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ASHRAE

NB PEI CHAPTER



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Board of Governors:

Jennifer Chapman, Pierre Comeau,
David Samuel, Devin Harinarine,
Shelby Gallant

October 2016 Issue

Next Meeting – Sustainability Night Tuesday October 18th, 2016

Location: **Alma City Club**
114 Alma St, Moncton
Parking is Available

Executive Meeting Notice

All members of the Board of Governors, Committee Chairpersons and the Executive are reminded that the executive meeting begins at 3:30 PM Tuesday October 18th, 2016 at the Alma City Club.

Meeting Agenda

3:30 pm – Board of Governors Meeting

5:00 pm – Social Hour

6:00 pm - Technical Presentation: Geothermal 101

7:00 pm – Supper will be (Slow Roasted Pork Loin, Roasted Potatoes and Vegetables, Strawberry Trifle for Dessert - Bruschetta Salmon is an option to the Pork Loin)

Members - \$25.00

Non-Members - \$35.00

Students - \$10.00

New Members/Students receive a complimentary first meal with ASHRAE NB/PEI.

Please RSVP meal at: treasurerashraenbpei@gmail.com

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Robert McEwen, P.Eng.
Mechanical Design Engineer
Associate

Moncton Saint John Halifax Charlottetown Toronto Winnipeg Vancouver

Introduction to Our Speaker

Marc Belanger

- * Graduated with honors from John Abbott College in Energy Management Technology
- * Began career in geothermal in 1988
- * Certified Geothermal designer
 - Oklahoma State University,
 - International Ground Source Heat Pump Association
- * Self-employed, 1994 – 1999
 - Distributor for radiant floor heating products & accessories
- * Board of Directors, Earth Energy Society of Canada
 - Participated in lobbying Government to secure federal funding of geothermal technology under the ecoEnergy program.
- * Board of Directors, Canadian Geo-exchange Coalition
 - 2011-2012, served as Chairman of the BoD & was key advisor for all CGC training material.
- * Master Group, 1999 - Present
 - Product Specialist for geothermal products & accessories, responsible for sales, marketing & training for both residential & commercial applications.




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Kigali Agreement to Limit and Cut Production of HFC Refrigerants

Article Provided By: Robert Hoadley, P.Eng.

Representatives of over 170 nations have agreed to limit and reduce the use of hydrofluorocarbons (HFCs). The Kigali Agreement was reached on 15 October 2016 in Kigali, the capital city of Rwanda.

The agreement is a revision to the 1987 Montreal Protocol, a United Nations treaty that phased-out the use of chlorofluorocarbon (CFC) refrigerants as a result of ozone layer depletion caused by those chemicals. The Montreal Protocol originally scheduled the use of hydro-chlorofluorocarbon (HCFC) as a transitional refrigerant until the introduction of HFCs. HFCs do not harm the ozone layer but have a global warming potential thousands of times that of carbon dioxide.

Developed nations such as Canada, the United States, Japan, and the European Union nations, will freeze production of HFCs in 2018, and begin to reduce production. Production of HFCs by developed nations will be cut to 15% of 2012 levels by 2036. Developing nations such as China and Brazil will freeze production in 2024. A group of the nations with the warmest climates, including India, Pakistan, the Gulf states, and Saudi Arabia, will not freeze production of HFCs until 2028.

Climate experts believe the agreement will eliminate the equivalent of 70 billion tonnes of carbon dioxide emissions by the year 2050. This is equivalent to two years of current global carbon dioxide emissions.

The Montreal Protocol has been in force since 1989, and was termed as “perhaps the single most successful international agreement” by former UN Secretary General Kofi Annan. NASA has found that ozone layer thinning has ceased, and that there is evidence of ozone recovery.

ANSI/ASHRAE Standard 62.1-2016 Ventilation for Acceptable Indoor Air Quality

First published in 1973 as Standard 62, Standard 62.1 specifies minimum ventilation rates and other measures for new and existing buildings that are intended to provide indoor air quality that is acceptable to human occupants and that minimizes adverse health effects.

Whereas changes to the 2013 edition of the standard primarily focused on usability and clarity, the 2016 edition includes a major change to the scope of the standard by which residential occupancies are moved from Standard 62.1 to Standard 62.2. Other changes to the 2016 edition include the following:

- A revised definition of "environmental tobacco smoke" (ETS) to include emissions from electronic smoking devices and the smoking of cannabis
- Revised operations and maintenance requirements to better align Standard 62.1 with the requirements in ASHRAE/ACCA Standard 180-2012
- New requirements to the Indoor Air Quality Procedure for determining minimum ventilation rates by considering the combined effects of multiple contaminants of concern on individual organ systems
- A change to explicitly allow environmental health and safety professionals to determine whether a lower air class is appropriate for a particular laboratory exhaust system
- A change to allow ventilation to be reduced to zero through the use of occupancy sensors for spaces of selected occupancy types
- Changes related to demand control ventilation to make clear that the standard is intended to be used for calculations for code review and also for physical operation



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Start planning your visit to the 2017 ASHRAE Winter Conference. The Conference Track Personal Scheduler is an interactive online tool that enables users to create their own itineraries for the conference by selecting programs to attend, skip, or read about later.

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ASHRAE NB/PEI Crested Polo Shirts for Sale

We now have a supply of men's navy blue polo shirts with our ASHRAE chapter logo embroidered on the left chest (see photo). These shirts are 100% polyester with moisture wicking properties and are anti-microbial.

They are available from Sharlene Innes for \$20 (cash please) in M, L, XL and 2XL sizes.





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Choo-Choo Choose Guideline 23-2016 Guideline for the Design and Application of HVAC Equipment for Rail Passenger Vehicles

“Guideline 23-2016, Guideline for the Design and Application of HVAC Equipment for Rail Passenger Vehicles, was developed in response to a need expressed within the rail passenger vehicle industry to adopt a more consistent approach to the design and application of HVAC systems that can be used as a basis for future designs,” Ken Hesser, chair of the committee that wrote the guideline, said. “Current inconsistent design approaches and sometimes widely varying requirements for similar applications have resulted in minimal standardization, excessive development efforts for similar equipment, and the resulting inefficiency and disproportionately high cost of equipment.”

The guideline applies to passenger carrying rail vehicles. These include three broad categories of rail vehicles or service: urban includes subways, street cars and light rail; commuter (sometimes referred to as regional or suburban) includes primarily electric multiple units (electrically powered from overhead catenary or third rail) and locomotive hauled trains that transport passengers from the suburbs to metro areas; and intercity trains that are typically the locomotive hauled long distance trains.

Estimates on the number of rail passenger vehicles worldwide are in excess of 100,000. Hesser noted that air conditioning design for rail vehicles present unique challenges over designing for buildings. Challenges unique to rail vehicles vs. buildings include:

- Designing equipment to be significantly more mechanically robust to withstand the dynamic shock and vibration environment
- Maintaining comfort with rapidly changing passenger loads and quickly changing environmental conditions (tunnels, stations etc.)
- Maintaining reliable operation in dirty environments
- Ability to continue operation when exposed to extreme transient thermal conditions in tunnels and when positioned adjacent to other heat generating equipment
- High tolerance for rapid supply voltage fluctuation and frequent power interruptions/restarts
- Tight packaging of high capacity equipment in limited spaces.
- Sizing capacity to accommodate rapid cool down/heat up when vehicles are parked without power for extended periods.



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2016-2017 Schedule

- October 18th :** Topic: Geothermal
Theme: Sustainability Night
- November 8th :** Topic: Water Sourced VRF Systems
Theme: Refrigeration Night
- December 13th :** Topic: Finances / Taxes
Theme: Past Presidents Night / Research
Promotion Night
- January 10th :** Topic: Cooling Tower Technology
Theme: TBD
- February 7th :** Topic: Canada Bread
Theme: Technical Tour
- March 14th :** Topic: BACnet Networking Systems
Theme: TBD
- April 11th :** Topic: Legionella and ASHRAE Standard
188-2015
Theme: Distinguished Lecturer
- May 9th :** Topic: Humidifiers
Theme:
- June 13th :** Topic: TBD
Theme: Membership Promotion

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by October 15th, 2016

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