

Capital Communiqué



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

2010 - 2011

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Darryl Boyce

DATE: Tuesday **March 15, 2011**. Social: 17:30 Dinner: 18:30 Program: 20:00
Travelodge Ottawa Hotel & Conference Centre, 1376 Carling Avenue, Ottawa, Ont., 613-722-7600

THEME: **Student / YEA (Young Engineers in ASHRAE)**

PROGRAM: **Net-Zero Buildings**

SPEAKERS: Michel Bernier Ph.D, Professor at École Polytechnique de Montréal
Roland Charneux Eng., M.Eng., LEED AP, Executive Vice President at Pageau Morel

OVERVIEW: Abondance Montreal – le Soleil is Canada's first 100% solar condo building. It is the first urban residential development in net-zero energy in North America. Abondance Montreal – le Soleil is the most innovative multifamily project in Canada! Through networking the various technologies and expertise in integrated design, Abondance Montreal – le Soleil reduces energy consumption at most. In addition, a net metering arrangement with Hydro-Quebec can inject the surplus energy in summer and winter back in order to achieve a balance of zero annual energy consumption. The new Montreal triplex can generate and optimize its own energy through the integration of several active and passive measures, such as a super-efficient envelope, reducing energy demand, heat recovery, geothermal, solar thermal and photovoltaic.

BIO: Michel Bernier is currently a professor at École Polytechnique de Montréal where he is responsible for the HVAC program in the department of mechanical engineering. He obtained his bachelor's degree from École Polytechnique de Montréal in 1980, his M.Eng degree from Carleton University in 1985 and his Ph.D. from McGill University in 1991. Before joining École Polytechnique, M. Bernier worked as a consultant in HVAC design and as a researcher at the National Research Council of Canada. His current research interests are on zero net energy homes and ground-coupled heat pump systems. He is a frequent contributor to the scientific literature in these areas. He is also an associate editor of the IBPSA *Journal of Building Performance Simulation* (International Building Performance Simulation Association). Finally, he is a member of the NSERC solar building research network.



Graduated from École Polytechnique de Montréal in mechanical engineering in 1976, Roland Charneux obtained a Masters in Building Science from Concordia University in 1990. Mr. Charneux is a member of the OIQ, the PSI, the U.S. Green Building Council and a Fellow of ASHRAE and a LEED accredited professional. Mr. Charneux is the executive vice president at Pageau Morel and offers over 30 years experience. Mr. Charneux has been a recipient of several awards including prestigious awards. He also participated in the design of mechanical systems in many buildings with high energy efficiency. Mr. Charneux was an important part of the "Abondance Montréal - Le Soleil", the first net-zero energy triplex condo in Canada and one of the winning projects of the Equilibrium Sustainable Housing Demonstration initiative.



Menu

Chapter Members: \$35.00 Guests: \$50.00

Buffet including:

Assorted Dinner Rolls, Chef's Choice 3 salads, Chef's Choice 2 entrees, Seasonal Vegetables, Assorted Dessert Squares & Cakes, Fresh Fruit Salad, Coffee and Selection of Teas & Herbal Teas



President's Message

by Christine Kemp
2010-2011 OVC President

This month's theme is Student activities.

I know that many of you were in Las Vegas for the AHR Expo recently. We all go for many different reasons and most find the time to attend meetings, the show and also enjoy the local sites and activities. One of the events that I attended this year was the Student Award Ceremonies. I know I talk about these students a lot, but they never cease to amaze me.

I was proud to tell everyone that they are members of the Ottawa Valley Chapter. What good company they kept, imagine Algonquin College with the likes of schools such as University of Central Florida and University of British Columbia.



I also want to congratulate the student's mentors, Barry Riddell, Chris Frauley, Matt Edmonds and the Team Faculty Advisor, Andrew Greenhalgh.

Once they proudly received their awards and all the official work was done, they continued to keep good company!!



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Committee
Chair



Membership

By Adam Moons
2010-2011 OVC Membership Promotion Chair

Greetings Everyone!

It was a pleasure to be able to stand before you at our most recent meeting to announce the great work that we as a chapter have done bringing in new members. It would seem that my pleas for your assistance have not fallen on deaf ears. With 3 meetings remaining, we are closing in on our membership goals for this season. This couldn't be done without the support of everyone in the OVC.

A reminder though; retention is the theme for this year's membership committee. Please be sure to keep your annual dues current. The renewal fees can easily be paid online for both chapter and society. Should you know anyone who has allowed their membership to lapse, please encourage them to renew. We have an amazing chapter, and it would be great to keep it that way!

I would also like to introduce and welcome the following new members:

Mr. Robert Rowe
Mr. Kalman Simon

Mr. Daniel Vivian
Mr. Olson Quintero

Mr. Paul Stronge
Mr. Paul Sra

Thank you all for your hard work and support!

Looking forward to seeing you at the next ASHRAE event!

Adam Moons
Membership Chairperson / OVC

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What You Missed – February Meeting

By Steve Moons
Governor

The main meeting took place at the Travelodge Hotel and Conference Center on Carling Avenue in Ottawa, in our normal upstairs room.

The technical session was hosted by Joel Primeau, from about 16:40 through 17:30, and its topic was “Load Calculations”. This was followed by a social hour with Jason Alexander as photographer.

The business session started with President Christine Kemp introducing the Board of Governors and Executive, followed by Governor Steve Moons who introduced the guests for the evening.

Chris Healey stood to announce the upcoming ASHRAE OVC Bonspiel on March 4th, 2011 at the Nepean Sportsplex. Jason DeSousa described Joel Primeau’s tech session “Load Calculations” which was well attended by as many as 25 people. President Christine Kemp oversaw the raffle ticket sales for the Senators Game Ticket Giveaway Draw (courtesy Goodkey Weedmark & Assc.). President Christine Kemp announced the upcoming career fair, to be held at Algonquin College in Salon “A” on March 8th. There are still booths available.

The dinner was served at the tables, and consisted of rolls and butter, a green salad with vinaigrette, thyme crusted chicken with mushroom sauce with a side of roasted potatoes and vegetables. Dessert was cheesecake with a raspberry coulis.

After dinner, the Senators tickets were won by Cathy Godin of SK Sheetmetal, earning \$250 for ASHRAE research. She generously donated the tickets to student Jason DeSousa. Governor Georges Maamari spoke about this new TEGA year and encouraged entries for the various categories of building. Deadline for entries is March 4th 2011. Currently there are only 1 or 2 entries. President Christine Kemp thanked the parties who provided Table Top Displays: Tom Chiykowski of Master Group, Tom Gervais (Laars / Walmar Mechanical) and Sean Court (Ventex) spoke about their displays. Chair of Membership Adam Moons spoke on the theme of Membership for this months meeting. He stated that to date we have 21 new full members and 8 new student members. He attributed this to YEA events run in conjunction with Young Construction Executive Club (YCEC), and reminded all members to support the retention of members and to encourage younger people in the industry to join. He cited the benefits of fellowship, knowledge and networking that come with membership in ASHRAE. President Elect Steve Lynch introduced Darryl Boise and Dan Redmond as co-chairs of the OVC 2012 CRC. He stated that volunteers were needed for the committee and the CRC proper. Anyone with interest was to contact Dan Redmond, and more information would follow in the monthly Communiqué.

The evening Program was “Building Energy Labeling Program”

Speaker Gordon Holness of ASHRAE spoke. His slideshow was entitled “Building Energy Labeling Program” and described the following:

- True building energy consumption is necessary for a variety of reasons
- Property managers can realize a 3-7% increase in value for LEED Gold space
- In North America, 40% of total energy is consumed by buildings, and 70% of electricity is consumed by buildings
- ASHRAE goals are to reduce energy consumption 5%/yr
- Accomplished by applied and enforced building codes

(cont...)

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- This will likely yield higher energy rates
- Most importantly, these changes require a change in mindset and behaviour
- Occupants must adopt a culture of sustainability
- This can be aided by Building Energy Labeling (BEL)
- BEL provides feedback for the building and offers direct comparisons for similar buildings in similar climate zones
- There are three parts. First, a 2-part label – Asset and operational. The labels are visible, simple to understand and on display for the public. Second, a certificate which shows the technical data for the owners. Third, documentation which shows details for the engineer, architect and owner
- Comprised of an A+ to F rating
- This is for energy, actual usage, not like LEED which is based on overall sustainability.
- The in-site portion was unveiled in 2010, the design portion unveiled in early 2011.

President Christine Kemp thanked Gordon Holness for his excellent presentation and presented him with a small gift. The meeting was adjourned at 21:30

As always, you can visit our website to peruse all of the photos from this and previous meetings. Go to the “This Year” page and click on the links on the left side of the page:

http://www.ashrae.ottawa.on.ca/ashraeoc_ThisYear.shtml

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Past President



Technical Session– HVAC Boot Camp

by Joel Primeau
OVC Past-President (1999-2000)

In February, we covered the basics of a cooling load calculation. At the March session, we'll wrap up the load calculations (infiltration, ventilation and system heat gains) and then look at how we size systems based on the load calculations results. We'll introduce the use of psychrometric charts, specifically to understand the Sensible Heat Ratio and how we need to pick the right supply air temperature to meet our space load. We'll conclude the lesson with heat load calculations.

When: March 15th, 2011 (Before the monthly meeting)

What time: 16:30 to 17:30

Who is invited: Everyone

Joel Primeau



NOMINATIONS & ELECTIONS ANNOUNCEMENT

by Bob Kilpatrick
2010-2011 Nominations Committee Chair

Ottawa Valley Chapter Officers and Board of Governors for 2011-2012

Hello everyone.

As the Chapter year moves into its final quarter, (where does the time go??) it's time to turn our thoughts towards the sustainability of our Chapter, as we consider nominations for the available positions within the Chapter Executive and the Board of Governors.

Therefore, on behalf of the Nominating Committee, I am pleased to announce to all Chapter members the following eligible members to hold office as the Chapter Executive for 2011-2012, and the position for which we are inviting nominations at this time:

President-Stephen Lynch

President-Elect-Donald Weekes

Treasurer-Rod Potter

Secretary-Nominations invited

Nominations are also invited for positions on the Board of Governors of the Ottawa Valley Chapter. The number of such positions has not been finally determined as we continue to gauge the interest of existing members in serving for an additional term.

In addition to this call letter, we will also be asking for any nomination from the floor by members during the March Chapter meeting. Members must be in good standing with the Society and have also consented orally or in writing to be candidates to stand for election.

Please note that election to chapter office is a distinct honor bestowed upon ASHRAE members by their peers for their efforts, and in anticipation of placing the interest of the chapter on their list of priorities.

Final recommendations for the available positions on the Chapter Executive and the Board of Governors will be made by the Nominating Committee, along with the current serving President and President-Elect, for presentation to the Membership at the April Chapter meeting.

The Executive and members of the Board of Governors shall be installed at the May Chapter meeting and shall assume their duties at the start of the next Society year.

Thank you all for your consideration in this important step in shaping the future of our Chapter!

Sincerely,
Bob Kilpatrick

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Student Activities / Young Engineers of ASHRAE (YEA)

by Matthew Edmonds
2010-2011 Student Activities Chair

THE ASHRAE CAREER FAIR. Mark your calendars people, Tuesday March 8, 2011, held right in Salon A (Building D) on the Algonquin College Campus. We are expecting a lot of student participation this year, and being right on campus promises great exposure. There are a few spots left, so please contact me directly (613-226-3856 x 26) for more information.

February also played host to our third YEA / YCEC (Young Construction Executives Club) Networking Event, and Adam Moons and I would like to thank all of you who participated. The evening was another great success, and with more and more participation each month, we expect great things from these events. We have a number of different ideas as we move into 2011, and will be in touch shortly with details. Our hope is to facilitate evenings that you will all see as a benefit. We appreciate your support and involvement.

As with all other monthly meetings, we encourage individuals or companies to support a student through sponsoring their meals. Please let the greeters at the front know that you would like to sponsor a student for the night. If you sponsor student meals throughout the year we will recognize your contributions by issuing you a receipt for your investment in Student Activities, publish your name and/or company's name on our website, and include you in our list of previous donors in the Capital Communiqué. We hope to see even more of a student presence this year, which means we will really need your help! Your contributions last year allowed us to keep the students coming to each meeting even though they were on limited budgets, so thank you so much for your support, and let's keep it up!


A big thank you goes out to our February student meal sponsors:

Paul Baker – 1 Student Meal

Adam Moons – 1 Student Meal

Best Regards,

Matthew Edmonds
Student Activities Chair



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Governor



ASHRAE Society News

by Steve Moons
2010-2011 OVC Governor

News This Month from ASHRAE Society

Final Energy Savings Figures Announced for 2010 Energy Standard

ATLANTA – More than 30 percent energy savings can be achieved using the recently published 2010 version of Standard 90.1 vs. the 2004 standard, according to an announcement made today by ASHRAE at its 2011 Winter Conference, taking place this week.

ANSI/ASHRAE/IES Standard 90.1-2010, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, which provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings, was published in November 2010. ASHRAE was awaiting the final results of analysis work from Pacific Northwest National Laboratories in support of the U.S. Department of Energy (DOE) Building Energy Codes Program on addenda included in the standard. The final figures were made available this week and were announced today at ASHRAE’s annual press breakfast.

Without plug loads, site energy savings are 32.6 percent and energy cost savings 30.1 percent. Including plug loads, the site energy savings are estimated at 25.5 percent and energy cost savings 24 percent.

“Three years ago, the 90.1 project committee set an aggressive goal of 30 percent savings for the 2010 version,” ASHRAE President Lynn G. Bellenger said. “That the target was met and exceeded is a testament to the talent and dedication of the men and women from ASHRAE and the Illuminating Engineering Society (IES) who developed and evaluated over 119 change proposals to increase the stringency of our flagship energy conservation standard. At the 35th anniversary of Standard 90.1, it continues to lead the way in our industry as the minimum standard for energy efficiency.”

On a nationally aggregated level, building type energy savings ranged from 8.8 percent to 38.3 percent and energy cost savings from 7.9 percent to 33.6 percent. These figures include energy use and cost from plug loads.

Extensive analysis work was performed by a team from Pacific Northwest National Laboratories in support of the DOE Building Energy Codes Program. Sixteen different building prototypes were modeled in 17 different climate zones for a total of 272 building types and climate zone combinations.

How was the energy reduction achieved? Here are a few examples:

- The Scope was expanded so that 90.1 covers receptacles and process loads, including data centers. This allows future addenda to the standard to address energy consuming equipment and systems previously outside its scope.
- Building Envelope: Continuous air barrier and cool/high albedo roof requirements were added.

(cont...)

- Lighting: Most interior Lighting Power Densities were lowered, and additional occupant sensing controls and mandatory daylighting requirements were added for specific spaces, along with a new five-zone exterior Lighting Power Density table.
- Mechanical: Most equipment efficiencies are higher, energy recovery is required in more applications, economizers are required in more climates and more energy-conserving controls are required.
- Modeling requirements have been clarified and expanded so that building modelers can more accurately compare energy cost of their building project with an appropriate baseline building as defined by the standard.

“The 90.1 standard is a fluid document,” Mick Schwedler, immediate past chair of the 90.1 committee, said. “As technology evolves, the project committee is continually considering new changes and proposing addenda for public review. The rigorous, open, public review process following ASHRAE and American National Standards Institute (ANSI) procedures, results in a document that is both technically sound and reaches consensus.”

“I agree wholeheartedly with Mick on the strength attributes of Standard 90.1 based on our ASHRAE/ANSI consensus process,” echoed Steve Skalko, current chair of the committee. “As we look ahead to exploring new areas of energy savings from energy consuming equipment and systems, we will seek input from materially affected and interested parties. We welcome their input to help the project committee in this endeavor.”

The standard is written in mandatory code language and offers code bodies the opportunity to make a significant improvement in the energy efficiency of new buildings, additions and major renovations.

ASHRAE Hosts Building Energy Modeling Conference, BEMP Certification in April

ATLANTA— An integrated design approach to building energy modeling – and learning how to use modeling tools more effectively – improves the accuracy and reliability of simulation results and increases the return on time and resources invested to generate the models.

ASHRAE’s Energy Modeling Conference: Tools for Designing High Performance Buildings, April 4-6, 2011, ASHRAE Headquarters, Atlanta, Ga., will provide hands-on modelers and principals with the information to better harness the power of energy modeling tools. The conference covers modeling fundamentals, building component contributions, software demonstrations and case studies. A collaborative perspective is provided that demonstrates how energy models and computer simulations can assist all project team members in creating energy-efficient buildings.

For complete information or to register, visit www.ashrae.org/energymodeling. Registration is \$500 (\$450, ASHRAE, AIA and USGBC members).

“There are industry powerful modeling tools that enable engineers and architects to create and refine our vision of a building – its appearance, systems, operation and performance,” Lynn G. Bellenger, P.E., ASHRAE president and conference keynote speaker, said. “Understanding how to use those tools to model new and innovative system types and learning more about building physics will enable modelers to expand their abilities to design the high-performance buildings our clients demand and expect.”

In the conference’s spirit of integrated design, William J. Worthen, AIA, also joins Bellenger as a keynote speaker. Worthen is the American Institute of Architecture’s national director and resource architect for sustainability, serving as an expert on sustainability.

Sessions cover ASHRAE standards, the cost of energy modeling, modeling for a variety of building types, such as hospitals, data centers and labs, building information modeling and integrating building performance.

Energy modeling software companies are providing 30-minute demonstrations. One-on-one comprehensive demonstrations also are available.

In addition, on April 6, the U.S. Department of Energy is launching its development roadmap for EnergyPlus, OpenStudio, EPGUI and other tools. Attendees can provide feedback on the roadmap and on DOE’s general activities in the simulation tools area.

(cont...)

Also on April 6, ASHRAE will administer its Building Energy Modeling Professional (BEMP) certification examination. The BEMP certifies an individuals' ability to evaluate, choose, use, calibrate and interpret the results of energy modeling software when applied to building and systems energy performance and economics and to certify individuals' competence to model new and existing buildings and systems with their full range of physics. Certification applications (submitted online) must be received by ASHRAE 30 days prior to the exam. The application fee is \$415 (\$295 ASHRAE member).

ASHRAE Works to Expand Datacom Environmental Classes

ATLANTA – ASHRAE continues to widen the temperature and humidity ranges for servers through a soon-to-be-published third edition of the datacom book, "Thermal Guidelines for Data Processing Environments."

The first edition was published in 2004 and was groundbreaking in that it created the first global, vendor neutral environmental specification for data centers, according to Don Beaty, chair of the Publications Subcommittee of ASHRAE's Technical Committee (TC) 9.9, Mission Critical Facilities, Technology Spaces and Electronic Equipment. Prior to its publication, data center temperature requirements were set individually by each equipment manufacturer. This typically resulted in using the most stringent temperature plus a safety factor being used across the entirety of the data center.

The approach used by TC 9.9 for the first edition through to the present was to assemble a team of thermal engineers from the major commercial IT manufacturers to develop requirements. The first edition created a recommended temperature upper limit of 77 F (25 C), promoting the use of higher temperatures and endorsed by all of the IT manufacturers.

The second edition (2008) took considerable deliberation amongst the manufacturers and raised the recommended upper limit to 81 F (27 C). Both the first and second editions were groundbreaking (the first edition in unifying the industry and the second edition in enabling the potential to use economizers in many locations and applications), according to Beaty.

The third edition will be equally groundbreaking in that it will enable compressorless cooling (all cooling through economizers) in many applications. Accomplishing this has been a challenge since major tradeoffs (equipment size, equipment cost and operating cost) surface above a certain temperature threshold. This challenge is complicated because the threshold is not the same for all the manufacturers.

"Different locations, applications and business philosophies make it ineffective to force all equipment to be capable of the same high temperature tolerance (in some cases higher thresholds would negatively impact the return on investment)," Beaty said. "To address this, the third edition creates multiple server classes and therefore provides freedom of choice. This is particularly important since the thermal guidelines are used throughout the world."

Editors Note: The following information provides additional background information on TC 9.9 and the proposed environmental classes.

ASHRAE TC 9.9 was started in 2002 to be recognized by all areas of the datacom industry as the unbiased engineering leader in HVAC and an effective provider of technical datacom information, according to Beaty. Its scope covers all datacom (data processing and communication) facilities including rooms or closets used for communication, computers or electronic equipment.

The first initiative of TC 9.9 was to publish the book, "Thermal Guideline for Data Processing Environments." Prior to TC 9.9, commercial IT manufacturers published their own, independent temperature specifications. Typical data center temperatures were 20 or 21 C and a common notion of cold is better. However, most data centers are multi-vendor, resulting in the temperature defaulting to the most stringent requirement plus a safety factor.

TC 9.9 obtained informal consensus from the major commercial IT manufacturers for both "recommended" and "allowable" temperature/humidity ranges and for four environmental classes.

Another critical accomplishment was to establish IT equipment air inlets as the common measurement point for temperature and humidity compliance; requirements in any other location within the data center were optional.

(cont...)

The global interest in expanding the temperature and humidity ranges continues to increase. In 2008, TC 9.9 revised the requirements for Class 1 and 2 to be less stringent. The following are the current allowable and recommended maximum dry bulb temperatures:

- Class 1 – 32 C Allowable; 27 C Recommended
- Class 2 – 35 C Allowable; 27 C Recommended
- Class 3 – 35 C Allowable; N/A Recommended (no environmental control)
- Class 4 – 40 C Allowable; N/A Recommended (no environmental control)

Increasing the temperature and humidity ranges increases the opportunity to use compressorless cooling solutions. Typically the equipment selected for data centers are either Class 1 or 2. Class 3 is for applications such as personal computers and Class 4 is for applications such as “point of sale” IT equipment used indoors or outdoors.

These environmental specifications/classes are really the domain and expertise of IT OEMs. TC 9.9’s IT Subcommittee is exclusively comprised of engineers from commercial IT manufacturers; the subcommittee is strictly technical.

The commercial IT manufacturers’ proprietary design, field and failure data is shared (to some extent) within this IT Subcommittee enabling greater levels of disclosure and ultimate expansion of the environmental specifications.

“Prior to TC 9.9, there were no organizations or forums to remove the barrier of sharing proprietary information amongst competitors,” Beaty said. “This is critical since having some manufacturers conform while others do not, returns to the trap of a multi-vendor data center where the most stringent requirement plus safety factor or most likely preside. The IT manufacturers negotiated amongst themselves in private resulting in achieving some critical sharing of proprietary information.”

From an end user perspective, it is also important that they be provided with options for their multi-vendor facilities such as:

- Option 1 – use IT equipment optimized for a combination of attributes including energy efficiency but the dominant attribute being capital cost.
- Option 2 - use IT equipment optimized for a combination of attributes including some level of reliability but the dominant attribute being energy and compressorless cooling

The industry needs both types of equipment but also needs to avoid Option 2 increasing the cost of Option 1 by increasing manufacturing costs through mandatory requirements not desired or used by all end users. Expanding the temperature and humidity ranges can increase the physical size of the IT equipment (e.g. more heat transfer area required), increase IT equipment air flow, etc. This can impact embedded energy cost and IT equipment cost.

ASHRAE Winter Conference Sees Best Attendance in 15 Years

ATLANTA – The 2011 ASHRAE Winter Conference saw its highest attendance numbers in years, as well as the announcement of updated energy savings figures for ASHRAE’s energy standard.

Some 3,400 people attended the Conference, held Jan. 29-Feb. 2, in Las Vegas, Nev.; of that number, 400 were first-time attendees.

Also taking place in conjunction with the meeting was the Air-Conditioning, Heating, Refrigerating Exposition, which attracted over 54,000 registered visitors and exhibitor personnel. The Show was by far the largest and best attended AHR Expo in the Western states, with more than 1,900 exhibiting companies and their 20,000 exhibiting personnel—the second largest number of exhibiting companies in the Show’s history. Overall, the 2011 AHR Expo was the second largest held outside of Chicago.

The ASHRAE Conference offered a technical program with nearly 300 sessions, 20 educational courses and numerous social events. The meeting also featured more than 600 meetings of technical, standards and standing committees, developing guidance for the future of the industry and ASHRAE.

(cont...)

The biggest buzz at the Conference centered on the latest energy saving figures of ANSI/ASHRAE/IES Standard 90.1-2010, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, which provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings. Without plug loads, site energy savings are 32.6 percent and energy cost savings 30.1 percent. Including plug loads, the site energy savings are estimated at 25.5 percent and energy cost savings 24 percent. The standard is written in mandatory code language and offers code bodies the opportunity to make a significant improvement in the energy efficiency of new buildings, additions and major renovations.

Other Conference highlights included the Technical Plenary, with its focus on Standard 189.1, *Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings*. The Plenary drew over 700 attendees, with standing room only.

Additional sessions from the Technical Program are part of ASHRAE's Virtual Conference, which provides access to more than 250 presentations and PDFs of posters. Register or access presentations at www.ashrae.org/lasvegasvirtual.

Also offered were six Professional Development Seminars and 14 short courses from the ASHRAE Learning Institute. The most popular courses were *Using Standard 90.1 to Meet LEED Requirements*; *Determining Energy Savings from Performance Contracting and LEED® Projects: Measurement and Verification*; *Successful Solar Applications for Commercial & Industrial Facilities*; *The Commissioning Process & Guideline 0*; and *Energy Modeling Best Practices and Applications: HVAC/Thermal*.

The Conference served as the launch of ASHRAE's newest certification program, the Building Energy Assessment Professional certification, with more than 60 candidates taking the exam. The new certification recognizes individuals' ability to audit and analyze residential, commercial and industrial buildings. It complements ASHRAE's Building Energy Quotient program as well as the Building Energy Modeling Professional certification. Together, the programs provide a valuable toolkit when it comes to the evaluation and reduction of building energy use.

Top selling publications included Standard 189.1-2009; Standard 62.1-2010; the "ASHRAE Pocket Guide" and new publications including Standard 90.1-2010, "ASHRAE GreenGuide, The Design, Construction, and Operation of Sustainable Buildings," third edition; "Green Tips for Data Centers;" and the Standard 90.1-2010 User's Manual.



Enbridge Career Opportunity



Job Title: Commercial Energy Solutions Consultant
Reporting to: Manager, Commercial Sales
Department: Commercial Sales
Range/Salary: **7 (Min \$69,000 – Competitive Zone \$77,630 - \$94,880 – Max \$103,500)**

Location: Ottawa
Posting # / Job ID: S01854-11 / 12746
Closing Date: **March 31, 2011**
Contact: **Cathy Carriero – Cathy.Carriero@enbridge.com**

Responsibilities:

- Initiate pro-active customer contact and establish alliances with potential business partners (contractors, equipment manufacturers and suppliers, consulting engineers, ESCOs, etc) to ensure the capture of sales and achieve the energy efficiency
- Conduct building and system audits to identify opportunities to enhance energy efficiency and increase the market share of natural gas
- Prepare project documentation, including product selection, related installation details and energy calculations
- Prepare and present first stage feasibility studies that quantify costs and benefits of recommended solutions
- Using effective selling skills, assist the customer in understanding the benefits of the proposal and motivate them to commit to project implementation
- Provide technical assistance and team coordination to customers and business partners to ensure successful project implementation
- Assist the Market Development Group in the development of new programs and/or services to be marketed to customers
- Provide a high level of customer service, and support other business unit actions or activities as required

Qualifications:

- P.Eng. with five years technical sales experience in the commercial energy sector. Non-utility sales experience is an asset
- In-depth knowledge of design, installation and operation of HVAC systems, including steam equipment
- Broad understanding of gas-fired technologies, systems and ancillary components; product-specific knowledge gained via manufacturer seminars, specialized courses, etc
- Energy Management expertise; Certified Energy Manager (CEM) or GTI's Chartered Commercial/Industrial Gas Consultant (CCGC/CIGC) are considered an asset
- Business/Finance knowledge gained through certified programs or training is an asset
- Project Management experience
- Results orientated
- Self-motivated
- Customer focused
- Team orientated
- Interpersonal skills
- Communication skills



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Goodkey Weedmark *Consulting Engineers*

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The successful candidates must have strong interpersonal skills and a proven track record in a consulting environment with extensive knowledge of AutoCAD/Building Mechanical Systems, spreadsheet, word processing software and Windows based systems are mandatory. Candidates must be fluent in English (both spoken and written); French language is an asset.

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Hydro Ottawa Career Opportunity



Energy Services has an opening for an Energy Management Design Engineer reporting directly to the Energy Services Engineer. The Energy Management Design Engineer will be responsible for providing technical and project management support. The individual will identify, develop and design energy management solutions that will enable commercial customers to reduce their energy costs by improving the efficiency of their operations.

Required Education and Experience:

- Professional Engineer (P. Eng.), Mechanical, licensed in the province of Ontario
- Experience in mechanical design, energy management and building systems operations (i.e.: controls and HVAC systems)
- 5 to 10 years experience in the design of mechanical HVAC and plumbing systems
- Experience in site investigations, construction review, specification writing, contract administration
- Possess management skills that include business development, proposal and work plan preparation
- Computer expertise, specifically in MS Office and mechanical design related software

Considered as an Asset:

- Bilingual (French/English)

In addition, the ideal candidate is accountable, flexible, proactive, organized, priority focused and results and service oriented. With a focus on excellence, the Energy Management Design Engineer works well in a team environment, is analytical, logical, attentive to detail, innovative and has strong interpersonal capability, demonstrating integrity and credibility. Effective oral and written communication skills are required; English Essential.

Salary will be commensurate with qualifications.

If you are looking for challenging work and this profile meets your skills and abilities, please forward your cover letter and resume, quoting Competition Number M11-005 in the subject line of your email to: Hydro Ottawa Group of Companies, Human Resources, 3025 Albion Rd, Ottawa, Ontario K1G 3S4, or by: Fax to (613) 738-5487, or by Email to resume@hydroottawa.com using Microsoft compatible format.

The closing date for applications is March 11, 2011.

We thank all applicants for their interest; however, only those selected for interviews will be contacted.



Norr Career Opportunity



NORR Limited is a multi-discipline team of Architects, Engineers and Planners with a diversified sector portfolio. We deliver creative global building solutions for both private and government clients including commercial office buildings, as well as facilities for education, sports and recreation, hospitality, justice and correctional services, aviation and biotechnology. We are seeking a Senior Mechanical Engineer to lead our team in Ottawa. The candidate will report directly to the Manager, Mechanical and Electrical Engineering.

Position requirements will include:

- Leading and prioritizing multiple mechanical engineering design projects from original concept to complete preparation of construction drawings and specifications including tender and post tender process submissions, and construction contract administration
- Mechanical building systems investigation and report preparation
- Management and mentoring of staff
- Effective written and oral communication skills
- University Mechanical Engineering degree with 9 to 12 years' experience in Plumbing, HVAC, Fire Protection, and Building Automation System design and investigation in the Consulting Engineering field
- P. Eng. designation in Ontario

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Jonathan.Hughes@norr.com

ASHRAE Learning Institute Spring 2011 Online Course Series

2 WAYS TO REGISTER

Internet: www.ashrae.org/onlinecourses

Phone: Call toll-free at 1-800-527-4723 (US and Canada) or 404-636-8400 (worldwide)

Note: You may register up to 24 hours prior to an online seminar. Courses are in US Eastern Standard Time.



Using Standard 90.1 to Meet LEED Requirements
Monday, March 28, 2011 – 1:00 p.m. to 4:00 p.m.

District Cooling & Heating Systems: Central Plants
Wednesday, April 20, 2011 – 1:00 p.m. to 4:00 p.m.

Fundamental Requirements of ASHRAE Standard 62.1-2010
Wednesday, March 30, 2011 – 1:00 p.m. to 4:00 p.m.

Understanding Air-to-Air Energy Recovery Technologies & Applications
Monday, April 25, 2011 – 1:00 p.m. to 4:00 p.m.

Application of ASHRAE Standard 62.1-2010
Wednesday, April 6, 2011 – 1:00 p.m. to 4:00 p.m.

Basics of High Performance Building Design
Wednesday, April 27, 2011 – 1:00 p.m. to 4:00 p.m.

The Commissioning Process & Guideline 0
Monday, April 11, 2011 – 1:00 p.m. to 4:00 p.m.

Complying with Standard 90.1-2010 HVAC/Mechanical
Monday, May 2, 2011 – 1:00 p.m. to 4:00 p.m.

Avoiding IAQ Problems Using ASHRAE's New IAQ Guide
Wednesday, April 13, 2011 – 1:00 p.m. to 4:00 p.m.

Advanced High Performance Building Design
Wednesday, May 4, 2011 – 1:00 p.m. to 4:00 p.m.

Understanding Standard 189.1 for High Performance Buildings
Monday, April 18, 2011 – 1:00 p.m. to 4:00 p.m.

Complying with Standard 90.1-2010 Envelope/Lighting
Wednesday, May 11, 2011 – 1:00 p.m. to 4:00 p.m.



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ASHRAE Certification Programs

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- Gain real-world experience to make immediate contribution to design projects

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In three days, you will gain practical skills and knowledge to design, install and maintain HVAC systems that can be put to immediate use. The workshop provides real-world examples of HVAC systems including calculation of heating and cooling loads, ventilation and diffuser selection using the newly renovated ASHRAE Headquarters building as a living lab.

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- Mechanical design firms
- Architectural firms
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- Facility management departments
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- Utility companies



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- Building Energy Modeling Professional (BEMP)
- Commissioning Process Management Professional (CPMP)
- Healthcare Facility Design Professional (HFDP)
- High-Performance Building Design Professional (HBDP)
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For more info, visit
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certification](http://www.ashrae.org/certification)

***Hands-on modelers, principals responsible
for energy modeling projects – this conference is for you!***



ASHRAE | ENERGY MODELING CONFERENCE
Tools for Designing High Performance Buildings

April 4-6, 2011 ASHRAE Headquarters – Atlanta

ASHRAE Headquarters Seating is limited- register early!

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ASHRAE | ENERGY MODELING CONFERENCE
Tools for Designing High Performance Buildings

April 4-6, 2011 ASHRAE Headquarters – Atlanta

Lynn G. Bellenger, P.E., ASHRAE president - Keynote speaker

William J. Worthen, AIA, LEED AP - Keynote speaker

Sessions include:

- ASHRAE standards
- Cost of energy modeling
- Modeling for a variety of building types, such as hospitals, data centers and labs
- Building information modeling and integrating building performance
- Case studies

The conference covers energy modeling procedures, elements, and systems; case studies; and how different software applications address similar energy modeling challenges all while providing ample opportunities for networking.

ASHRAE is offering a special administration of the Building Energy Modeling Professional (BEMP) certification examination on April 6. There is a separate application fee for the certification exam. **Certification applications must be received by ASHRAE 30 days prior to the exam. Applications will not be accepted onsite.**

As part of the conference, The U.S. Department of Energy launches its development roadmap for EnergyPlus, OpenStudio, EPGUI, and other tools and introduces new, formal channels for public input. Attendees can provide feedback on the roadmap and on DOE's general activities in the simulation tools area.

Energy modeling software companies will offer 30-minute demonstrations. One-on-one comprehensive demonstrations also are available.

Registration is \$450/Member of ASHRAE, USGBC, or AIA / \$500 Non Member

This conference is ideal for hands-on modelers, principals responsible for energy modeling projects. For more information, and to register for the conference and apply for the BEMP exam, visit ashrae.org/energymodeling. Seating is limited – register early!



REGISTRATION

This conference seeks to explain building energy modeling and computer-aided building simulation by providing a program that focuses on understanding, manipulating, and optimizing building design choices and dynamics. The program covers modeling fundamentals, building component contributions, day lighting, the impact of renewable sources and waste energy recovery, system right-sizing, and 3-D computer simulation advantages.

For more information, visit ashrae.org/energymodeling

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Your registration cost includes continental breakfast and lunch on each day and a reception on Monday and Tuesday evenings.
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