

President Patrick St-Onge President Elect

Jason Alexander

Capital Communiqué

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

EVENING PROGRAM

Secretary	DATE:	Tuesday November 18, 2008. Tech: 16:30 Social: 17:30 Dinner: 18:30
Christine Kemp		Program: 20:00 - Travelodge Ottawa Hotel & Conference Centre, 1376 Carling
Treasurer Stophon Lynch		
Stephen Lynch		Avenue, Ottawa, Ont., 613-722-7600
Past President		
Rob Lefebvre	TECH	The Fundamentals of Refrigeration Piping Design
Governors	SESSION	As part of the Ottawa Valley Chapter's theme on the fundamentals, a technical
Paul Baker		session will be presented on the Fundamentals of Refrigeration Piping Design.
Steve Moons Donald Weekes		session will be presented on the Fundamentals of reinigeration Fiping Design.
Roderic Potter		
Georges Maamari		Properly configured and installed refrigeration-piping circuit's increases efficiency,
COMMITTEES		reliability, life of the system, while reducing maintenance and down-time.
Audit		
Cathy Godin		The presentation will review refrigeration system piping considerations, design
Research Prom.		guidelines, sizing recommendations and provide examples. The presentation will be a
Robert Lefebvre		
Membership		great opportunity for students, young engineers and those that need a refresher.
Phil Lemieux		
Program	THEME:	Research
Aaron Dobson		
Student Activities	PROGRAM:	High Performance New Construction
Sebastien Laroche		
TEGA	SPEAKER:	Susan Clinesmith
Thomas Chiykowski	SFLAKEK.	Susan Chinesimui
Chapter Historian		
Roderic Potter	OVERVIEW:	Design it right, build it better, and reap the rewards.
Special Events		This High Performance New Construction Program, a major initiative in the OPA,
Chris Healey		provides design assistance as well as financial incentives to encourage building
Adam Beales		owners and architects to include sustainable and energy-efficient features in new
Communiqué		construction and major renovation projects across Ontario.
Georges Maamari		construction and major renovation projects across Ontario.
Publicity		
Jason Alexander		Overall, the HPNC program is expected to eliminate 50 megawatts of peak electricity
Table Top		demand in Ontario by 2012.
Frank Bann		·
Telephone		The greater the electricity savings and the reduced kilowatt demand in excess of the
Cathy Godin		Ontario Building Code, the greater the incentives. The HPNC program will pay \$50-
Greeter		
Mike Swayne		\$400 in incentives per verified kW saved, as well as up to \$10,000 for modeling of
Roster		the building.
Kevin Toll		
Webmaster		"High performance" is a collection of design strategies and technologies for reducing
Roderic Potter		energy consumption, improving an indoor environment, and minimizing the
PAOE		environmental impact of a building. Every component and system must be integrated
Jason Alexander		
Business Cards		to work together, throughout careful planning, smart design and superior quality
Rod Lancefield		construction.
Nominations		
David Eastwood		The upfront investment is minimal if incorporated as early as possible in the design
CRC Action		stage. With high-performance buildings proving less expensive to operate – and much
Patrick St-Onge		easier to sell, rent or lease – the savings in operating costs over a building's lifetime
		far outweigh most initial investments in energy efficiency.

Capital Communiqué



EVENING PROGRAM (Cont)

SPEAKER BIO:

IO: Susan Clinesmith is the Manager of High Performance New Construction Program which Enbridge Gas Distribution is delivering for the Ontario Power Authority. This program was developed to encourage the design and build of more energy efficient commercial buildings and deliver 50 MW of electric peak demand savings across the province.

Prior to this, Susan was Manager of Business Markets Development for Enbridge Gas Distribution. In this role, she lead a team responsible for designing and implementing programs targeted to assist Enbridge's industrial, commercial, multi-residential and institutional customers in both the introduction of additional burner tips as well as in the efficient use of natural gas. In this position, Susan regularly represented the Company at the Ontario Energy Board.

Susan began her career with Enbridge in 1998 in New Construction Market Development focusing on builder relationships, in both the low-rise and high-rise sectors. In this role, Susan was instrumental in launching the successful construction heater program.

Immediately prior to joining Enbridge, Susan was Manager of the Project Management Office of the Ontario Home Builders' Association (1991-1998) focusing on the energy efficiency side of residential new construction and managed the R-2000 Homes Program in Ontario for OHBA and NRCan. Before joining the OHBA, Susan was with Canada's largest developer of condominiums as Manager of Marketing and Sales Services.

Currently, Susan is Chair of the Board of Directors of the Energy Solutions Center, a Washington, DC based organization of natural gas utilities that promotes the commercialization of gas technologies. She is a past member of the Board of Directors of the Greater Toronto Home Builders' Association and a former Board member of EnerQuality Corp., an organization focusing on energy efficiency in new home construction.

Menu Assorted Rolls and Butter Crisp Green Salad Pecan & Maple Mustard Crusted Pork Tenderloin Served with Roasted Potatoes and Seasonal Vegetables Strawberry Short cake Coffee & Tea

Chapter Members: \$30.00 Guests: \$45.00

Capital Communiqué



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PHONE: 613-224-7500







President's Message

By Patrick St-Onge P.Eng., LEED AP 2008-2009 OVC President

The theme for the November Meeting is Research Promotion. This year's chair for Research Promotion is our Past-President Robert Lefebvre who officially launches the Research Promotion Campaign. This campaign is conducted by the membership who raises funds to support ASHRAE's research programs in Canada. Please see Rob's article for more details about the Research Promotion Campaign.

The other theme of this month is Student's Activities. It is now very cliché to say that students are our Future, but as someone said recently, it seems now more appropriate to say that they are our Present. With that in mind, please take some time to talk with the students who come to our meetings and please sponsor one student meal if you can. ASHRAE is a great opportunity to attract new bright candidates to our industry.

Last month's meeting at the Travelodge was very well attended. We all enjoyed great food, great speeches, and great company at our new venue. Most of the comments have been very positive although we did have one hiccup with the availability of parking. The Hotel's parking structure was under construction making it very difficult to find a place to park the car. The lower level is now open at the back of the hotel and the top level will also be finalized in the next few weeks providing approximately 100 additional places. This will indeed help.

Last year's financial is now officially available and can be found attached to this month's communiqué.

Don't miss the November meeting. We have the chance of having Susan Clinesmith from Enbridge (by the way a major contributor to ASHRAE Research Canada) who will provide details on the High Performance New Construction incentive Program of the OPA (Ontario Power Authority).

Yours very truly,

Patrick St-Onge, P.Eng., LEED AP ASHRAE Ottawa Valley Chapter 2008-2009 President





John Lowery, REng.

Carner Canada Sales and 1050 Baxter Road Ottawa, ON K2C 3P1 Tel: 613-820-7810 Ext. 240 Watts: 1-800-551-8385 Ext. 24 Fax: 613-820-9462 Cell: 613-862-9228 werv@carrier.utc.com

Capital Communiqué

November 2008

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Carrier



What you missed

by Christine Kemp 2008-2009 Chapter Secretary

The Technical Session was "The Fundamentals of the Psychrometric Chart". This presentation was given by Robert Lefebvre, P.Eng., LEED AP. This session was well attended, for some it was a great review and for others, Robert provided a basic understanding on how to use this chart.

The theme for this meeting was "**Membership**". Phil Lemieux welcomed the new members and spoke about the benefits of being an ASHRAE member. As a member, you receive Publications, Handbooks, ASHRAE journal, access to website showing over 300 industry leading publications, Web seminars and courses, networking and much more. <u>New this year</u>- An easel will be put in participating offices announcing the next meeting, showing tech sessions and program. This will hopefully remind and entice people to attend the meeting.

Credit cards are now being accepted at the Ottawa Valley Chapter. Paying chapter dues, meal plans etc. has now become very convenient. A \$3.00 charge will apply on each transaction in order to cover our expenses for this service. Big thanks go out to Direct Energy who has generously donated a Laptop enabling this to happen. Also, thanks to Stephen Lynch for all his efforts to put this together for us.

- Doug Walkinshaw is a Fellow member. This is an honor; only 1% of the world wide memberships are fellow members.
- Joel Primeau was awarded his Chapter Service Award. Congratulations Joel.
- Table top was presented by Chris Fudge of Trane. -Bousquet Technologies

Patrick St-Onge has noticed that the Ottawa Valley Chapter losses a big part of our attendance prior to the speaker. A lot of work and time goes into putting together these programs. The main program will now start during dessert, this means no break. That being said Patrick promises that the meetings will be over by 9:00pm. Please feel free to give Patrick your feedback on this.

The meeting program was Building Envelope Systems and their effect on Mechanical Systems. This was presented by David Kayll, FMA, P.Eng of Morrison Hershfield.

The presentation provided an overview of building science theory with a focus on curtain wall building envelope systems and their relationship with mechanical HVAC systems.

Christine Kemp



Research Promotion



By Robert Lefebvre P.Eng., LEED AP 2008-2009 Past President and Research Promotion Chair

Hi Everyone,

It is my honour to be the Research Promotion chair for the Ottawa Valley Chapter this year. I am excited to be officially kicking off this year's campaign at the November chapter meeting.

However, before we start talking about this year's campaign, we first need to acknowledge everyone that made last year's Research Promotion campaign such a great success. As Glenn MacLean mentioned in his August Communiqué article, the Ottawa Valley Chapter invested over \$19,400.00 in ASHRAE Research Canada last year. That exceeded our goal by over 5%. Well done, Glenn! I will be personally thanking all of last year's donors and handing out some hardware at the November chapter meeting.

As for this year, our goal is once again \$18,500.00. We have already had a fantastic start. Through the raffle and hole sponsorships at the ASHRAE golf tournament in June, over \$5,750.00 was raised for ASHRAE Research Canada. However, we still have a long way to go, and we need your support.

As many of you know, every dollar raised for ASHRAE Research Canada stays in Canada. In reality, over 4 times the amount of research money raised in Canada is invested back into Canada. Over the last couple of years, more than \$350,000.00 of ASHRAE research money has been injected back into our local economy for research projects here in Ottawa. That's approximately a 10 fold return on investment for the Ottawa Valley chapter!

Here are some more reasons to invest in ASHRAE Research Canada:

- Continuation of studies impacting our industry
- > Development of new research, standards, guidelines and software benefiting your business & quality of life
- Recognition at the Chapter and Society Level
 - Mention in the Capital Communiqué
 - o Mention in ASHRAE Journal
 - o Mention at Annual & Winter Meetings
 - Commemorative Coin

I am counting on your support in continuing the long tradition of the Ottawa Valley Chapter members being a strong investor in ASHRAE Research Canada. Investments can be made directly at the ASHRAE website (<u>http://www.ashrae.org</u>), by cheque made out to ASHRAE Research Canada, or by credit card through me at <u>rlefebvre@gwal.com</u>. If you have any questions, please feel free to contact me at 613-727-5111 ext. 234.

Thank you,

Robert Lefebvre, P.Eng., LEED AP ASHRAE Ottawa Valley Chapter 2008-2009 Research Promotion Chair





1150 Morrison Drive Suite 410

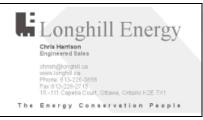
Greg Santyr, P.Eng., PMP

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Student Activities

by Sébastien Laroche 2008-2009 OVC Student Activities Chair

The November meeting is the first of our two student nights this year. The Student Activities Committee encourages every ASHRAE member to make a special effort and invite a student to the November meeting.

As we all know, the future of our association is passing through new members. By introducing a student to the November's meeting, you will not only be helping a student but you will also be contributing to the chapter membership, which is the driving force of any chapter.

It will be a great opportunity to promote ASHRAE and our chapter to the students from our neighboring Universities and Colleges, especially:

- Carleton University ٠
- University of Ottawa ٠
- Algonquin College •
- La Cite Collégial ٠
- CEGEP de l'Outaouais. •

Again this year, we have setup a busy year for Student Activities and we need volunteers to achieve our goals. Some people have already offered to participate in this year's activities, but we always need additional volunteers for the following areas:

- 1. Presentations to Universities and Colleges
- 2. Presentations to High Schools
- 3. Career Fair '09
- 4. National Engineers Week
- 5. ASHRAE winter meeting (Chicago)
- 6. ASHRAE Design competition mentors

If you are interested in any of these areas, please do not hesitate to come see me at the meeting, or contact me at any time at slaroche@pageaumorel.com or 819-776-4665 ext. 225.

As with all other monthly meetings, we encourage individuals or companies to support a student by sponsoring their meals. Please let the greeters at the front know that you would like to sponsor a student for the night. If you would like to sponsor student meals throughout the year we will recognized 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 it will include you in our list of previous donors in the Capital Communiqué.

Thank you for your support and special effort to make this first student night a success!

Sébastien Laroche

Capital Communiqué





Stéphan Riffault, P.Eng.

Sales Engineer sriffault@regulvar.com



Jim Siciliano, PEng. Partner/Mechanical Section Head Jim.Siciliano@mckeeottawa.ca 1785 Woodward Drive Ottawa, ON K2C 0P9 CANADA Tel.: (613) 723-9585 x109 Fax: (613) 723-9584 www.mckeeottawa.ca

More Student Related Information from ASHRAE

REGULVAR CANADA INC.

170, Laurier Avenue West, suite 714 Ottawa (Ontario) Canada K1P 5V5 tél.: (613) 565-2129 fax: (613) 565-8895

Check this out for update on student membership:

ASHRAE's Student membership and meetings: http://www.ashrae.org/students/page/698

Student Membership Information:

The annual dues for ASHRAE student membership are \$16.00. A student eligible for ASHRAE student membership is a person matriculated in an approved course of study in a university, college, junior college, or technical institute who is being educated in the arts and sciences covered by the Society's objectives.

Student status terminates one year after leaving school or graduating. A student may advance from a student to regular member status during the first year following graduation **WITHOUT** paying the \$165.00 dues fee at the time of the application. Students are still required to pay the \$16.00 annual dues during the membership year of transfer.

Transfer Program 16-40-40:

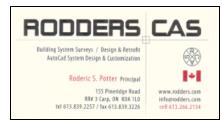
ASHRAE student members can continue receiving the many member benefits of ASHRAE after finishing college through the 16-40-40 program. The first year out of college, annual membership is still only \$16. Then it will only be \$40 for the second and third year.

What is the 16-40-40 student transfer program?

• Simply put, it is the best way for ASHRAE student members to continue receiving the many member benefits of ASHRAE after finishing college.

How does it work?

- 1. The first year out of college annual membership is still only \$16.
- 2. Then it is only \$40 for the second and third year.
- 3. You save up to \$274 and get three years of membership for \$96. (\$16-\$40-\$40)



Ray Rochefort Area General Manager

SIEMENS

Siemens Building Technologies, Ltd. 2435 Holly Lane Ottawa, ON K1V 7P2 Canada

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Table Top DisplayBy Frank Bann, P.Eng.



ommittee

HTS Engineering is pleased to feature Clean Energy Developments at their table top

Clean Energy Developments works with residential and commercial developers, builders, owners, consultants and contractors to help them integrate today's most energy efficient components, and in particular Geoexchange systems, into their projects. They are a full-service, multi-disciplinary company structured to handle all aspects and phases of a Geoexchange project from feasibility and conceptual analysis to design, installation and commissioning, with expertise in engineering and design, equipment supply, and Geoexchange loop installation. They can manage the entire process from start to finish or undertake specific components of any Geoexchange project, depending on the needs of the client. Financing solutions are also available.

This Canada wide company has worked on projects ranging from single family homes, entire communities, to high rise office building providing Geoexchange solutions.

www.cleanenergydevelopments.com



Breck-Mar is pleased to feature GasMaster at their table top

Breck-Mar Sales & Service would like to introduce GASMASTER Industries, a Canadian manufacturer out of Surry B.C. that specialize in condensing boiler technology. This boiler has a 316 Stainless Steel heat exchanger which combat the corrosive acids produced by the condensation. GASMASTER is the only boiler manufacturer

to provide input capacities from 200mbh up to 12,000mbh with maximum operating temperatures up to 210° F

at 160psig. They are also approved for space heating and domestic hot production. If you would like to learn more about the product, please come and visit us at our boot at the ASHRAE meeting this month.





Student Sponsors

By Stephen Lynch 2008-2009 OVC Treasurer

The student sponsors for the ASHRAE Ottawa Valley Chapter October 2008 meeting are as follows:

Mike Swayne

Your student sponsorship is much appreciated by the ASHRAE Ottawa Valley Chapter. Your contribution to help compensate student meals allows the chapter to provide meals to the students at no cost to them. A lot of the students that attend these meetings will one day become ASHRAE members and your contributions help to grow our membership which is the heart of the Ottawa Valley Chapter.



ASHRAE Advanced IAQ Design Guide – Upcoming Seminar

By Donald Weeks 2008-2009 OVC Governor

On April 22nd, 2009, an ASHRAE seminar will be broadcast on the new ASHRAE publication, the *Advanced Indoor Air Quality (IAQ) Design Guide for Non-Residential Building*. The Ottawa Valley Chapter will be sponsoring the broadcast at the Trane offices located at 1024 Morrison Avenue, Ottawa, ON.

In 2006, ASHRAE received a \$510,000 grant from the U.S. Environmental Protection Agency (EPA) to provide guidance for designing and building healthier buildings with effective operation and maintenance programs that reduce exposure to toxics and asthma/allergy triggers.

The three-year grant was used to write the *Advanced Indoor Air Quality (IAQ) Design Guide for Non-Residential Buildings*, which will help professionals implement high performance designs, improve indoor air quality performance, increase energy efficiency and decrease the environmental impact of exposure to air toxics in a broad range of non-residential buildings.

ASHRAE collaborated with the U.S. Green Building Council, the American Institute of Architects and other organizations that address indoor air quality. The guide will facilitate the design process so that advanced practice can be accomplished within the constraints of typical construction and design fees.

The Guide is expected to be published in late 2008, with an ASHRAE Professional Development Seminar based on the guide scheduled for April, 22nd, 2009. Details on the broadcast will be made available in early 2009. Make plans to attend this interesting and important broadcast!

Donald Weeks



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Adam Beales Principal Total HVAC Inc. Fax 29 Cleopatra Drive Res: Cell: Necean, Ontario Canada, K2G 086 Email: adamb@totalbuac.com







News Update

By Robert Lefebvre P.Eng., LEED AP **OVC** Past President

Technical News: ASHRAE Publishes Residential IAQ Guideline

(613) 723-4611

(613) 723-4677 (613) 825-7319

(613) 223-2112

October 7, 2008

ATLANTA – A new residential ventilation and indoor air quality (IAQ) guideline is now available from ASHRAE.

ASHRAE Guideline 24-2008, Ventilation and Indoor Air Quality in Low-Rise Residential Buildings, is the companion guideline to ANSI/ASHRAE Standard 62.2-2007, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, the only nationally recognized ventilation and IAQ standard developed solely for residences. Guideline 24 provides information on achieving good IAQ that goes beyond the requirements contained in Standard 62.2 by providing explanatory and educational material not included in the code-intended standard.

The guideline, which was written by the committee responsible for maintaining Standard 62.2, includes information on envelope and system design, material selection, commissioning and installation, and operation and maintenance.

Committee chair Steven Emmerich said, "While Standard 62.2 contains the essential minimum requirements that all lowrise residential buildings should meet to achieve acceptable IAQ, Guideline 24 is an essential resource for designers, builders and others looking for reliable information on topics not covered in the standard or seeking to go beyond minimum for high performance construction. Topics covered range from fundamentals of building airflow to humidity control to verification of equipment performance."

Sustainability News:

IFMA, ASHRAE Collaborate on Energy Efficiency Issues

October 7, 2008

ATLANTA —With buildings accounting for 40 percent of primary energy use in developed nations, it is becoming increasingly important to find ways to build and operate them in an energy efficient manner. In recognition of this, the American Society of Heating, Refrigerating and Air-Conditioning Engineers and the International Facility Management Association are entering into an agreement that increases cooperation between the two groups.

The memorandum of understanding, to be signed at IFMA's World Workplace 2008 Conference & Expo, calls for sharing resources and collaborating on projects, publications, sustainability research and educational offerings that will be beneficial to both organizations' members and constituents. ASHRAE and IFMA will also work together on legislative and regulatory issues through their Washington, D.C., offices.

(cont...)

"Engineers and facility managers share an important relationship in creating and maintaining buildings that are safe, healthy and energy efficient," said Bill Harrison, ASHRAE president. "Now, ASHRAE and IFMA are seeking to take that cooperative relationship to the next level. This agreement strengthens the existing partnership between our two organizations. By working together on issues in the built environment, we can enhance our respective efforts to create a sustainable future."

"ASHRAE's indoor air quality standards have long provided benchmarks and guidelines for facility managers to use in keeping workers comfortable, safe and productive," said David J. Brady, IFMA president and CEO. "In the new era of triple bottom line accountability on financial, social and environmental contributions, the need for energy vigilance and conservation is greater than ever."

The memorandum will be signed at 2:30 p.m. on Thursday, Oct. 16, at a press conference during World Workplace. Long recognized as the world's premier educational and networking conference for facility managers and those in related fields, World Workplace brings industry leaders from the world's top business and government organizations together with educators and exhibitors to focus on the future of the work environment. Now in its 29th year, the conference will feature 83 educational sessions and new product demonstrations by more than 300 manufacturers from across the globe.

HYDRO OTTAWA'S 2008 CONFERENCE

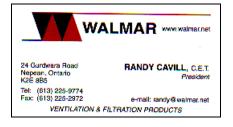
Join us on November 26 + 27, 2008 at the Hampton Inn & Convention Centre, for this year's **Energy and Conservation Symposium, Powerful Alternatives**. This important industry event will showcase the latest products, services and technologies available in the market place to promote energy conservation and improve building efficiency to lower operational costs. Learn smart energy strategies by hearing proven success stories, and discover the funding opportunities and incentive programs that are available.

The Symposium targets Ottawa's medium to large commercial and industrial customers with an interest in conservation efforts and efficiencies for building electricity and gas consumption.

For many ASHRAE members, this conference might constitute some new information about various technologies relevant to this industry. Our early bird rate for the Conference registration is until November 4th, so hopefully you might be able to spread the word to ASHRAE members before this date. Please see our website for more information: www.hydroottawa.com/conference2008.

PROSTATE CANCER ASSOCIATION COMMUNITY MEETING

The regular monthly meeting of PCAO is scheduled for Thursday November 20th at 7:00pm in the parish hall of St. Stephens Anglican Church, 930 Watson Street (enter off parking lot at rear of the church). Take Queensway then travel a short distance north on Pinecrest and turn west on St. Stephen's Street. Doctors Watterson and Blew will provide a Team approach in addressing Laparoscopic Surgery: **Today's Frontier, Tomorrow's Standard** Newly diagnosed and friends are most welcome to attend. Call (613) 828-0762 Or www.ncf.ca.pca for information





100-3740 Richmond Road Ottawa, Ontario K2H 589

Tel: (613) 596-6454

Patrick St. Onge, P.Eng, LEED AP Project Manager – Mechanical Enginee

www.WBBPengineering.com patrick.stonge@WBBPengineering.com

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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 also appear on the Chapter website.

Cost is \$225.00 for the year; contact Rod Lancefield, <u>rodl@htseng.com</u>, (613) 728-7400.



Committee

Your card here!



ASHRAE Ottawa Valley Chapter 2007 to 2008 Season Budget July, 2007 - June 30, 2008

Item	Ham Description	Budget		Budget				Actual	(fiscal year end June 30, 2008)
item	Item Description	Quantity		Sub-Total	Total	Quantity	Unit Price		
Meals	Corporate Meal Plan	10	\$180.00	\$1.800.00		11	\$180.00	\$1,980.00	
Mears	Full Year Meal Plan	35	\$180.00			37	\$180.00	\$1,980.00	
	Half Year Meal Plan	0	\$0.00	\$0.00		8	\$100.00	\$800.00	
	Member Meals Purchased at the Door	100	\$30.00	\$3,000.00		122	\$30.00	\$3,660.00	
	Guest Meals Purchased at the Door	75	\$45.00			21	\$45.00	\$945.00	
	Life or Fellow Meals Purchased at the Door	20	\$20.00	\$400.00		28	\$20.00	\$560.00	
	Total Meals	240			\$14,175.00				\$13,865.00
Membership Dues	Paid Direct to Chapter	20	\$50.00	\$1,000.00		49	\$50.00	\$2,450.00	
	Paid Through Society	150	\$50.00			146		\$6,065.28	
	Retiree & Student Chapter Dues	10	\$30.00			1	\$30.00	\$30.00	
	Member dues for 2008-2009 Season	0	\$0.00	\$0.00		5	\$50.00	\$250.00	
	Total Membership Dues	180			\$8,800.00				\$8,795.28
Cominom	Career Fair (January)	15	\$200.00	\$3.000.00		1		\$2,100.00	
Seminars	Life Cycle Costing Seminar (October)	25	\$200.00	\$7,500.00		1		\$2,100.00	
	Commissioning Seminar (March)	15	\$325.00			1		\$14,860.00	
	Total Seminars	15	<i>4</i> 323.00	\$4,075.00	\$15.375.00			\$14,000.00	\$25.910.00
	rolar commune				¢10,070.00				420,010.00
Special Events	Golf Tournament (September)	36	\$500.00	\$18,000.00		1		\$21,925.00	
	Curling Bonspiel	12	\$400.00			1		\$5,965.00	
	Total Special Events				\$22,800.00				\$27,890.00
Miscellaneous									
	Business Card Ads	25	\$225.00			1		\$6,875.00	
	Table Top Displays	14	\$200.00			15	\$200.00	\$3,000.00	
	Web Site Advertisements	0	\$50.00			1	\$50.00	\$50.00	
	Student Affairs Raffle Tickets	0	\$0.00			0	\$0.00	\$0.00	
	Student Meal Sponsors	40	\$20.00			17	\$20.00	\$340.00	
	CRC Reimbursement	1	\$2,488.20	\$2,488.20		1	\$2,488.20	\$2,488.20	
	Total Miscellaneous Revenues				\$11,713.20				\$12,753.20
ASHRAE Research	Research (money held in trust)	1	\$3,463.00	\$3,463.00	\$3,463.00	1	\$3,463.00	\$3,463.00	\$3,463.00
TOTAL REVENUE					\$76,326.20				\$92,676.48
Annual Chapter Expenses	Chapter PO Box	1	\$130.00	\$130.00		1	\$125.08	\$125.08	
	President's Pin	1	\$180.00			1	\$150.74	\$150.74	
	Award Plaques & Speaker Gifts	10	\$50.00				misc.	\$1,193.57	
	ASHRAE OVC Domain Name Registration	1	\$170.00	\$170.00		1	\$162.92	\$162.92	
	ASHRAE OVC Website Registration	1	\$423.47	\$423.47		1	\$423.47	\$423.47	
	Postage & Delivery	1	\$0.00	\$0.00		1	\$267.64	\$267.64	
	Total Chapter Expenses				\$1,403.47				\$2,323.42
Meals	Venue Rental & Meals for Attendees	500	\$32.25	\$16,125.00		7	misc.	\$18,943.64	
Medis	Complimentary Meals for Speakers	500	\$32.25			0		\$10,943.04	
	Complimentary Meals for Speakers	0	\$32.25	\$225.75		0	\$0.00	\$0.00	
	Prescott for September Meeting & Meals	1	\$1,700.00	\$1,700.00		1	\$1,645.93	\$1,645.93	
	BOG & Planning Meeting Meals	9	\$100.00	\$900.00		11	misc.	\$1,777.83	
	Total Meals Cost	0	\$100.00	\$500.00	\$18,950.75			\$1,777.00	\$22,367.40
CRC 2007	CRC Registration	1	\$3,175.00	\$3,175.00		1	\$3,175.00	\$3,175.00	
	CRC Contribution	145	\$6.00	\$870.00		145	\$6.00	\$870.00	
	Hotel Accommodations (incl. in registration)	0	\$0.00	\$0.00		0	\$0.00	\$0.00	
	Travel	1	\$4,206.48	\$4,206.48		1	\$4,530.59	\$4,530.59	
	Miscellaneous	1	\$300.00	\$300.00		0	\$0.00	\$0.00	
	Total CRC Cost				\$8,551.48				\$8,575.59
Special Events	Golf Tournament	1	\$19,250.00	\$19,250.00		1	misc.	\$20,780.91	
	Curling Bonspiel	1	\$3,500.00				misc.	\$4,830.07	
	Regional Chair Visit	1	\$500.00	\$500.00		1	misc.		
	Total Special Events Cost				\$23,250.00				\$25,610.98
Seminars	Career Fair (January)		\$3.000.00	\$3,000.00			mina	\$184.47	
Jonillidis	Career Fair (January) Life Cycle Costing Seminar (October)	1	\$3,000.00				misc. misc.	\$184.47 \$5,795.07	
	Life Cycle Costing Seminar (October) Commissioning Seminar (March)	1	\$6,298.13 \$4,000.00	\$6,298.13			misc. misc.	\$5,795.07 \$2,091.52	
	Commissioning Seminar (March) Total Seminars Cost	1	.000.0U		\$13.298.13	1		φ2,091.52	\$8,071.06
	rotar seminars Cost				\$13,280.13				\$8,071.06
Chapter Committees	History	1	\$600.00	\$600.00		1	\$428.69	\$428.69	
enapter committees	Newsletter/Mailing	1	\$400.00	\$400.00		0	\$0.00	\$0.00	
	Student Affairs	1	\$1,500.00	\$1,500.00		0		\$0.00	
	TEGA	1	\$100.00	\$100.00		0	\$0.00	\$0.00	
	Membership	1	\$500.00	\$500.00		0	\$0.00	\$0.00	
	Roster	1	\$1,000.00	\$1,000.00		0		\$0.00	
	Program	1	\$500.00			0	\$0.00	\$0.00	
	Total Committee Costs				\$4,600.00				\$428.69
Missellenesse	Paals Charges		foo	A00			#00.CT	\$68.00	
Miscellaneous	Bank Charges Photography	1	\$90.00 \$800.00			1	\$68.00 \$1,594.66	\$68.00 \$1,594.66	
	Office Supplies & Misc. Printing	4	\$250.00	\$250.00		1	\$1,594.00	\$1,594.00	
	Reframing of ASHRAE Charter	1	\$250.00			1	\$115.00	\$115.00	
	Equipment Rental (allowance)	1	\$0.00			0	\$188.33	\$188.33	
	Ray Young Candy Bowl Candy	1	\$300.00	\$300.00		0	\$0.00	\$0.00	
	DL Speaker Expenses	4	\$0.00	\$32.00		1	\$215.62	\$215.62	
	GST Adjustment	0	\$0.00			1	\$215.62	\$215.62	
	Total Miscellaneous Costs	U	φ υ. 0ს	φυ.00	\$1,472.00		920.04	φ20.04	\$2,209.65
	Research (money held in trust)	1	\$3,463.00	\$3,463.00	\$3,463.00	1	\$3,463.00	\$3,463.00	\$3,463.00
ASHRAE Research									
ASHRAE Research TOTAL EXPENSES					\$74,988.83	_			\$73,049.79
					\$74,988.83				\$73,049.75