

THE HOT AIR DIFFUSER

Chapter Newsletter

MARCH 2015 Volume 21 Issue 3



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MARCH CHAPTER MEETING

MARCH:

Topic: Inverter Compressor Technology

As energy costs continue to rise, technology continues to evolve to meet the needs of society. Come learn about the latest in positive displacement compressor technology: the true variable speed inverter compressor. Inverter compressors offer better full load efficiency, and superior part load efficiency while maintaining unparalleled discharge air temperature control and ultimately industry leading building comfort. This month's speaker will be Jay Eldridge. Jay is the Applied Air Systems Development Manager for Daikin Applied. He has 25 years experience in the application and design of applied HVAC systems. His current responsibilities include optimizing and working with applied air systems, but he has an extensive background in chiller and heat pump systems.

Jay is an ASHRAE member and served as the chair of the District Energy (TC 6.2) technical committee and is a member of the Large Building Air-Conditioning Systems (TC 9.01) committee. He is also a corresponding member of the Fans technical committee (TC 5.1). Jay has a degree in Mechanical Engineering from Iowa State University.

When:

Wednesday, March 11th, 2015
11:45am to 1:00pm MST



Please Register online at:

www.idahoashrae.com

Where:

1221 West Idaho Street
11:45am to 1:00pm MST
Boise, ID 83702

FEBRUARY:

Topic: Water Saving Technology for Evaporative Cooled Systems

Manufacturers of evaporative cooled equipment have recently introduced various hybrid systems to help their customers comply with water use restrictions. Hybrid systems may incorporate an evaporative coil and dry coil in series, separate dry coil circuits above the discharge air stream or the addition of extended fins to bare coils. The most recent hybrids include wetted adiabatic pads or misting nozzles on the air intakes that reduce the incoming dry bulb to the dry condenser. The presentation described the various hybrid technologies, their water saving potential, operational pros and cons and recent verification testing programs of their actual versus advertised water savings.

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

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HISTORY LESSON

MARCH

Five Years Ago

The chapter president was Spencer Shepard. The meeting was held on March 12, 2010, at the Idaho Power Building. Richard Lloyd, West Coast Manager for Mason Industries, presented a summary of the seismic requirements of the IBC 2006 as they apply to equipment and associated piping, ductwork, and electrical systems.

Ten Years Ago

The chapter president was Tony Sutton. The meeting was held on March 11, 2005, at Louie's in Meridian. Scott Mackay, CTA Architects, gave a presentation on design for heating systems using biomass boilers.

Fifteen Years Ago

The chapter president was Ben Strawn. The meeting was held on March 10, 2000, at the Double Tree Riverside. Chris Schartz, Ruskin regional manager, gave a 2 hour technical session on UL listed fire/smoke dampers and their code applications. He also gave a shorter presentation at the regular meeting.

Twenty-Five Years Ago

The chapter president was Dave Musgrove. The meeting was held on March 9, 1990, at the Kings Table Restaurant. Steve McQueen, McQueen Sales in Salt Lake City, UT, gave a presentation on CFC recovery.

Thirty Years Ago

The chapter president was Lee Longson. The meeting was held on March 8, 1985, at the Royal Fork Restaurant. Doug Tims, Northwest River Company, gave a presentation on white water rafting.



NEWS FROM THE HOME OFFICE

ASHRAE Announces Spring 2015 Online Courses; New Course on Commissioning Process

ATLANTA – With the commissioning process becoming widely recognized as being critical to the success of high-performance buildings ASHRAE has added a new Learning Institute course focused on requirements in its first commissioning standard.

Taught by Walter Grondzik, P.E., the course, “Commissioning Process and Standard 202” is being held March 25, 2015. It is one of 12 Spring Online courses being offered by ASHRAE.

In 2005, ASHRAE Guideline 0, *The Commissioning Process*, addressed the commissioning process when it was a voluntary element of the building acquisition process. With the incorporation of mandatory commissioning requirements in standards, Such as ASHRAE/IES/USGBC Standard 189.1, *Standard for the Design of High Performance Green Buildings*, it was determined that a code-language description of the commissioning process was needed. That gap was filled with publication of ANSI/ASHRAE/IES Standard 202-2013, *Commissioning Process for Buildings and Systems*, which provides information on minimum acceptable commissioning process practices.

“The course reviews the commissioning requirements embodied in Standard 202 and links them to Guideline 0 and other technical support documents,” Grondzik said. “We will provide an understanding of the commissioning process as described by Standard 202, explain how and why the Standard 202 commissioning process differs from that in Guideline 0, and explore how compliance with the standard is likely to evolve.”

The 12 ALI courses provide professional development through in-depth information that is timely, practical and targeted to provide engineers in consulting practices, facility management or supplier support with instruction on applying ASHRAE standards and employing new technologies essential for advanced building performance.

Course participants earn continuing education credits and qualify for Professional Development Hours for each course completed. Courses are instructor-led, drawing upon professional knowledge of leading practitioners.

Eight of the courses are part of ASHRAE’s Career Enhancement Curriculum, which focuses on IAQ Practices (IAQ) and Energy Savings (ES) Practices. The program

helps professionals expand their knowledge in specific areas of HVAC&R and advance their careers.

For registration costs and to register, visit www.ashrae.org/onlinecourses.

Half-day short courses are:

- Fundamentals & Applications of Standard 55-2013 (IAQ Practices), March 9
- Troubleshooting Humidity Control Problems (IAQ Practices), March 11
- Advanced High-Performance Building Design (ES Practices), March 23
- New! Commissioning Process and Standard 202, March 25
- IT Equipment Design Evolution and Data Center Operation Optimization, March 30
- Complying with Standard 90.1-2013: HVAC/Mechanical (ES Practices), April 8
- Fundamental Requirements of Standard 62.1-2013 (IAQ Practices), April 13
- NEW! Understanding Standard 189.1-2014 for High-Performance Green Buildings (ES Practices), April 20
- Complying with Standard 90.1-2013: Envelope/Lighting (ES Practices), May 4
- Exceeding Standard 90.1-2013 to Meet LEED Requirements (ES Practices), May 13
- The following courses are comprised of two parts. Registrants must attend both parts in order to receive CEU/PDH credits.
- Commercial Building Energy Audits – Part 1, April 22 and Part 2, April 27
- Energy Modeling Best Practices and Applications – Part 1, April 29 and Part 2, May 6 (ES Practices)

NEWS FROM THE HOME OFFICE CONTINUED...

Registration Open for the 20th HVACR&M Conference

ARLINGTON – ASHRAE is again pleased to be an organizer of the annual HVACR & Mechanical Conference for Education Professionals.

Hosted by the HVACR Workforce Development Foundation, the conference is an industry-supported event designed to provide instructors, industry trainers, and administrators of apprentice and secondary/post-secondary instructional programs with cutting-edge technical information and teaching techniques that will enable them to effectively train the next generation of skilled workers for the HVACR and plumbing industries. There is no registration fee for qualified instructors.

This year's conference takes place March 9-11, 2015, at the Conference Center at the Maritime Institute in Linthicum Heights, Maryland (near the BWI airport in Baltimore).

For 20 years, this conference has provided peer-to-peer training for secondary and post-secondary instructors in the field of HVAC&R and other highly-skilled mechanical training. In keeping with past practice, there is no registration fee. Attendees who register before Jan. 30, 2015, are automatically be entered into a drawing for complimentary hotel/meals (three night maximum).

To view the agenda, see who should attend, and to register, visit www.CareersinHVACR.org.

The Conference is hosted by HVACR Workforce Development Foundation, with support from: the Air Conditioning Contractors of America (ACCA); the Association for Career and Technical Education (ACTE); the Air-Conditioning, Heating, and Refrigeration Institute (AHRI); ASHRAE; the Council of Air Conditioning and Refrigeration Engineers (CARE); Heating, Air-conditioning & Refrigeration Distributors International (HARDI); the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI); the National Air Filtration Association (NAFA); North American Technician Excellence (NATE); the Oil & Energy Service Professionals (OESP); the Partnership for Air-conditioning, Heating, Refrigeration Accreditation (PAHRA); the Plumbing, Heating, Cooling Contractors Association (PHCC); the Refrigeration Service Engineers Society (RSES); and SkillsUSA.

Wind Power to Debut on GM's Renewable Energy Roster

DETROIT– DETROIT, February 17, 2015 /3BL Media/ – General Motors for the first time is procuring wind to power its manufacturing operations, enabling one of its Mexico facilities' electricity needs to be run mostly on renewable energy. This addition of 34 megawatts of wind power allows GM to achieve its corporate goal of renewable energy use four years early.

Construction of the wind farm begins in the second quarter of this year. When complete, more than 12 percent of GM's North American energy consumption will come from renewable energy sources, up from 9 percent. The company's current renewable energy use – comprised of solar, landfill gas and waste to energy – totals 104 megawatts against a goal of 125 megawatts by 2020. The use of clean energy reduces greenhouse gas emissions and GM's impact on climate change.

Seventy-five percent of the energy coming from the wind turbines will power most of GM's Toluca Complex sitting on 104 acres, making it the company's largest user of renewable energy. The remaining capacity will help power its Silao, San Luis Potosi and Ramos Arizpe complexes. The use of renewable energy helps these facilities avoid nearly 40,000 tons of carbon dioxide emissions annually.

"Our commitment to sustainable manufacturing processes is one way we serve and improve the communities in which we work and live," said Jim DeLuca, GM executive vice president of Global Manufacturing. "Using more renewable energy to power our plants helps us reduce costs, minimize risk and leave a smaller carbon footprint."

GM signed a power purchase agreement with Enel Green Power, which is developing and constructing a massive wind farm in Palo Alto, Mexico. The company's use of 34 megawatts of energy is equivalent to the power produced by 17 wind turbines.

"Mexico is an ideal location for our first wind project," said Rob Threlkeld, GM global manager of renewable energy. "Energy is fed to a national grid, making it easier to reduce or add energy capacity at a facility. There's also a good business case as prices for traditional power are about a third greater than the United States.

"Once online, we'll evaluate the project to better understand how we can expand the use of wind power."

NEWS FROM THE HOME OFFICE CONTINUED...

GM is a founding member of the Business Renewables Center, a collaborative platform launched earlier this month by the Rocky Mountain Institute. The center aims to accelerate corporate renewable energy procurement with a goal of nearly doubling U.S. capacity of wind and solar energy by 2025. It is part of a larger effort – the Corporate Renewables Partnership – that includes the World Wildlife Foundation, the World Resources Institute and the Business for Social Responsibility. The Renewable Energy Buyers' Principles, of which GM is a signatory, set a framework for the partnership and guides the Business Renewables Center.

For more information on GM's environmental commitment, visit its sustainability report and environmental blog.

- See more at: <http://3blmedia.com/News/Wind-Power-Debut-GMs-Renewable-Energy-Roster#sthash.qyezdiVk.dpuf>

Proposed Energy Standard For Data Centers, Telecommunications Building Open For Public Comment

ATLANTA – A proposed standard from ASHRAE providing requirements for energy use in data centers is open for public input.

ASHRAE Standard 90.4P, *Energy Standard for Data Centers and Telecommunications Buildings*, is open for its first public review until March 30, 2015. To read the draft standard and to submit comments, visit www.ashrae.org/publicreviews.

The standard would establish the minimum energy efficiency requirements of data centers and telecommunications buildings for design and construction and for creation of a plan for operation and maintenance, and for utilization of on-site or off-site renewable energy resources.

"The proposed standard is intended to work in concert with ASHRAE/IES Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*," Ron Jarnagin, chair of the Standard 90.4 committee said. "There is no intent to duplicate what is contained in Standard 90.1, but rather we are proposing criteria to support the specialized nature of the larger data centers. When adopted, design and construction of data centers will require the use of both Standards 90.1 and 90.4 for compliance with building codes."

David Quirk, chair of ASHRAE's Technical Committee

9.9, Mission Critical Facilities, Technology Spaces and Electronic Equipment, noted that the intent of Standard 90.4P is to create a performance based approach that would be more flexible and accommodating of innovative change, which can occur rapidly in data center design, construction and operation.

Data center applications are unlike their commercial building counterparts in two significant ways, he noted. First, they include significantly higher plug loads. And second, they employ rapidly changing technology for the IT equipment and associated power/cooling approaches.

"It has been acknowledged that these differences drive a fundamentally different approach to regulating minimum efficiency requirements for the electrical and mechanical systems that support the plug loads," Quirk said. "By using an approach that requires compliance to a 'system' level of performance, designers and end-users can utilize various trade-offs in their optimization strategies depending on their company specific business models."

There was also a recognition that current industry modeling tools do not possess all the necessary mathematical models to accurately and appropriately model data center HVAC and power design. As a result, demonstrating compliance to the 90.1 Chapter 11 or energy cost budget (ECB) approaches was deemed impractical, according to Jarnagin.

This standard is based on the principles of power use effectiveness (PUE), as defined by The Green Grid. However, because PUE is an operational measurement metric, and this is a design standard, PUE terminology is not a technically accurate usage. The committee recognizes that language needs to be developed to relate the calculations of energy efficiency set forth in this standard to a total efficiency number, as well as to allow tradeoffs between electrical and mechanical elements. Suggestions from reviewers as to how best to accomplish this are welcome, he said.

Jarnagin said the two committees are aware of some potential conflicts between the definitions of computer rooms and data centers in the standards. The intent is to address those conflicts once Standard 90.4 is approved and published.

The proposed standard applies to new data centers and telecommunications buildings or portions thereof and their systems, new additions to data centers and telecommunications buildings or portions thereof and their systems, and modifications to systems and equipment in existing data centers and telecommunications buildings or portions thereof

NEWS FROM THE HOME OFFICE CONTINUED...

ASHRAE/IES Publish Updated Standard On Energy Efficiency in Existing Buildings

ATLANTA – A newly revised standard from ASHRAE and IES seeks to provide greater guidance and a more comprehensive approach to retrofit of existing buildings for increased energy efficiency.

Published this week, ANSI/ASHRAE/IES Standard 100-2015, *Energy Efficiency in Existing Buildings*, provides comprehensive and detailed descriptions of the processes and procedures for the retrofit of existing residential and commercial buildings in order to achieve greater measured energy efficiency. Appendices are included for life-cycle cost analysis procedures as well as identification of potential energy conservation measures.

“The total primary energy used in both residential and commercial building sectors is expected by the U.S. Energy Information Administration to rise each year for the next several decades in spite of aggressive efficiency improvements in new construction,” Rick Hermans, chair of the Standard 100 committee, said. “In order to reduce the overall impact of energy used by residential and commercial buildings, the existing building stock must become more efficient. This revision to Standard 100 provides the means to accomplish that goal.”

The standard addresses both residential and commercial buildings. It addresses single and multiple activity buildings with variable occupancy periods and identifies the approach for 53 building types in 17 climate zones/subzones. It identifies requirements for buildings undergoing retrofits that do not fall under the scope of either ANSI/ASHRAE/IES Standard 90.1-2013, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, or ANSI/ASHRAE/IES Standard 90.2-2007, *Energy Standard for Low-Rise Residential Buildings*.

Standard 100 directly addresses a building's energy-use efficiency in a quantitative manner and provides a means to improve that efficiency with an objective benchmark created with the assistance of the Energy Information Administration, the Federal Energy Management Program and Oak Ridge National Laboratory.

Recognizing that the actual occupancy of the building plays a key role in its performance, the standard estab-

lishes the need for development of an energy management plan and an operation and maintenance program. It also addresses the requirements for ongoing commissioning.

The standard takes advantage of the fact that any building that has been in operation for at least twelve months can quickly determine its performance relative to some benchmark, which is defined in the standard as an energy-use intensity target. This concept is the new paradigm for energy conscious design, construction and operation of buildings, according to Hermans.

The revision of the standard, last published in 2006, also brings the standard in line with other published ASHRAE documents, specifically Standard 90.1-2013, Standard 90.2-2007 and ANSI/ASHRAE Standard 105-2014, *Standard Methods of Determining, Expressing and Comparing Building Energy Performance and Greenhouse Gas Emissions*.

The cost of ANSI/ASHRAE/IES Standard 100-2015, *Energy Efficiency in Existing Buildings*, is \$72 (\$61, ASHRAE members). To order, contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 678-539-2129, or visit www.ashrae.org/bookstore.

Coming Soon - New Regional Website

Sean Miller is in the process of moving our website from the University of Nebraska server to a different host. He is also updating the look and feel as well as content. ***If you hold a regional position, please get Sean the information you would like on the Regional Website.***

Regional Leadership Positions Open!

Reminder, that this summer at the CRC we will need to elect Membership and GGAC RVC's. In addition we would like backups for ALL of the positions. You should be thinking about who you can nominate now. Cory Law will be following up in the near future.

IDAHO ASHRAE MAY MEETING

Our presenter for the March monthly ASHRAE meeting will be David Underwood. David is the ASHRAE President-Elect. The meeting will be held on May 13th at the Idaho Power building. Go to the www.idahoashrae.com website to register.

ADVERTISEMENTS

Online Advertising!!

Get your business card posted on

www.idahoashrae.com

*renewals are due now

Annual Business Card Ad on Website: **\$50**



Professional Development Hours

Professional Development Hours are now available at
ASHRAE monthly meetings!



ADVERTISEMENTS

Idaho ASHRAE April Tech Conference 2015

When: April 10th, 2015 - 7:30am to 5:00pm

Where: Oxford Suites - 1426 South Entertainment Ave. ,Boise, ID

Cost: \$100.00 = Member Ticket
\$150.00 - Non-Member Ticket
\$250.00 - Program Sponsorship

ATTENTION: ASHRAE MEMBERS
The Chapter is now accepting advertisements
in the monthly newsletter.
Sponsorship Rates are as follows:

	Per Issue	Annual (9 issues)
Business Card	\$10.00	\$50.00
Quarter Page	\$25.00	\$200.00
Half Page	\$40.00	\$325.00
Full Page	\$60.00	\$450.00

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Simple Advertisements Available For FREE!!

EXAMPLE:

Engineering Company-Mechanical Engineer I Position now open
Visit: www.engineeringcompany.com/.careers for more information

- For quarter, half, or full page job advertisements see above for pricing

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- For quarter, half, or full page job advertisements see above for pricing

Issues registering for monthly meetings?



Please contact Katie Leichter @
kleichter@uidaho.edu

Interested in becoming more involved with your local
ASHRAE Chapter? Positions will be opening up soon!

Please contact Russell Pratt
@ russell.pratt@cshqa.com for
more information.





ASHRAE Foundation Offers Scholarship Solutions for ASHRAE Chapters

The ASHRAE Foundation offers solutions both for chapters looking for help with their local scholarships. Many ASHRAE chapters have raised money through the years for scholarships that are awarded by the chapter. These chapters sometimes find the burden of investing the scholarship dollars and selecting the scholarship recipients can be challenging. Lack of continuity of chapter leadership can make investment of chapter assets and selection of scholarship recipients a potential liability and cause for concern. Learn more about the Scholarship opportunities on how the ASHRAE Foundation can help in a variety of ways.



Chapter Awarded Scholarships

An ASHRAE chapter can transfer assets set aside for scholarship to the ASHRAE Foundation to create an endowed scholarship fund. The chapter has the benefit of professional money management hired by the ASHRAE Foundation. This insures transparency and careful, responsible oversight of the chapter's scholarship investment.

A Chapter Awarded Scholarship allows the chapter to retain control of selection of the scholarship recipients. So long as the chapter agrees to abide by certain non-discrimination provisions imposed by Federal law, the chapter retains complete control over the submission of applications, review of scholarship applicants and final selection of the recipient.

The minimum to establish a Chapter Awarded Scholarship is \$30,000. The chapter would make an irrevocable gift to the ASHRAE Foundation and deposited into an endowed fund for the benefit of the chapter scholarship. The Foundation Trustees set the annual spending policy for the Foundation's endowment. That spending policy has been set at 5% of the endowed principal since the Foundation was established in 1994. Therefore, a \$30,000 scholarship would generate an annual \$1,500 scholarship. The Foundation would award that amount to the scholarship recipient chosen by the sponsoring chapter.

ASHRAE Chapter Scholarships

Some chapters want to not only avoid the burden of managing assets, but they also want help with selection of the scholarship recipients. A chapter can have the ASHRAE Foundation invest the scholarship endowment and ASHRAE's Scholarship Trustees can administer the selection process. The Scholarship Trustees have the advantage of paid ASHRAE staff to assist in the difficult work of publicizing scholarships, gathering applications, selection and award of the scholarship.

ASHRAE chapters still play an important role in choosing those to whom a scholarship is awarded. The chapter decide the selection criteria for the applicants. The Scholarship Trustees rely on feedback from interviews conducted by the chapter with potential candidates to narrow the selection process. The chapters also typically hold award ceremonies at their chapter meetings to the winning applicants.

The minimum to establish an ASHRAE Chapter Scholarship is \$60,000. Assuming the current 5% spending policy of the Foundation, such a scholarship would award \$3,000 annually. The chapter enjoys the same professional management of the assets with regular reporting on investment performance. The chapter can shift most of the burden of selecting the scholarship recipient to ASHRAE's Scholarship Trustees but still remain involved in the process.

A Note on Gift Minimums

A chapter has up to five years to accumulate the assets necessary to meet the minimums to fund either type of chapter scholarship. Your chapter can establish the scholarship provisionally until the assets meet the minimum required amount. Scholarships may not be awarded until the endowment is fully funded.

If you would like more information on how you can make a gift to the ASHRAE Foundation, contact Margaret Smith at msmith@ashrae.org, tel: [678-539-1201](tel:678-539-1201).