

2004 - 2005

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Capital Communiqu

ASHRAE - AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS

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

OTTAWA VALLEY CHAPTER

e-mail:contact@ashrae.ottawa.on.ca

January 2005

EVENING PROGRAM

Tuesday January 18th, 2005. Social: 17:30 Dinner: 18:30 Program: 20:00 DATE:

Student Activities THEME:

PROGRAM: State of the Art Low Emission Boilers

Normand Brais, P.Eng., M.A.Sc., Ph.D. SPEAKER:

OVERVIEW: This presentation will consist of an overview of the evolution of combustion

> technology for coal, biomass, oil and natural gas burning systems for industrial steam generation. The presentation will describe some design guidelines and technical limitations in boiler and burner design. Issues such as combustion and heat transfer efficiency, emissions and cost constraints will be reviewed in light of past experience and recent knowledge acquired through computational fluid dynamic analysis. Strengths and weaknesses of current boiler and combustion system design will be identified and discussed. Preferred features of next generation, high efficiency, and ultra low emission burners will be defined along

with future trends in boiler design.

SPEAKER BIO: Normand Brais is a graduate in Mechanical Engineering from Polytechnique of

> Montreal in 1982; Dr. Brais also holds a Master's degree in Mechanical Engineering and a Ph.D. in computational fluid dynamics from the Institute of Energy and Nuclear

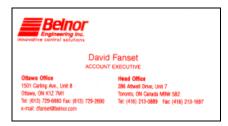
Engineering of Montreal.

He began his professional career with an American burner manufacturer. During this time, he also taught a course in Combustion Fundamentals and Power Plant Engineering for undergraduate students at the University of Montreal. In 1988, he was appointed full time Professor at the University of Montreal where he spearheaded the gas technology research programs of Gas Metropolitain as well as conducted his own research into numerical simulation of ultra-low NOx burners for boilers.

He co-founded National Combustion Equipment NATCOM Inc., to create a new generation of low emission burners for industrial boilers, NATCOM was acquired by Aqua-Chem in 2001. Dr. Brais is currently Senior Vice-President R&D and Member of the Board of Directors of Aqua-Chem, a holding company that owns Cleaver-Brooks, Nebraska Boiler, Industrial Combustion, Energy Recovery International, and NATCOM.

Menu

Hot Roast Potatoes, Chicken with Mushroom Sauce, Rice Pilaf, Baked Fish, Meat Balls, Penne with Tomato Sauce, Cold Chef's Salad with Dressings, Potato Salad, Crab Salad, Pasta Salad, Chick Pea Salad, to name a few; Assorted Cheeses, Coffee & Tea, Dessert









President's Message by Cathy Godin

We are never prepared for the results of random acts of violence, or misfortune, or accidental situations that cause pain and hardship, but we seem to be least prepared of all for *natural disasters*. I am of course referring to the Boxing Day tsunami strike in south-east Asia and the devastation and destruction that followed and continues to haunt our global cousins.

Each day the media reminds us of the human loss, the suffering of the survivors and the tremendous burden of those searching for loved ones. As time passes the acute need for safe drinking water, food, sanitation, medicines and medical treatment exponentially increases. Our feelings of helplessness are not uncommon.

"How is she going to tie this into ASHRAE", I suppose you are wondering? Well, the immediate suggestion that I have is to help support the Canadian relief fundraising efforts – Canada is currently the highest aid donor per capita in the world. This is not a contest, but a tribute to the generosity and spirit Canadians are renowned for. Until January 11th your dollar is matched by Prime Minister Martin's pledge. Please don't be dissuaded by recent reports of fraudulent donation schemes. There are many worthwhile avenues, a few of which I'll mention later. The long-term suggestion that I have is to use your professional training and backgrounds to continue improving technology for the benefit of all. One hundred years ago, 1905 exactly, the first annual meeting of the newly chartered ASRE (American Society of Refrigerating Engineers) was held, with a focus on standardizing ammonia tables and promoting the value of refrigeration for manufacturing, mining, photography, health care and food preservation. The latter two, along with fuel management, water purification and forensic preservation are the primary focuses of relief efforts today in the twelve countries most affected including Indonesia, India, Sri Lanka and Malaysia. Several ASHRAE Technical Committees and ASHRAE funded research projects are currently focused on humanitarian projects such as cryosurgical probe designs for incisionless cancer surgery and reduced risk of infection. Sharing knowledge and improving technology and standards are ASHRAE goals and your participation is contributing to a better world.

Back to financial assistance; ASHRAE has not specifically endorsed any fundraising alliances, but Engineers Without Borders suggests the following:

Canadian Red Cross [www.redcross.ca]
Doctors Without Borders [www.msf.ca]

The Salvation Army [www.salvationarmy.ca]

All three of these agencies are committed to both immediate and long-term relief efforts, as the recovery from this tsunami is expected to take many years.

I wish each of you a Happy New Year and trust that 2005 will improve and bring you many successes as we move along. Please read this Newsletter fully for information on our January program and tour. Don't forget that January is Student night and we encourage you to sponsor a student meal and take the opportunity to chat with your future colleagues.

Sincerely, Cathy Godin, President (2004-2005) ASHRAE – Ottawa Valley Chapter







Question: What did the first snowman say to the second snowman?

Tour

Nortec Air Conditioning Industries Ltd.

(613) 822-0335 2740 Fenton Rd Ottawa, ON

Time: 4:00pm Sharp, Tuesday January 18, 2005

Duration: 1 hour 15 minutes (approx.)

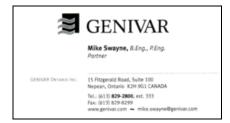
Capacity: Unlimited

Description: The original Nortec plant was built in 1985. The tour is in celebration of the new expansion of the plant. The office space has doubled to a total of 20,000 sq.ft. and the production area has tripled to 40,000 sq.ft.

During the tour you will see the warehouse junction, distributor production, 4 lab areas (Livesteam Lab, NH Lab, Gas Lab & Air Fog Lab) and various other areas.

Please notify Chris Workman [cworkman@zenix.ca] by no later than 12noon Tuesday January 11, 2005, should you wish to attend. Nothing quite like letting off steam at the end of the work day!











What You Missed Tuesday, November 16, 2004 Meeting by Glenn MacLean

Well if you didn't attend the November meeting you missed more than another great opportunity to network with industry associates and colleagues.

The pre-meeting technical session was presented by Dan Mason of Turbocor Compressors Inc. Dan gave a very informative presentation on this new type of compressor technology - what it is, how it works, how and where it's being applied and some of the advantages this technology offers.

The main meeting session included the installment of Rod Potter to the Board of Governors, an update on ASHRAE Research and the Resource promotion plan for this year by Jason MacMurdo, and an invite to future meetings of ASPE - extended by their treasurer Bernie DesLaurier. Jay Doshi also gave an explanation of the PAOE points system to the members and provided an update on our Chapter's current status.

The evening program was a very 'electric' presentation on Variable Frequency Drives, presented by Ken Fonstad of Danfoss Graham. Ken's unique ability to make the dry and sometimes incomprehensible world of variable speed drives both entertaining and understandable made for a very useful and enjoyable presentation.



Rod Potter installed as Governor by the right honourable David Eastwood, P.Eng.



Ken Fonstad poses with presentation under way



Ken Fonstad with good buddy and allround swell guy Doug Breckenridge of Breck-Mar









Table Top Display by Gary Hartmann



Vulcain's innovative VA301EM Expansion Module for Mechanical Equipment Rooms incorporating all the features and characteristics needed to meet the broadest range of customer requirements.



ASHRAE No 15-2001 Mechanical standard and B-52 security standards have been established to minimize risk and protect the safety of mechanical room personnel and the environment at large. Available in a special configuration, this Expansion Module has been carefully designed to meet and even to exceed these rigorous standards. The VA301EM can be configured to offer:

- * 4 Infrared Refrigerant Gas Sensors;
- * Automatic fan, horn strobe activation;
- * Manual fan override Key;
- * Break glass switch input;
- * Built-in 3-24Vdc outputs for horn operation;
- * Four fully programmable relays;
- * Up to four 4-20mA outputs.



Vulcain's Gas Detection Controller. The VA301C Gas Detection Controller provides continuous monitoring of up to 96 inputs/outputs, on three distinct channels, at distances of up to 2000 feet. Can offer data logging capacity, can be equipped and for ultimate flexibility for the commercial, institutional and industrial versions with a BACnet data communication module, available with full array of visual indicators and audible alarm, multiple fully programmable alarm levels, up to 768 events, up to 128 zoning groups. The VA301C can act as a nerve center of a modular gas detection network.



Total HVAC presents the Aaon Air Cooled Chiller. The model LL Chillers are well suited to the Canadian market. Standard features include: Scroll or screw compressors in a walk in cabinet, Double wall construction, full hinged access doors, completely factory assembled, wired and tested. Options include low ambient operation and microprocessor control. Sizes range from 32 to 345 tons. Units can be ordered with pump packages and environmentally friendly R410A. All Aaon products come with colour coded wiring diagrams and a cabinet constructed entirely of G90 galvanized steel and coated with polyurethane paint which passes 2000 hor salt spray test.

(...cont.)



Knauf Fiber Glass GerbH

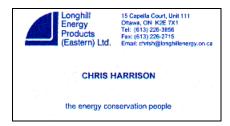
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Voice: (800) 825-4434 *8216. E-Mail: newe chyman@knauffiberglass.com

www.knauffiberglass.com

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(Table Top Display cont...)



The Master Group L.P. presents the York® SolutionTM Air Handling Unit and the York® LatitudeTM Air Cooled Screw Chiller.



The Solution TM Air Handling Unit from York® offers outstanding performance using air leakage less than 1% at ± 8 " w.g., L/240 deflection at ± 8 " w.g., and excellent thermal performance. This semi-custom unit can be used in indoor and outdoor applications of up to 50,000 CFM, and offers dimension (variable aspect ratio), material and component flexibility, which will help you meet the AHU requirements at a low cost of ownership.



The LatitudeTM Air Cooled Screw Chiller from York® offers the benefits of an air-cooled design, plus energy efficiency and quiet operation. Equipped with a variable speed drive (VSD), the LatitudeTM chiller has best-in-class design efficiencies as high as 10.3 EER, outstanding off-design efficiencies (IPLV) as high as 15.2 EER, which adds up to an average annual energy savings of 15 to 25% compared to ordinary air-cooled chillers. In addition, this chiller provides part-load sound levels as much as 6 dBA lower than competitive chillers, which translates into an apparent sound level that is 50% quieter. This R-134a chiller has dual circuit design for redundancy and is available starting at 150 tons.

Answer: "Can you smell carrots?"



(your card here!)





People on the Move by various



InAIR Environmental Ltd. is pleased to announce the most recent addition to our team, Mr. Donald M. Weekes, who has joined the InAIR team as of January 1st, 2005. Mr. Weekes holds a Bachelor's Degree in Environmental Science from Ramapo College, and a Masters in Occupational Safety & Health from the University of New York, along with his Certification as both an industrial hygienist (CIH) and safety professional (CSP). He has worked for more than 18 years within the engineering field, which will be a great asset to our team.

Mr. Weekes will be responsible for conducting environmental health assessments and evaluations, including, asbestos, lead, other hazardous materials evaluations, and indoor air quality investigations, including mould. He will also manage and deliver large and small occupational health related projects across all phases of the project lifecycle for a variety of clients.



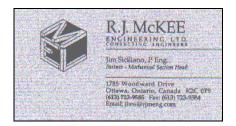
The Master Group L.P. is pleased to announce the appointment of Benjamin Moore, P.T. to the position of Applied and Commercial Sales Representative. Benjamin is a graduate of the building systems engineering technology program at St-Hyacinthe College, QC and has a two years experience in the HVAC industry. He will be a Master Group contact for mechanical consulting engineers and mechanical contractors in the Ottawa/Gatineau area.

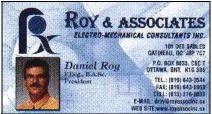


Total HVAC is pleased to welcome Steve Moons to the team. Steve will join Adam, Ed, Kevin and Andrew as a part of the Total HVAC sales force. Steve is an experienced sales engineer with a good background in applied systems and will be calling on engineers and contractors in the Ottawa area. We wish Steve great success in his new position.



Joel Primeau is now a principal at Arborus Consulting. Joel will use his experience as a facilities engineer, a designer and a sales engineer to offer technical advice to owners and architects on energy efficient and environmentally sound mechanical design strategies. His new email address is joelp@rogers.com.







Stemens Building Technologies, Ltd.

2435 Holly Lane Ottawa, Ontario K1V 7P2

Jack Teevens
General Manager

Tel: (613) 733-9781 Fax: (613) 737-4985 jack:feevens # sbt slemens com



PAOE Update by Jay Doshi

The PAOE is an important way ASHRAE chapters are recognized by the president of ASHRAE for excellence in performance. We at the Ottawa Chapter need your cooperation to excel in our PAOE points. Our current standings for PAOE in region II are as follows:

REGION II

2004-2005 Presidential Award of Excellence

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Chapter #	Chapter Name	Chapter Members	Membership Promotion Points	Student Activities Points	Resource Promotion Points	History Points	Chapter Operations Points	Chapter Technology Transfer Points	Chapter PAOE Point Totals
13	Quebec	173	25	301	41	150	340	185	1042
14	Montreal	393	425	800	28	75	773	613	2714
	Ottawa Valley	352	115	420	38	75	505	765	1958
16	Toronto	844	30	1555	73	75	644	485	2862
37	Hamilton	172	0	75	49	0	406	0	530
100	Halifax	116	0	0	0	0	0	0	0
116	London	98	0	75	53	100	590	225	1043
117	NB/PEI	97	125	75	37	0	75	50	362
141	Windsor	57	0	75	5	0	75	115	270

Additional details for each category of Chapter points are available on the website. Please advise Jay Doshi via e-mail (jay.doshi@siemens.com) if you have any events or meetings that may qualify for PAOE points.







Chapter/Regional Technology Awards

TEGA Update

by Bob Kilpatrick TEGA Awards Coordinator and Frank Vaculik TEGA Committee co-chair

At this time, the TEGA committee is encouraging the membership of the Ottawa Valley Chapter to submit a project for consideration in the annual Technology Awards Program.

The purpose of the ASHRAE Technology Awards is threefold:

- To recognize members who design or conceive proven innovative technological concepts;
- To communicate innovative systems to other ASHRAE members;
- To highlight technological achievements of ASHRAE to others, including associated professionals and societies.

The rules for submissions are few, and very simple:

- All entrants (or at least one member of a team submission) must be a member of ASHRAE;
- The entrant must have had a significant role in the design or development of the project;
- The project submitted must have been in operation for a minimum of 1 year.

The project can be from any category of building, either new or existing, including:

Commercial buildings Institutional buildings Health Care Facilities Public assemblies
Residential buildings

Industrial Facilities or Processes

Alternative and/or renewable energy use

The winners in each category at the Chapter level are automatically submitted in the Regional level competition, and winners at that level could be considered for an International award.

All that is required of you is to nominate an appropriate project, provide a minimum amount of documentation on the systems or concepts used in the design, and we will practically do the rest.

So, if you represent a consulting engineer, an owner, or whomever, think about an applicable project you have been involved with, and let us know about it.

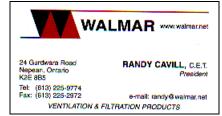
We are confident that there are many deserving projects out there and look forward to a large number of submissions this year.

We will continue to bug you.....I mean encourage you, throughout the campaign to participate in this year's awards program.

Go for that well deserved recognition!







2005 ASHRAE Curling Bonspiel

The 2005 ASHRAE Curling Bonspiel will be held this March 18/05 at the Nepean Sportsplex. Curling will be from: 1:00 pm until 6:30 pm with dinner to follow @ 7:00 pm in the Richmond Room. Spectators Bar & Grille will be open @ 11:30 am for lunch and refreshments for the balance of the day.

Cost is: \$240.00 per team (please book in teams of 4, if possible).

To book a team, please contact: Chistine Kemp christine@walmar.net or Chris Healey chris@walmar.net, or by phone: 225-9774 or by fax: 225-2972

See you there Chris Healey

ASPE Meeting Update

This months meeting will be held at Sirola's Steak House in Hull, QC., on Wednesday January 12, 2005. Social will begin at 5:30pm with seating to commence at 6:25pm.

This month's topic will be:

National building code 2005. Its key author, Raman Chauhan of the National Research Council, will be on hand to explain the conception, necessity, benefits and implications of the soon to be released code.



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, rodl@htseng.com, 728-7400









It Never Rains but it Pours by Rod Potter

My family and I traveled to southern climes over the Christmas period, namely to beautiful Orange County, California (my Mum lives there). Two years ago at this time we also visited there, and the weather was stunning to say the least. Clear blue cloudless skies virtually every day. That was then – this time it poured with rain for the entire holiday, and to be frank, California in the rain does not entertain.

Therefore we spent much of the time indoors, trying to find things to make us smile, including large doses of Donkey saying "Are we there yet?" while Shrek and Fiona cringe. My step-father, John Hammond P.Eng., originally steered me into this business and I was able to have many conversations with him about boring subjects like Mold (caused by all of that rain perhaps?) and related HVAC subjects. I moaned to him that I had yet to think of something to write for the January Communiqué Editorial, and he came up with some interesting ideas:

- Why are the toilets in North America designed with "flappers" that are notorious for leaking, while those sold in Great Britain tend to use a siphonic lift mechanism?
- Why are there no recognized codes for domestic hot water "deadleg" lengths in North America, when these are clearly defined in the CIBSE Guides in Great Britain?

Good suggestions both. While I was pondering their relative merits, I received an email from a Theresa McCracken, a cartoonist residing in Oregon. She was offering her services as a cartoonist for our Newsletter, at a very reasonable rate. So as a sample of her work, I include this hot-off-the-press tidbit:



"Our water bill is more than our vacation because this damn toilet was running the whole time we were away."

(...cont.)

I would appreciate it if you could send me feedback at <u>ashrae@rodders.com</u> regarding the cartoon and its relative merits. If the feedback is favourable, I will recommend that the services of Theresa are employed on a regular basis.

ASHRAE OTTAWA VALLEY CHAPTER MEETING LOCATION

Our meeting location is LA CONTESSA BANQUET HALL, 156 Cleopatra Drive, Nepean, K2G 5X2 Tel. 613-224-8700. Parking is available just to the north of the building in a small multi-storey parking lot. Make sure you lock your car and bring your valuables with you.

*** end of Communiqué ***



(your card here!)

