

ASHRAE Ottawa Valley Chapter

Chapter Meeting #3 – Nov. 15th, 2011 (17:30 pm)



Meeting Date:	Nov. 15 th , 2011
Location:	Travelodge Ottawa, 1376 Carling Avenue
Attendance:	Total: 65
Theme:	Students in ASHRAE
Tech Session:	HVAC Systems by Joel Primeau
Table Top:	Master Group – EcoCute, Longhill Energy – Tower Tech
Program:	CO2 Refrigerant
Speaker:	Michel Lacompte - Member

Prepared by: Secretary Steve Moons

Tech Session (17:00-17:45)

Past President Joel Primeau presented a session on HVAC systems, which was attended by approximately 20 people.

Social (17:30 – 18:36)

Business Session (18:35 –19:00)

- President Stephen Lynch welcomed members, and introduced the Board of Governors and the Executive. He comments on the excellent attendance, and encourages continued use of the online registration system.
- Adam Moons welcomes new members Trudy Lucas, Cameron Haines, Richard Lemelien.
- Secretary Steve Moons apologizes for not having the guest list, and recaps the Bowling Social.
- President Stephen Lynch thanks the members who sponsor students and the Algonquin College design competition.
- Student Activities Committee Chair Matt Edmonds speaks to the increase in Carleton University's participation in ASHRAE, commends Algonquin and CEJEP for their strong participation. He mentions that Algonquin is again entering the design competition, and thanks the students for their participation. Barry Ridell and Chris Frauley are mentoring the team again this year.
- The four students from Algonquin speak to the membership about their design project.
- Regional Vice-Chair Joel Primeau eulogizes ASHRAE Past President Lynn Belanger.
- President Stephen Lynch asks members to email the OVC BOG if they are attending the ASHRAE winter meeting in Chicago in January. He asks that the membership at the meeting review the roster information on the tables for accuracy. He asks that they fill out the speaker evaluation form, and emphasizes that they help us choose a quality program for the membership. He then thanks Joel Primeau for the technical session.
- The monthly table tops are presented, EcoCute from Master Group, and Tower Tech from Longhill Energy.
- Past President Christine Kemp promotes the raffle of Senators tickets during dinner.

Dinner (19:00 – 19:40)

- President Stephen Lynch introduces the evening's speaker.
- Governor Georges Maamari discusses upcoming seminars, the first in February from an ASHRAE DL for chiller plant design, the second in April on ASHRAE standard 62.1
- President Stephen Lynch mentions that if any of the membership have requests for seminar topics or evening program topics to contact one of the BOG members.
- Past President Christine Kemp draws two sets of tickets for Senators games, donated by Direct Energy and SK Sheetmetal. The winners are Rod Lancefield and Peter Paciorek.

Evening Program (19:45 – 20:38)

- Michel Lacompte presents on R-744, CO2 Refrigerant
- Michel reviews the history of CO2 use in technology, and it's use as a refrigerant.
- It replaced ammonia and NO2 for safety reasons.
- It was replaced by R-12 in 1929
- CO2 is often used in Europe due to carbon taxes affecting the cost of other refrigerants.
- CO2 is the baseline (value 1) of Global Warming Potential (GWP)
- It is a byproduct of H2 production, sugar fermentation for beer, whiskey, etc., so it's production costs are low.
- CO2 must be 99.9% pure for use as a refrigerant
- CO2 produced as byproduct would be "dumped" if not used, so there is an environmental negative to not use it in other areas.
- Cost is approx. \$250/lb of refrigerant
- CO2 systems run at much, much higher pressures than conventional refrigerant systems, 4 times as high as R-410A
- CO2 refrigerant systems must be charged with gas before they are charged with liquid, otherwise the CO2 liquid will freeze in the system and block the refrigerant pipes.
- CO2 systems must be used in conjunction with other refrigerants for heat rejection, termed Secondary Fluid Systems, Cascaded Systems, Trans-Critical Systems
- Alternately, CO2 systems can be used to produce high temperature fluids as the heat rejection method.
- Advantages to the system include smaller refrigerant piping
- Energy costs for the overall system are roughly equivalent to current systems.

- President Stephen Lynch thanked Michel for his presentation and gave him a small gift.
- Meeting adjourned 20:40

Distribution:

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