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THE HERRING CHOKER ASHRAE NB/PEI CHAPTER

April 2023

Table of Contents

- <u>Chapter Announcements</u>
- BOG Meeting & Presentation
- <u>Research Promotion</u>
- <u>Recap of Past Events</u>
- <u>Upcoming Events</u>
- <u>Awards & Scholarships</u>
- ASHRAE Job Board
- <u>Volunteering</u>
- 2022-2023 Chapter Schedule
- 2022-2023 Board of Governors

Chapter Announcements

1. Lucy's Engineering Adventure (Fundraiser)

Fellow ASHRAE members I am writing you today to ask for your support on an initiative that the executive committee has come up with. ASHRAE society has recently published a children's book called <u>Lucy's Engineering Adventure</u>, its target audience is the K-5 age range. Here is a description as published by ASHRAE:

"This rhyming picture book introduces children to building and HVAC engineering through a young girl's visit to an unfinished building, where her father uses a metaphor of the human body to explain the building's beams and columns, electrical system, and HVAC ducts. Lucy's curiosity is encouraged by her father throughout. This is ASHRAE's first picture book and was developed by ASHRAE's Student Activities Committee as part of their goal to promote and encourage engineering and HVAC&R careers."

The initiative that the executive committee is proposing is to provide a copy of this book to every English K-5 school in New Brunswick and Prince Edward

Island; the territories that we serve. We are targeting the English schools for now because it has not been translated to French just yet, but that is in the works along with several other languages! In order for us to be able to do this we need to raise the funds required to do this. Our goal is to raise \$2,500 to be able to purchase the books. Donations can be mailed to:

ASHRAE NB/PEI CHAPTER

P.O. Box 1629 Moncton New Brunswick E1C9X4

Please note on the envelope "Lucy's Engineering Adventure" somewhere on the mailed donation.

Alternately we can accept e-transfers at <u>treasurerashraenbpei@gmail.com</u> and again in the email please note Lucy's Engineering Adventure.

Any donation large or small will help to get us to this goal. We appreciate your support!

Kevin Clannon, CET President ASHRAE NB/PEI Chapter

2. Request for Assistance: Heat Pump Technology (HPT) Research Study through Annex 60

National Resources Canada are involved with Annex 60, a collaborative program with the IEA, which studies retrofit heat pump systems in non-residential buildings. The outcome of Annex 60 will be to provide high-level guidance for building owners and decision makers to implement heat pump technologies in their own buildings based on the successes and feedback of the industry.

This phase of research is titled "Task 2 - Case Studies of Existing Projects" and is looking for volunteers to simply fill out a high-level case study log on any buildings that meet the criteria. The submissions will be reviewed and those that are identified by Annex 60 as suitable projects will be contacted for more details.

More information can be found at the following links: <u>Annex 60 website</u> <u>Research Summary (pdf)</u> <u>Case Study Log (excel sheet)</u>

If you are interested in participating or have other questions please reach out to <u>frederic.genest@NRCan-RNCan.gc.ca</u>

3. Did you know we're on social media?!

Follow us on LinkedIn and Facebook to find out about events when they're announced (click the icons below or at the bottom of the newsletter).



BOG Meeting & Presentation April 11th, 4:00PM - 8:00PM AST

TOPIC: Fuel-Switching Hydronic Systerms with Airto-Water Heat Pumps

This presentation provides an overview of Air-to-Water Heat Pumps (ATWHP), and how they can best be leveraged to reduce building emissions in retrofits of hydronic systems and new construction alike. Designing Air-to-Water Heat Pump systems can be different than designing conventional chiller-boiler systems, however, when the technology and capabilities are understood, the hydronic system can be adapted to suit the central plant Air-to-Water Heat Pumps, and the energy and emissions savings can become significant.

See exactly how this technology fits into a low-carbon future with electrified buildings from the point of view of Energy Engineers, Mechanical Designers, and Energy Modelers. Learn about various ATWHP applications hydronic systems using 2-pipe, 4-pipe and Cascade System approaches, as well as how to best integrate the equipment with Domestic Hot Water systems. This presentation will demonstrate the significant energy use and greenhouse gas emission reduction potential of using reversible ATWHP systems instead of traditional cooling-only air-cooled chillers.

A detailed analysis will show the potential technology benefits of a partial fuel switch to the ATWHP system with Auxiliary Natural Gas or Electric Boiler for Peak Winter days and show the energy comparison and carbon reduction potential for various supplementary heating means.

The presentation concludes with an overview of operational cost comparisons of fossil fuel and electric heating systems, and how the financials will continue to become more favorable for electrified systems as governments and utility providers adapt their incentives, programs, and targets to transform the market towards sustainable electrified designs.

Key takeaways and Learning Objectives from the session:

1. Understand the concept of fuel-switching and its importance for high efficiency retrofit of existing building central plant systems.

2. Learn design strategies, sizing methodologies and application techniques of using air-to-water heat pump plant equipment including system optimization of central plant Energy Management Strategy (EMS).

3. Learn about the energy and cost savings, and emission reductions achievable with fuel-switching retrofit of traditional central plant systems with air-to-water heat pumps with supplemental gas or electric boiler.

Recommended audience: Engineers, architects, contractors, facility managers, educators, students, sustainability coordinators

About the Presenter: Chris DesRoches, P. Eng (Mitsubishi)

Chris is a Professional Engineer with over 10 years of experience in the HVAC industry in all aspects from Product Development and Testing to Sales & Service.

Chris holds a Bachelor's degree in Mechanical Engineering from Dalhousie University in Halifax, Nova Scotia. As Applied Product Manager, Chris is a subject-matter expert on Hydronic Heat Pump solutions.

Chris has a passion for efficient and environmentally responsible HVAC solutions which will be imperative in the preparation for the future of the built environment, as the industry strategizes to meet local and global targets to mitigate the effects of climate change.



Event Details:

When: Tuesday April 11th, 2023

Location:

Alma City Club - 114 Alma St, Moncton, NB

Agenda:

4:00pm - 5:00pm: Board of Governors (BOG) Meeting

5:00pm - 6:00pm: Social Hour

6:00pm - 7:00pm: Presentation

7:00pm: Dinner is Served

Pricing:

ASHRAE Members -\$30 Non-Members - \$55 Student & Retirees - \$20

Meal:

1. Blue Fin Tuna Steak with brown rice and fresh veggies

OR

2. Lobster Cheese Ravioli

Please RSVP by end of day Friday, April 7th

Click Here to Register



Research Promotion Knowledge is Power

This year's donations will be back up to their usual \$12,000+ (USD) if we on the RP commitee have our way. In the past years we have been as high as \$16,656!

Have a look.

Those horizontal bars represent the official target 5,000 and my personal target 12,000.

It should be quite doable since before Covid we were in that ballpark.



Our thanks to the donors and to **Mike Boudreau** for running a very successful campaign in 2016.

The clip posted here was the end fo the year Herring Choker. I got it from the Chapter History Archive which is available to all.

We hope you'll join the RP committee next year!



John G. Willden, Research Promotion Chair 2022-23 JohnWillden@Gmail.ca

Recap of Past Events

In Case You Missed It ...

March Presentation

On March 14th we were joined by NB Power's Chantal Daigle Verrier and Will Higgins to update us on the joint research and development effort with companies ARC Clean Technology and Moltex Energy with regards to Advanced Small Modular Reactors (aSMRs), the next generation nuclear technology.

Before getting into aSMRs, Chantal delivered a recap of NB Power's various energy efficiency programs such as Business Rebate Program, Commercial Building Retrofit Program, and Industrial Energy Efficiency Program. All of which can be found on the <u>Save Energy NB website</u>.

Now getting into SMRs; these are any type of reactor that are less than 300 MW (to put this in perspective a single on-shore wind turbine is between 3-4 MW). The new generation is considered advanced as they are built with inherent safety charactersist and passive safety, they have simple designs, provide low cost affordable energy, are able to recycle their own fuel thus producing less radioactive waste, and can modulate capacity making them

excellent baseloads to support renewables. The ARC-100 model is capable of producing 100 MW of power generation and operates with 99% fuel utilization and only needs to be refuelled every 20 years. The Moltex SSR-W (Stable Salt Reactor - Wasteburner) has a 300 MW capacity and operates using recycled fuel from Point Lepreau's CANDU reactor.

According to a <u>2050 Net Zero Technical Report</u> by SNC Lavalin, Canada currently has a nuclear grid share of 15% and should be aiming to increase this share to 24% by 2050 by continuously bringing plants online. This opens way to utilizing new aSMR technology which can be brought online quicker, has higher efficiency than previous generations of nuclear, higher safety factors, and more fleixbility with choosing site location. The 2050 plan will involve the addition of more than 100 SMRs throughout Canada.

NB's peak heating day in 2023 was February 4th with a demand of roughly 3,446 MW. NB Power's obligation is to have enough capacity to satisfy anticipated demand plus 20%. This puts the required grid capacity at about 4,100 MW. During peak days we are required to fire up fossil fuel plants, like Colson Cove, to help meet demand. On Feb 4th our grid mixture comes out to 2,000 MW of clean energy and 2,100 MW of fossil fuels.

ARC is aiming to have their first reactor operational by 2030 and Moltex by 2034. While aSMRs alone may not be the silver bullet to solve the net zero challenge by 2050, they will definitely be an important piece of the puzzle.

Click the links for for more information on <u>ARC Clean Technology</u> and <u>Moltex</u> <u>Clean Energy</u>.

Brandon Cosman, Communications Chair, 2022-2023 Brandon.Cosman@PMCEnergy.ca



Chapter President Kevin Clannon gifting our guests from NB Power. On left is Will Higgins and on the right Chantal Daigle Verrier.



Upcoming Events

The Future is Bright

Energizing Efficiency Conference 2023

May 24-25th, 2023

NB Power is hosting their annual energy efficiency conference at the Fredericton Convention Centre. It will span 2 days and cover topics from energy efficiency, energy management and carbon reduction. This conference is a great opportunity to meet others in the industry, share best practices and understand the NB's energy future.

Visit the link below for more details. If you register before April 5th (tomorrow) you can get an early bird discount!

Energy Efficiency Conference 2023

NB Power: Efficiency Lunch & Learns

Various Dates April - May, 2023

NB Power will be free one-hour information sessions on Energy Efficiency Programs for new construction and existing buildings. These sessions will be taking place throughout the province across multiple weeks. See the link below for a full schedule.

Serving Up Efficiency Knowledge



Awards & Scholarships

Step Right Up, Win a Prize!

1. ASHRAE Technology Awards – Chapter Competition

This year, the ASHRAE NB/PEI Chapter will host a Technology Awards Program to recognize innovative projects by Chapter Members.

The ASHRAE Technology Awards recognize members at the Chapter, Regional and Society levels for outstanding design and innovations for effective energy utilization.

The format of competition, deadlines, and judging are determined by the Chapter and will be announced shortly. The short application form (Link: <u>Chapter/Regional Application -- Short Form</u>) may be used for the Chapter competition and the regional competition for projects that move on to the Regional Competition.

Entries can be submitted for each of the following 7 categories:

- Commercial Buildings New, Existing and Existing Building Commissioning (EBCx)
- Institutional Buildings
 - Educational Facilities New, Existing and EBCx
 - Other Institutional New, Existing and EBCx
- Health Care Facilities New, Existing and EBCx
- Industrial Facilities or Processes New, Existing and EBCx
- Public Assembly Facilities- New, Existing and EBCx
- Residential Buildings New, Existing and EBCx

The ASHRAE NB/PEI Chapter's first and only Technology Award was awarded to Stephen Tweedie in 1999 for outstanding achievement in energy-efficient building design for the Nova Institution, a Federal women's correctional facility located in Truro, Nova Scotia in the Institutional Buildings category.

ASHRAE Region II, of which the ASHRAE NB/PEI Chapter is a member has a history of winning many Society level awards, and we hope to submit winning projects of our own.

The ASHRAE NB/PEI Chapter will submit one entry for each of the 7 categories listed above to the Regional Competition. See <u>Technology Awards Program</u> (<u>ashrae.org</u>) for more information, or reach out to your Chapter Technology Transfer Committee (CTTC) Chair, <u>yves.savoie@englobecorp.com</u>.



ASHRAE Job Board

Jobs, jobs, jobs!

The ASHRAE Job Board offers the following benefits for job-seekers:

- Search and apply for relevant jobs quickly and effectively.
- Set up job alerts for immediate notification of job postings matching skills and interests.
- Anonymous profiles and resume uploads.
- Useful tips and tools for improving job searching effectiveness.
- Single sign-in for ASHRAE members.

Employers can:

- Put their positions in front of ASHRAE's unique audience of engineering experts.
- Manage jobs and applicant activity on the Job Board site.
- Search the ASHRAE Job Board's candidate database.
- Limit applicants to only those qualified.
- Quickly find the right professionals for their positions.

The Job Board can be found at <u>www.ashrae.org/jobs</u>. The Job Board is designed to assist members and other industry professionals along with ASHRAE's student program, Young Engineers in ASHRAE, education and certification programs.

FRÉDÉRIK BERNARD Black & MCDonald	Advanced Energy Management Putting our <u>energy</u> into saving
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71 Loftus Street, Upper Level, Moncton, New Brunswick E1E 2N1 Tel: (506) 382-8010 Fax: (506) 388-2286 Mobile: (506) 380-9216 Email: fbernard@blackandmcdonald.com www.blackandmcdonald.com	Tel: (506) 857-0818 Ext 681 Fax: (506) 857-0867 Cell: (506) 878-7092
	ALEFTON AUTHORIZED DEALER Web: www.aemitd.com

Volunteering Many Hands Make Light Work!

Are you looking for ways to get involved in your HVAC community? Well look no further! Reach out to any of our BOG members or our Membership Promotion chair and find out how you can get started today! Or better yet come sit in on one of our monthly meetings to get a feel for things and see if it's right for you.

Our Chapter is always looking for volunteers to take on Chair or Co-Chair positions, collaborate on committees, and share feedback and ideas on how we can strive to be better than we were yesterday. Whether you're a consulting engineer, contractor, equipment supplier, property manager, or student we welcome all. By volunteering with ASHRAE you'll get the satisfaction of contributing to a global organization by making local impacts, you'll get to network with a wide range of fellow members of the community, you'll gain the experience of working with a Board of Governors structured organization, and much more!

Reach out to any member from the BOG or to our Membership Promotion Chair: Matthew Peachman [mpeachman@cbcl.ca] to get started!



2022-2023 Chapter Schedule Can't make this one? Plan for the next meeting!

2022-2023 ASHRAE NB/PEI PROGRAM

Date	Topic	Presenter	Theme	Venue
September 13, 2022	Decarbonization with Air-	Mike Genin, P.Eng	Government Affairs/	Alma City Club,
	source Heating		Student Night	Moncton
October 11, 2022	Laboratory Control and Isolation	Stephan Riffault,	Student/Gov	Alma City Club,
	Room Control Strategies	P. Eng		Moncton
November 8, 2022	ASHRAE NB/PEI Chapter 50th	President-Elect	Past Presidents	Legend's Lounge,
	Anniversary	Ginger Scoggins		Moncton
December 13, 2022	VRF System Panel Discussion	Panelists	Refrigeration	Alma City Club,
				Moncton
January 10, 2023	Cybersecurity in Building HVAC	YEA (Young Engineers In	Alma City Club,	
	Systems	Misty Givens	ASHRAE)	Moncton
February 16, 2023	New Brunswick Bill 12:	Jeff Delaney R	RP (Research Promotion)	Alma City Club,
	Construction Remedies			Moncton
March 14, 2023	Advanced SMR Development:	Chantal Daigle-	Sustainability	Alma City Club,
Warch 14, 2025	An Update from NB Power	Verrier, Will Higgins		Moncton
April 11, 2023	Fuel Switching with Air-to-	Chris DesRoches,	ТВА	Alma City Club,
	Water Heat Pumps	P. Eng	TBA	Moncton
May 9, 2023	TBD	TBD	Membership/Tour	Alma City Club,
				Moncton
June 13, 2023	PEI Tour	TBD	Membership/Tour	TBD, PEI

*On the scheduled dates above, the BOG meeting will typically begin at 4:00pm and the presentation at 6:00pm. Any changes to these times will be communicated in an email and on the website prior to the date.



2022-2023 Board of Governors The Knights of the Roundtable

Role	2022 - 2023 Executive/BOG	
President	Kevin Clannon, CET	Executive
President Elect	Mike Boudreau	Executive
Vice President	John Willden, PE	Executive
Research Promotion Chair	John Willden, PE	Executive
Treasurer	Dan Boudreau	Executive
Secretary	Jennifer Chapman	Executive
Membership Promotion Chair	Matthew Peachman	BOG
Student Activities Chair	Ted White	BOG
Historian	Ryan Gosson	BOG
Chapter Technology Transfer Chair	Yves Savoie	BOG
Newsletter Editor	Brandon Cosman	BOG
Communications Chair	Brandon Cosman	BOG
Grassroots Government Affairs	Zach Thorne	BOG
YEA Chairs	Roch Couturier	BOG
Refrigeration	Harold Gallant	BOG
Golf Tournament Chair	Jason Nelson	BOG
Webmaster	Brandon Cosman	BOG
MEET Liason	Kenneth Martin & Devin Harinarine	BOG
Golf Tournament Chair	Jason Nelson	BOG
BOG	Ryan Butler	BOG
BOG	Chris Ashton	BOG
BOG	Kevin Leger	BOG

Questions, comments, good HVAC jokes? ASHRAE NB PEI - Contact Us



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