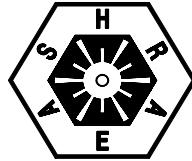


# THE BADGERAIRE

AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS, INC.

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A PUBLICATION OF THE WISCONSIN CHAPTER OF ASHRAE

Volume Number 2007/8-II – October, 2007

## October Program: Joint Meeting With PMSCA October 11, 3:00 PM, Best Western Midway, 1005 S. Moorland, Brookfield

### INCLUDING GREEN REQUIREMENTS IN HVAC SYSTEM BIDDING & CONTRACT DOCUMENTS

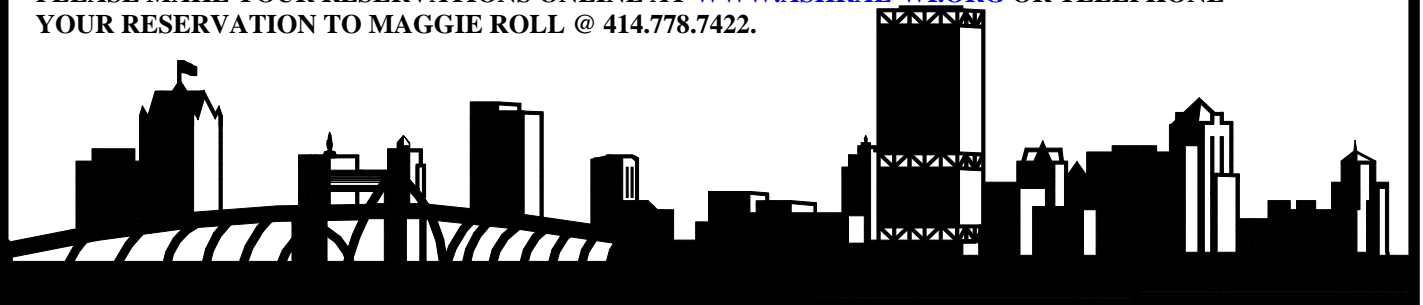
Concern about the environment and the future of our planet has become the focal point of everyday conversation, political debate, and media coverage in the United States today. Commercial and residential buildings consume about 40 percent of the energy used in the United States according to the U.S. Department of Energy's Energy Information Agency. Further, both the amount of energy used in these buildings and its percentage of the total U.S. annual energy usage is projected to increase in the coming decades despite conservation efforts. As a result, more and more building owners including all levels of government are demanding high-performance buildings and seeking third-party certification to verify and publicly recognize their commitment to improving the environment. Unfortunately, green requirements are not always adequately covered in the bidding and contract documents leading to misunderstandings and disputes during construction that can mar an otherwise very successful sustainable building project.

Both the HVAC designer and contractor have key roles and responsibilities in the success of any green building project. These roles and responsibilities go beyond the technical aspects of the HVAC system and need to be addressed in the project's bidding and contract documents. This presentation will provide an overview of green building rating systems and requirements as they apply to the HVAC system design and installation, address differences in responsibilities between a traditional building project and a green building project, and discuss how green requirements should be included in the HVAC bidding and contract documents to minimize risk for all parties and ensure a successful project.

Dr. Thomas E. Glavinich is Associate Professor of Civil, Environmental, & Architectural Engineering at The University of Kansas (KU). At KU, Tom teaches undergraduate and graduate courses in construction engineering and management. Prior to joining KU full time in 1992, Tom worked for 16 years in industry and was involved in the planning, design, and construction of commercial, industrial, and utility facilities. Tom is a registered professional electrical engineer in California, Kansas, and Missouri, is a Fellow of the Architectural Engineering Institute, and just completed the *HVAC Contractor's Guide to Green Building Construction* for SMACNA.

**Prices:** The program is free and includes dinner. There will be a \$35 no show fee. Checks should be made payable to the "Wisconsin Chapter of ASHRAE."

PLEASE MAKE YOUR RESERVATIONS ONLINE AT [WWW.ASHRAE-WI.ORG](http://WWW.ASHRAE-WI.ORG) OR TELEPHONE YOUR RESERVATION TO MAGGIE ROLL @ 414.778.7422.



## From the President's Desk

*By David Grassl*

Hello everyone. For those of you that were able to make it out to the Pettit Center, I hope you enjoyed the tour. Typically our break between meetings isn't as quick as it is for these two months, but hopefully we can get another great turnout for our joint meeting with PMSMCA. We will be having a great discussion about high performance buildings and sustainable construction. These items have become the focus and push in the last couple of years from ASHRAE, so we look forward to hearing what our speaker has to present about how we can make a difference.

On another note, we just recently unveiled our new web page ([www.ashrae-wi.org](http://www.ashrae-wi.org)), so I would encourage you to take a couple of minutes and look around. We have provided contact information for all of our Board of Governors so you can contact any one of us with specific questions you may have. We also do all of our meeting reservations through our website, so throughout time, I hope you take some time to come sign up for one of our meetings and check out the web page in the process. I would like to extend a huge thank you to our new webmaster, Steve Hagman, for assisting us in making a smooth transition to the new web page.

Finally, I would like to extend an invitation to anyone that is interested in volunteering some time to ASHRAE to let me know. Volunteers within our organization are extremely important and are how the majority of our work is completed. I would love to see some new faces helping out with our activities, as we have committees from refrigeration to planning our upcoming CRC to student activities. I guarantee there is something we could use a little help on and a couple of hours a month or more would go a long way in making our organization a better one.

As always, if you have any ideas how I can make the Wisconsin Chapter a better one, please do not hesitate to contact me. I look forward to seeing you at the next meeting.

## The Benefits of ASHRAE

*By Brant Holeman, Membership Chair,  
Wisconsin Chapter*

Why should you be an ASHRAE member? A recent Society survey listed the following as the main reasons members join and maintain membership in ASHRAE:

1. To receive technical/educational publications
2. To support the HVAC&R profession
3. To receive the ASHRAE Journal
4. To be knowledgeable in area of technical standards
5. Networking opportunities

ASHRAE provides unique opportunities for its members to learn and develop professionally through publications, presentations and involvement within local chapters. Members enjoy several benefits including:

- The ASHRAE Journal - A monthly magazine included free with your membership. It features discussions on technology, standards and practices.
- Insights - A monthly publication providing news about ASHRAE current events at the chapter, region and Society levels.
- The ASHRAE Handbook - The most widely cited reference source for HVAC&R technology in the world. ASHRAE members receive one volume of the ASHRAE Handbook (which sells for \$155) each membership year at no charge.
- eNewsletters - Weekly and bi-weekly emails about new products and current events in the HVAC&R industries
- Members only website privileges
- Discounts on ASHRAE products and services
- Group insurance
- Voting privileges

ASHRAE not only helps individuals succeed, but businesses and organizations as well. ASHRAE can help you achieve your goals. Consider these possibilities:

- Team with other companies to get larger jobs
- Become aware of work out for bid
- Learn about ASHRAE Research Projects
- Have direct access to individuals through committee work
- Receive on the job training provided free of charge
- Learn about the latest technologies
- Discover energy and money saving strategies through sustainability and green buildings
- Meet the local industry leaders at monthly chapter meetings
- Expand your network of contacts for "crisis" periods
- Improve your chances of getting work by putting a face to a name
- Become involved in ASHRAE Technical Committees and Subcommittees
- Give presentations and seminars to the local chapter
- Get help writing papers
- Organize technical sessions

Find out what others already know by attending a local chapter meeting or visiting our Wisconsin Chapter website at <http://www.ashrae-wi.org/>

### **ASHRAE Meeting Tabletop Displays Good for You and Good for ASHRAE Research!**

At each ASHRAE meeting, one member or company will be offered the opportunity to present their company's product or service during the reception/cocktail time. Format will be "trade show" style. That is, the presenter will be offered an 8' table that will be open during the reception. There will be no formal talk, as such.

The cost of displaying is \$150.00, which is a very reasonable fee to reach the ASHRAE community with your message.

The \$150.00 fee goes directly to ASHRAE Research and you or your company is credited with the donation. In addition, your name (or your company's name), will be listed in the monthly Badgeraire. It will be listed not once, but in each of the succeeding months following your donation. See Jude Ander's research promotion report on the next page.

Fluid Handling Inc. reserved the first table top in November and Hydro Flo Products reserved the second table top in January. If your company would like to display, please contact our President, David Grassl.

### **Field Tip: What Happens When a Centrifugal Pump (or Fan) Spin Backwards?**

When the jobsite electrician wires a pump or fan motor, he/she never knows which way the motor is going to spin on start up. A 50% chance exists that the motor will spin opposite of the direction intended. Proper procedure dictates that whoever starts the pump or fan bumps the starter (generally this means using the Auto position of the Hand-Off-Auto switch to momentarily connect the motor) to observe motor rotation. If the rotation is wrong, **two** motor leads must be switched (preferably when the power is disconnected!). This corrects the rotation. If backwards rotation is allowed to continue, the pump or centrifugal fan **WILL** pump fluid (or air) in the proper direction, but flow will be low, head will be low, and in the case of pumps, excessive noise **MAY** occur. When a pump or centrifugal fan is not performing, the first thing to check is always rotation. Fan and pump housings have rotation arrows and there is generally enough shaft showing to observe rotation after the motor has been "bumped."



*“science for sustainable environments”*

**Navigation for a Sustainable Future**

The ASHRAE Research Strategic Plan has identified areas of opportunity to further science for sustainable environments:

- 1) **Energy and Resources:** system and building technology to maximize resource effectiveness with minimum impact on the natural environment
- 2) **Indoor Environmental Quality:** technology to create environments for excellence in occupant experience
- 3) **Tools and Applications:** metrics, design and O&M tools, and new applications to create high performance building environments and increase productivity
- 4) **Equipment, Components and Materials:** technology to drive high performance building systems and component design and application
- 5) **Education and Outreach:** the means to deliver new knowledge to the building community to support action for our sustainable future.

That’s a great approach, science and the tools and training necessary to put it into action.

**Research Project Highlight**

‘Navigation’ requires maps and performance measures to guide action for a sustainable future. That’s the subject of Research Report 1286: “Evaluation of Building Energy Performance Rating Protocols.”

This project was directed by TC 7.6 Systems Energy Utilization. It included an extensive assessment of existing protocols including: LEED-NC/EB, Energy Star, BREEAM, Energy Guide, and Arch/CalArch. It is a long report, but very informative. It is available, free to members, from the ASHRAE website.

**WI Chapter RP Campaign 2007-08**

Your contribution to ASHRAE Research will help assure that you have the knowledge and tools to deliver the benefits of sustainable best practices to your clients. They will expect nothing less.

Our goal this year is \$5,000 – we should be able to beat that by a long shot! It’s a matter of acting on our belief in the value of ASHRAE Research. Thanks to

our initial contributors – you have us off to a great start!



**Chapter Research Donors 2007-2008 Campaign**

<b>Golden Circle</b> (\$10,000 and above)
<b>ASHRAE Partners</b> (\$5,000 - \$9,999)
<b>ASHRAE Associates</b> (\$2,500 - \$4,999)
<b>Major Donors</b> (\$250 - \$2,499)
<b>Honor Roll Donors</b> (\$100 - \$249 Individual/\$150 - \$249 Business)
Jude Anders, Shoreline Concepts, LLC Bill Armstrong, Fluid Handling, Inc. Jason Gerke, Graef Anhalt Schloemer & Associates, Inc Steve Hagman, Christopher Kidd & Associates Bernard Radoszewski, Air Technologies, Inc.
<b>Research Donors</b>
Dennis Fadeski, Fluid Handling, Inc. Andy Fleck, Fluid Handling, Inc. Paul Johnson, Fluid Handling, Inc. Steve Kohn, Fluid Handling, Inc. David Mikolainis, Fluid Handling, Inc. Alexander Weisheim, Auer Steel & Heating Supply
<b>Table Top Participants</b>
Fluid Handling, Inc. (November) Hydro-Flow Products, Inc. (January)

Regards,  
Jude Anders ([judeanders@sbcglobal.net](mailto:judeanders@sbcglobal.net))  
Wisconsin Chapter Research Promotion Chair

WISCONSIN CHAPTER OF ASHRAE  
P.O. BOX 13643  
WAUWATOSA, WI 53095-0643



## Upcoming Meetings

MEETING DATE / THEMES	LOCATION	TOPIC	SPEAKER
October 11, 2007	Best Western, Midway (3:00 PM)	Joint meeting with PMSMCA Topic: Including Green Bldg. Requirements in Project Documents	Professor Thomas E. Glavinich, Kansas University
November 14, 2007 WEDNESDAY!	TBA	Using Solar Energy for Reheat and Supplemental Winter Heat	Jim McCarthy, Viessmann Manufacturing
December 7, 2007 (Tentative Date)	TBA	Holiday Party with PMSMCA	None
January Date TBA	MSOE	Wisconsin Code	Randy Dahmen

Meetings will “typically” be held the third Thursday of every month, except December. Changes are made occasionally to accommodate speakers’ schedules.

\*Please note: This is a tentative schedule; topics may be subject to change.