification of laboratory users' needs presented by Herb Dean of the University of Ottawa

Design considerations presented by Chris Frauley of McKee Engineering

Implementing laboratory control solution presented by Jim Coogan of Siemens Building Technologies

Commissioning strategies presented by Frank Vaculik of F. Vaculik Engineering

Maintaining & Operating the Facility also presented by Herb Dean

Atma Anantram of Siemens introduced the session and Robin Craig of N.R.C. acted as moderator and collected questions from the participants to be revisited at the conclusion of the seminar. It was an informative and worthwhile afternoon and attracted 35 participants, most of whom were non-members but potential ASHRAE members, and five table top vendors, who were able to display specific products and services relating to laboratories.

Thanks to the vendors:

HTS Engineering / TSI Inc

Longhill Energy / Vortex II

Siemens Building Technologies

Total HVAC / Camfil Farr

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Karen Peck of Siemens thanked the speakers and presented them with gifts. I performed my favorite task, collecting the money. Your feed back is important to the Executive and Board of Governors; if you have any suggestions for future topics for seminars or continuing education sessions, do not hesitate to pass them along to Program Chairperson, Jason Alexander or to any member of the Executive.

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President-Elect &
CRC Alternate



Ottawa Regional Science Fair Judging

by Glenn MacLean
2005-2006 OVC President-Elect

Joel, Cathy and I attended the Regional Science fair and were assisted by Joel's son Andrew in locating and viewing over 20 projects that either applied for the ASHRAE award or were found to be related to ASHRAE in some way. There were several entries to consider, however none of senior projects seemed applicable to ASHRAE.

In the end, we did award 3 prizes:

Intermediate - **Zachary MacNeill** 'Don't Play With Fire' presented a study on different kinds of wood and their effectiveness for providing heat. Zachary charted maximum temperature achieved and duration of burn for 8 different types of wood. The sugar maple was the clear winner in the samples tested.

Junior 1 - **Cyndi Celestin** 'Refrigerer Tout en Economisant' developed a refrigerator that used cold outside air to provide a refrigerated space. The system was gravity fed so required no electricity to operate. She did determine that on very cold days the system would over cool, so she suggested that a thermostatically controlled shut-off damper would be a possible addition to improve her model.

Junior 2 - **Kevin Burke** 'Cover Up' created a composite blanket that outperformed a traditional wool blanket and a newer 'space-age' foil type blanket. Kevin's blanket included different layers of varying properties including insulation, reflection (foil type) and water repellant. His blanket provided a 72% effectiveness compared with the wool blanket at 54% and the foil blanket at 46%.

All winners were presented with cheques for \$200.

Cheers

*** end of Communiqué ***



(your card here!)

