

# AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS INC.

LONDON CANADA CHAPTER #116  
LondonCanada.AshraeChapters.org

APRIL 24/2006

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Joseph Claessens  
ph: 672-8511  
jclaessens@smylicrow.ca

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scott@somersep.com

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eshaw@baymarsupply.com

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ph: 670-8066  
jasonv@aquatech.ws

### **Research**

Derek Vakaras  
ph: 679-8660  
derek.vakaras@chorley.com

### **Student Activities**

Jamie Whitty  
ph: 672-8511  
jwhitty@smylicrow.ca

### **Golf Tournament**

Hugh Palser  
ph: 471-9382  
hpalser@palserent.com

### **Newsletter**

Tom Pollard  
ph: 685-2570  
tpollard@execulink.com

## Program

# THE ETHICS AND THE ECONOMICS OF ENERGY CONSERVATION

**Mr. WILLIAM J. COAD, P.E.**  
**ASHRAE PAST PRESIDENT**  
**ASHRAE DISTINGUISHED LECTURER**

This talk explores the economics of energy conservation and the failure of economic alternatives in the search for more energy conservative buildings and machines. Then, based upon this observation an alternative perspective leads to the conclusion that energy conservation is an ethic, and if this ethic is embraced by those who practice in the energy sciences, the inevitable result will be improved system performance, energy conservation and economics.

## **Meeting - Monday April 24/2006**

THE LAMPLIGHTER INN - THE OAK ROOM  
591 Wellington Rd., London

London Chapter Members = \$25.00  
Students = \$10.00                      Others = \$35.00

### ***DISTINGUISHED LECTURER NIGHT***

CASH BAR                      ALL YOU CAN EAT BUFFET  
5:15-Social                      6:00-Dinner                      7:15-Program

If you plan on attending, and are not contacted by the telephone committee, please advise:  
Scott Turner (ph:652-1977 scott@somersep.com)



**President's Message**

I regret that I was unable to attend the March tour. I understand that the tour was well attended and very informative.

April's meeting as you should all know by now, we are having an ASHRAE distinguished speaker Mr. William J. Coad P.E. Mr. Coad is an ASHRAE Past President as well as a principal and immediate past Chairmen and CEO of McClure Engineering, a mechanical and electrical consulting engineering firm in St. Louis, Missouri. I personally heard Mr. Coad's President's Address at the CRC in Halifax few years back and was very impressed. We are privileged to have Mr. Coad visit our London chapter and I hope everyone comes out and shows their support for our small chapter.

Our end of the year golf tournament is scheduled for Monday June 5, 2006 at the Forest City National Golf course. Sign up sheets have been faxed to members, space usually fills up fast so do not delay in booking your 4 some. Once again I would like to thank Hugh Palser and his staff for their hard work in organizing this event.

We are doing our final push for our ASHRAE Research Campaign. We would like to congratulate our Research Chair, Derek Vakaras for being 1 of only 3 chapters in our region to reach 50% of the chapter's goal. There is still a long way to go. If you have not donated yet or require more information please contact Derek (email derek.vakaras@chorely.com)

The April meeting will be our last official meeting of the 2005/2006 year and with the exception of the June golf tournament my last official duty as the London ASHRAE President. I would like to thank the Board of Governors for their support and hard work over the last year. We will be having some new face in next year's executive and there is always room for more. If you have any interest please contact me.

I look forward to seeing you at the meeting and thank-you


Joe Claessens  
London Canada Chapter President

**March Meeting Summary**

Last month's tour of CORE Energy proved to be of great interest given the turn out we had. The magnitude of the equipment used to derive the energy is quite impressive. It is also refreshing to see some of the students out. Jamie Whitty has done a great job at getting involved with the students and generating some potential future ASHRAE Members. Good job Jamie!



**Pete Edmiston**  
Branch Manager



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**Other Events**

ASHRAE Sustainability and the Building Environment Satellite Broadcast and Webcast • [www.ashrae.org](http://www.ashrae.org)  
April 19, 2006

ASHRAE 2006 Annual Meeting • [www.ashrae.org/quebeccity](http://www.ashrae.org/quebeccity)  
Quebec City • June 24-28, 2006

**Announcing the on-line Society ballot!**

This year for the first time ever, you will have the opportunity to cast your vote online for Society officers and directors as well as your vote on proposed Bylaws amendments. All voting members of ASHRAE who have valid email addresses will receive this email with your personal link to access the ballot. Voting members who do not have valid email addresses will receive paper ballots as has been done in the past. If you prefer to receive a paper ballot, please contact Membership Development Manager Liz Baker at headquarters ([membership@ashrae.org](mailto:membership@ashrae.org) OR 678-539-1127) and a ballot will be mailed to you.

Members will also be given the opportunity to vote during the 2006 ASHRAE Annual Meeting in Québec. Polls will be open Friday through Sunday, June 23-25, during registration hours in the Meeting Registration area at the hotel.

**ASHRAE LONDON GOLF TOURNAMENT**

The annual golf tournament is being held again on the first Monday of June at the Forest City National. Refer to the registration form within this newsletter (and be sure to get your group together early as places fill up fast).

The ASHRAE London Chapter would like to thank **HTS ENGINEERING** for arranging this year's golf sponsor:

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### **ASHRAE Studies Impact of Ventilation on Health**

ATLANTA n The impact of ventilation rates on occupant health is being studied through ASHRAE research.

“ASHRAE’s guidance is widely referenced in the HVAC&R industry because it stays on top of new developments,” said lead researcher, Jan Sundell, Danish Technical University, Copenhagen, Denmark. “The study will lead to an improved understanding of what science can tell us about the relationship between ventilation and health, which in turn will lead to more reliable information on the benefits of building ventilation. It also will give information about where there is a lack of knowledge, providing the basis for new research.”

He noted that ASHRAE’s ventilation standards primarily focus on occupant perception of indoor air quality, not health.

A panel of leading authorities on indoor air pollution and health within medicine and engineering will review existing research and literature on the effect of ventilation on health in schools, offices, residences, etc. While the focus will be on ventilation rates, they also will look at pollutant sources, source strength and pollutant concentrations.

Results may be used to update ASHRAE Standard 62.1, Ventilation for Acceptable Indoor Air Quality, and Standard 62.2-2004, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings.

The project, Scientific Review of Existing Information Related to the Impact of Ventilation Related to Health, 1443-RP, was approved at ASHRAE’s 2006 Winter Meeting. It is expected to take 18 months to complete at a cost of \$50,000 with funding coming from ASHRAE and the National Center for Energy Management and Building Technologies. The project is sponsored by the Environmental Health Committee. Researchers are Sundell and Hal Levin, Indoor Air Institute, Santa Cruz, Calif.

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### **ASHRAE Focuses on Future Growth with New Strategic Plan**

ATLANTA n A new strategic plan adopted by ASHRAE will help move the Society toward fulfilling its vision of a better future.

“The new plan charts an exciting course for ASHRAE,” Lee Burgett, ASHRAE president, said. “It calls for an ASHRAE that addresses new global initiatives, provides better tools to its members and that is more well-known to the groups and individuals who depend on us for technical guidance.”

Changing technologies, rising energy prices and increased focus on sustainability have challenged ASHRAE to stay at the cutting edge of the field, according to Burgett. At the same time, competition has increased and ASHRAE must focus its efforts to ensure that its products and services are timely, relevant and appropriately positioned to serve the changing marketplace. The strategic plan will help the Society achieve this, he noted.

“The Board of Directors has planned a course for ASHRAE’s future,” Kent Peterson, chair of the Planning Committee, which lead development of the process. “Our goal is to make the strategic directions and strategies included in the plan business-as-usual for our volunteers and staff. We are excited about the opportunities to continue to improve ASHRAE’s value to our membership and the HVAC&R industry.”

The plan can be found at [www.ashrae.org/strategicplan](http://www.ashrae.org/strategicplan). It contains four strategic directions where ASHRAE will focus its efforts over the next several years. They are:

- ASHRAE will lead the advancement of sustainable building design and operations.
  - ASHRAE will be a world-class provider of education and certification programs.
  - ASHRAE will position itself as premier provider of HVAC&R expertise.
  - ASHRAE will be a global leader in the HVAC&R community.
- To accomplish these strategic directions, several strategies are identified, including:
- Leading the drive toward the design, construction and operation of net-zero-energy buildings through research, publications and education.
  - Developing the performance metrics and rating systems to certify operational performance of buildings for energy efficiency and indoor environmental quality.
  - Collaborating with other organizations to integrate HVAC&R systems with other building systems to enhance the effectiveness of total building design and integrated practice.
  - Providing accessible on-demand education and distance learning to members and other customers.
  - Developing and promoting certification programs for the HVAC&R industry.

In addition, the plan contains an updated mission statement and vision for the Society.

“I am particularly pleased with the Society’s mission statement ‘to advance the arts and sciences of HVAC&R to serve humanity and promote a sustainable world,’” Burgett said. “When we get embroiled in details about our technology, this statement is a useful reminder that ASHRAE’s cumulative work product improves the quality of life for people around the world.”

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ASHRAE, founded in 1894, is an international organization of 55,000 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.



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**Changes to ASHRAE Standard 62.1 Ventilation Rates Proposed**

ATLANTA n Ventilation requirements for high-rise residential buildings are among changes being proposed for ASHRAE's indoor air quality standard.

Three proposed addenda to ANSI/ASHRAE Standard 62.1-2004, Ventilation for Acceptable Indoor Air Quality, are available for comment until May 1. To obtain drafts of or comment on proposed addenda e, f and h, visit [www.ashrae.org/standards](http://www.ashrae.org/standards).

Addendum 62.1h would add requirements for high-rise residential buildings to the standard's ventilation rate table.

These ventilation rates are somewhat higher than the residential rates included in ANSI/ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, according to Dennis Stanke, chair of the Standard 62.1 committee.

"Standard 62.2 bases its rates on the assumption that infiltration always provides some ventilation and on the requirement that each dwelling unit includes operable windows for supplemental ventilation," he said. "The Standard 62.1 rates, on the other hand, assume that ventilation requirements are independent of infiltration and operable windows."

For example, the required mechanical ventilation rate for a two-bedroom apartment or condo could double compared to Standard 62.1-2001. Stanke noted that increased outside air rates can mean more outside air conditioning tons, especially in humid climates.

Addendum 62.1e would add an informative appendix that summarizes the requirements for documentation found throughout the standard.

"Good documentation aids communication between all parties involved with the design, installation, operation and maintenance of ventilation systems," Stanke said. "Reducing communication failures reduces building-ventilation and indoor-air-quality problems."

Addendum 62.1f would change the purpose and scope of the standard to make them more consistent with its body. The purpose retains its dual goals of providing indoor air quality acceptable to human occupants that minimizes the potential for adverse health effects.

The scope no longer includes single-family houses or multiple-family buildings with three or fewer stories. These structures are covered by Standard 62.2.

The scope also states that the standard includes no specific prescribed ventilation rates for smoking-permitted spaces or for improperly separated non-smoking spaces (since these spaces also might contain environmental tobacco smoke).

"Although they contain no specific compliance requirements, statements of scope and purpose must be clear and accurate to help users of the standard apply it properly," he said.

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**Five BACnet Addenda Open for Public Review**

ATLANTA n Five addenda to ASHRAE's BACnet standard are available for public review until May 1.

ANSI/ASHRAE Standard 135-2004, BACnet® -- A Data Communication Protocol for Building Automation and Control Networks, allows building equipment and systems manufactured by different companies to work together.

To obtain drafts of or comment on proposed addenda c, d, e, f and g, visit [www.ashrae.org/standards](http://www.ashrae.org/standards).

The BACnet Web services proposed in addendum c would provide access to data in BACnet systems using standard PC desktop software vs. specialized drivers. They also are proposed for the communications between energy utilities and BACnet systems for demand limiting and real-time pricing.

Proposed addendum d contains a number of additions to the standard, foremost of which is the structured view object. This would provide a means for devices to present the relationships between objects and groups of objects, facilitating the development of standard profiles for devices such as VFD drives.

The load control object proposed in addendum e would provide a standardized means for external control over load shedding and is the first of several proposals from the utilities integration working group, working to connect the energy utilities with building automation systems.

Proposed addendum f includes the first of a series of new BACnet access control objects in development in the life safety and security working group. The access door object represents the physical characteristics of an access-controlled door and its associated physical hardware and devices, including door contacts, door locks and card readers. The work of this group is being done in conjunction with the Security Industries Association.

A new means for securing network communications would be provided through proposed addendum g. The proposed addendum draws on advances in encryption and authentication technologies, allowing two levels of access, with a general key for reading and writing basis system data, and application-specific keys plus authentication for connecting to critical systems including access control (security) and fire safety.



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### **10 Addenda Proposed to ASHRAE Energy Standard**

ATLANTA n Fan power limitation requirements for complex HVAC systems, such as those in hospitals and laboratories, would be improved under a proposed change to ASHRAE's energy standard.

Eight proposed addenda to ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings, are open for public comment until May 1, while two are available until April 16.

Included is addendum ac, which would expand application coverage to address complex mechanical systems.

"The standard would more effectively address static pressure associated with complex HVAC systems requiring specialized equipment in return air or exhaust air systems, such as those in hospitals," said Larry Kouma, who heads the group that oversaw the proposed addendum. "Appropriate allowances for discharge and return air flow treatment equipment would be allowed, enabling a clear avenue for these systems to demonstrate compliance using the prescriptive compliance methods of the standard. Or, if required, users can still use the standard's energy cost budget method."

The addendum also improves compliance consistency and strengthens stringency for simple systems with an easy-to-use format and structure;

Other proposed addenda open for comment until May 1 are:

- Addendum aa adds definitions for lighting related terms;
  - Addendum ab clarifies which sections should be referenced in Section 11 and Appendix G;
  - Addendum ae changes Section 11 and Appendix G to clarify the way lighting power is to be modeled;
  - Addendum ai revises the lighting power requirements to eliminate confusion;
  - Addendum aj adds the ASTM test method E 1980 n Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low Sloped Opaque Surfaces;
  - Addendum al clarifies the terminology for metal building roofs and the required assembly U-factors for such roofs;
  - Addendum am allows minimum variable air volume turndown to be limited by the minimum ventilation requirement for a zone.
- Two proposed addenda to Standard 90.1 open for review until April 16. They are:
- Addendum ag clarifies that only HVAC fans that provide outdoor air for ventilation need to be modeled as running continuously
  - Addendum ah clarifies the budget building model heat recovery requirement by stating that condenser heat recovery must be included in the budget building model if it is a prescriptive requirement for the building.

To obtain drafts of or comment on proposed addenda aa, ab, ac, ae, ag, ah, ai, aj, al and am visit [www.ashrae.org/standards](http://www.ashrae.org/standards).

The standard provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings.

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### **Architectural Firm Hired - Walking the Talk: ASHRAE Moves Toward Sustainable Headquarters**

ATLANTA - ASHRAE continues to move toward a sustainable headquarters with creation of a Webpage dedicated to the project and selection of an architectural firm.

ASHRAE currently is studying whether to renovate its headquarters in Atlanta as a sustainable building. The Society recently selected Richard + Wittschiebe, an Atlanta architectural firm, to develop a schematic design for the project. ASHRAE also has created a Webpage so members and others can follow the progress of the project.

"This is an exciting opportunity to demonstrate the benefits of using ASHRAE's standards and to 'walk the talk' by creating a showcase for sustainable renovation," William Harrison, who is chairing the renovation committee, said. "We envision creating a 'living lab' where ASHRAE technical

committees can conduct research projects to determine the effectiveness of procedures designed to conserve energy, to prolong the efficient operation of mechanical systems, and to improve indoor air quality."

"ASHRAE is addressing the larger global issues facing our world today by exploring renovation of its building and submitting for gold level LEED certification," Janice N. Wittschiebe, partner, Richard + Wittschiebe, said. "Richard + Wittschiebe Architects is honored to have the opportunity to work with ASHRAE in developing a project that will provide an example of how a building can incorporate concepts of aesthetics and functionality as well as sustainability."

The Webpage, [www.ashrae.org/building](http://www.ashrae.org/building), contains photos of the building throughout the years, technical information about the building and a comments area.

"We look forward to considering ideas and suggestions from ASHRAE members and encourage them to explore the headquarters renovation page," Harrison said. "We want both our renovated headquarters building and the process we use to develop our plans to serve as models for the successful renovation of existing buildings."

The schematic design is scheduled to be completed by June with discussion by ASHRAE's Board of Directors taking place at the 2006 Annual Meeting, June 24-28, Quebec City.

Harrison also noted that the proposed renovation addresses the four goals outlined in ASHRAE's recently adopted strategic plan: by demonstrating sustainable construction, providing space and a laboratory for educational programs, demonstrating ASHRAE's expertise, and providing a global headquarters with technology features to serve the needs of members anywhere in the world.

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**2006**  
**LONDON & AREA ASHRAE**  
**GOLF TOURNAMENT**

Date: Monday June 5, 2006  
  
Place: Forest City National  
16540 Robin Hill Road  
London, Ontario  
  
Tee Off: Shot Gun Start @ 1:00pm  
Scramble Format  
4 SOMES ONLY/SOFT SPIKE ONLY  
  
Cost: Golf & Dinner ..... \$145.00  
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