

THE HOT AIR DIFFUSER IDAHO CHAPTER NEWSLETTER

NOVEMBER 2010

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PRESIDENT'S MESSAGE

Hello Idaho ASHRAE members,

Our president, Carl Marcum, is currently out of the country in Vietnam for business.

He will be back soon and will be sure to include a president's message next month.

Thanks so much,

Shelley Weatherby, PE
Newsletter, Board of Governors
Idaho Chapter ASHRAE

NOVEMBER PROGRAM

Achieving Total Flow Control in Hydronic Systems

This month's presentation will address the challenges faced in developing an effective solution to balancing for variable flow.

Building owners, designers and contractors are being challenged to not only provide the basic creature comforts but also to do so in a cost effective and energy efficient way. In a variable flow system balancing for variable flow means matching the flow to the load under all operating conditions and at all heat transfer devices. In a conventional system multiple devices are employed in order to attempt to accomplish the above. We will examine those elements and look closely at how differential pressure and pressure independent control might help us accomplish those goals.

NOVEMBER PROGRAM (CONTINUED)*

Speaker Profile: William J England

Bill is the Hydronics Training Manager for Flow Design, Inc.. He has over 25 years of experience in HVAC Sales and Engineering. In his current position, he conducts technical training sessions for in house as well as consulting engineers, owners and facilities personnel on varies topics including variable flow and pressure independent control.

Bill's education includes a B.S. in Electrical Engineering from Drexel University and an MBA from University of Baltimore. He recently completed extensive training at the Hydronic College of Tour and Anderson in Sweden.

WHEN: WEDNESDAY, November 10, 2010
11:45AM—1PM

WHERE: Idaho Power Bldg.
1221 W. Idaho Street
Boise, ID

***Please RSVP at www.idahoashrae.com.**

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IMPORTANT DATES

NOVEMBER 10, 2010—ASHRAE MONTHLY MEETING

DECEMBER 8, 2010—ASHRAE MONTHLY MEETING

JANUARY 12, 2011—ASHRAE MONTHLY MEETING

FEBRUARY 9, 2011—ASHRAE MONTHLY MEETING

MARCH 9, 2011—ASHRAE MONTHLY MEETING

APRIL, 2011—TECHNICAL CONFERENCE

MAY 11, 2010—ASHRAE MONTHLY MEETING

JUNE, 2011—ASHRAE GOLF TOURNAMENT



RESEARCH PROMOTION

Greetings Idaho ASHRAE members!

The mid-term election is over and the year end is quickly approaching, but there is still time to make your donation to ASHRAE Research in order to get your tax credit for this year. As of October 2010, we have received \$568 in gifts from individuals in our chapter. THANK YOU! This is about 7% of our \$8300 goal. The Individuals contributing are Carl Marcum, Cory Law, Laura Rasmussen, Dennis Fox, Scott Mackay, Dean McKellip and Andrew Beall.

If you need help in making your donation, please contact me. You can contribute 24 hours a day online at www.ashrae.org/contribute using your credit or debit card. Remember that all contributions to ASHRAE Research are 100% tax deductible and that these gifts fund publications like the Handbook series (a major reason why most of us are members in the first place). Thanks for your dedication to our industry.

Scott Mackay
Research Promotion Chair

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

NEWS FROM THE HOME OFFICE

Standard 90.1-2007 Available as Free Download

ATLANTA –In order to move the industry forward toward more energy efficient design, ASHRAE is making it easier than ever before to access its flagship energy standard, 90.1, available as a free download for a limited time.

Through a funding contract with the Department of Energy, copies of the I-P edition of ANSI/ASHRAE/IES Standard 90.1-2007, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, are being offered as a free downloadable PDF at www.ashrae.org/standard901-2007-free, starting Oct. 22, 2010.

“Standard 90.1-2007 is widely used throughout the design community, and the download version makes it available to users at their own computers for ready and easy access,” ASHRAE President Lynn G. Bellenger said. “Making the standard available for free ensures that it penetrates the marketplace and reaches owners, contractors and design teams. We appreciate the support of the Department of Energy in reaching a wider audience and extending access to our flagship energy conservation standard.”

Since being developed in response to the energy crisis in the 1970s, Standard 90.1 has become the basis for building codes, and the standard for building design and construction throughout the United States.

As buildings consume approximately 40 percent of the primary energy in the United States, the standard is an indispensable reference for engineers and other professionals involved in the design of buildings and building systems.

ASHRAE is an international technical society that 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.

ASHRAE Publishes 2010 Editions of Refrigerant Safety Standards

ATLANTA – The 2010 editions of ASHRAE’s major refrigerants-related standards have been published as a package with 14 new refrigerant blends added.

Requirements in ANSI/ASHRAE Standard 34-2010, Designation and Safety Classification of Refrigerants, and ANSI/ASHRAE Standard 15-2010, Safety Standard for Refrigeration System, complement each other in that Standard 34 describes a shorthand way of naming refrigerants and assigns safety classifications based on toxicity and flammability data, while Standard 15 establishes procedures for operating equipment and systems when using those refrigerants. ASHRAE sells the standards as a set.

Standard 34-2010 combines the 2007 standard and 37 published addenda. Among the key changes incorporated into the 2010 edition are:

- assignment of designations and safety classifications for one new single compound refrigerant and 14 new refrigerant blends
- addition of occupational exposure limits for refrigerants to Tables 1 and 2
- addition of new data and updates of refrigerant concentration limits (RCL) and safety classifications for several existing refrigerants
- addition of an optional 2L subclass to the existing Class 2 flammability classification, which signifies Class 2 refrigerants with a burning velocity less than or equal to 10 cm/s.
- introduction of a modified method of calculating the heat of combustion for refrigerants along with inclusion of an illustrative example of the calculation
- addition of an informative appendix showing an example of the calculation of the acute toxicity exposure limit and refrigerant concentration limit for a refrigerant blend

Changes to Standard 15 include incorporation of nine new addenda. The changes made through these addenda include:

- revision of requirements for terminating relief vent discharge lines
- revision to bring the standard into alignment with UL 984 (Hermetic Refrigerant-Motor Compressors)
- addition of definitions so the standard can better provide for the safety of cascade refrigeration systems
- revision to provide appropriate guidance for the protection of positive displacement compressors when used in cascade refrigeration system configurations
- revision to bring the standard into alignment with Standard 34, by removing Table 1 for “refrigerant quantity limits,” and uniformly using the term “refrigerant concentration limits”

Standard 15-2010 and Standard 34-2010 are sold together. The cost is \$89 (\$75 ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit www.ashrae.org/bookstore.

ASHRAE IAQ Conference to Focus on Creating Healthier, Infection-Free Environments

ATLANTA – The 2003 SARS episode, the H1N1 pandemic and avian flu have transformed the built environment landscape, raising not only significant public health concerns but also economic implications on a global scale. Recognizing the challenge of controlling the spread of infection, ASHRAE holds its IAQ 2010 Conference series in Kuala Lumpur, Malaysia, Nov. 10-12, 2010.

The focus of ASHRAE's IAQ 2010 Conference is airborne infection control. The conference explores related questions on the role of HVAC in airborne infectious disease transmission, evaluation of the various design and control strategies and technology, pandemic preparedness and airborne infection control for various applications such as healthcare facilities, air and surface transportation, schools, offices, etc.

Besides addressing thermal comfort and IAQ issues, buildings and other enclosed environments are increasingly faced with the challenge of providing a healthy environment. Airborne infection and its control in the built environment pose considerable challenges to mankind that rival the need to also address climate change and environmental sustainability.

This will have tremendous impact in the design, operation and maintenance of buildings and other enclosed environments. IAQ 2010 reviews the state of knowledge about airborne infection in such environments and helps define future directions.

One technical paper of interest is "Indoor Air Quality, Airborne Infection Control and Ventilation Efficiency in Hospital Operating Rooms." The HVAC airside system plays an important role in maintaining adequate hygiene levels in an operating theatre; this session introduces suitable design of such a system.

The workshop "Are Ventilation Systems Enough to Prevent the Dispersion of Airborne Infectious Diseases in Hospitals?" focuses on space designs and additional disinfection applications that can increase the performance of ventilation systems in hospitals.

IAQ 2010 is the 16th in the ASHRAE IAQ Conference series that started in 1986 and the first to be held outside the United States. For more information, or to register, visit www.ashrae.org/iaq2010.

ASHRAE, IES Join Forces on Residential Energy Standard

ATLANTA – The team that brought you the national standard for energy efficiency in commercial buildings has joined together to help homes attain higher levels of energy performance. ASHRAE and the Illuminating Engineering Society of North America (IES) are working together to strengthen requirements in ANSI/ASHRAE Standard 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*. Previously, the standard was developed only by ASHRAE and was first published in 1993.

Standard 90.2 provides minimum requirements for the energy-efficient design of residential buildings. Last year, ASHRAE's Board of Directors recommended to the Standard 90.2 committee that it consider a goal of writing the standard so that it is 30 percent more efficient than the 2004 version, including both a prescriptive and a performance path.

The standard would target home builders and code officials in an easy-to-understand format that is simple to use. The committee plans to have an advisory public review of the standard later this year to determine whether proposed changes are meeting the needs of the audience.

"ASHRAE is honored and proud to have IES as a co-sponsor of Standard 90.2," ASHRAE President Lynn G. Bellenger said. "The partnership between ASHRAE and IES originated 35 years ago when we joined together to create the first building energy conservation standard, ANSI/ASHRAE/IES Standard 90-1975, *Energy Standard for Buildings Except Low-Rise Residential Buildings*. The partnership has flourished as we've collaborated on updates to that standard and created Advanced Energy Design Guides. Now, as we focus on the residential market, whose 107 million housing units consume 22 percent of the primary energy in the U.S., we have the opportunity once again to define the actions needed to make energy conservation our 'first fuel.' By identifying ways for this major market to reduce energy use and costs, we serve the public and increase our energy security."

"The opportunity to be a cosponsor with ASHRAE on this standard continues the long standing and successful partnership on a trilogy of standards addressing energy conservation – Standard 90.1, *Energy Standard for Buildings Except Low Rise Residential Buildings*, Standard 100, *Energy Conservation in Existing Buildings*, and now 90.2 dealing with efficient design of low-rise residential buildings," Rita M. Harrold, IES director of technology, said. "IES will contribute expertise in providing ways to achieve energy savings through lighting in this important market segment that consumes approximately 212 billion kWh per year, or approximately 15 percent of residential electricity consumption. The challenge here will be to achieve savings while still providing a quality environment to satisfy occupant needs."

2010 Energy Standard Provides for 20 Percent-Plus Energy Savings

ATLANTA – By following the guidance in the newly published 2010 energy standard from ASHRAE and IES, more than 20 percent energy reduction can be achieved over savings in the 2004 standard. "This year marks the 35th anniversary of our flagship energy conservation standard, and the 2010 version of 90.1 represents a milestone achievement in increased energy and cost savings," Lynn G. Bellenger, ASHRAE president, said. "Working within the constraints of strict economic justification and a prescriptive format, the project committee has achieved remarkable energy savings across all building types and U.S. climate zones. The standard is written in mandatory code language and offers code bodies the opportunity to make a significant improvement in the energy efficiency of new buildings, additions and major renovations. We congratulate the project team and our partners of 35 years, the Illuminating Engineering Society."

"IES is pleased to continue in its role as a partner with ASHRAE in this 2010 edition of standard 90.1," Rita M. Harrold, director of technology, said. "Each revision brings new challenges to find ways to reduce energy. Our congratulations to the project committee for its diligence in identifying and demonstrating significant energy savings opportunities compared to the 2004 standard. IES contributions to the savings

have been achieved by refining lighting power limits and placing more emphasis on controls and system energy use. We look forward to participating in future versions of the standard where even more focus will be placed on how we can support the goal of designing quality lighting while balancing human needs with energy and cost savings in all building types.”

ANSI/ASHRAE/IES Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings, provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings. The standard contains 109 addenda approved since the 2007 standard was published. At the time of publication, the energy cost savings of the new standard vs. the 2004 standard are estimated to be more than 20 percent. Not all addenda have been included in analysis for these energy savings estimates. Final savings estimates will be issued by ASHRAE when available.

How was the energy reduction achieved? Here are a few examples:

- The Scope was expanded so that 90.1 covers receptacles and process loads, including data centers. This allows future addenda to the standard to address energy consuming equipment and systems previously outside its scope.
- Continuous air barrier and cool/high albedo roof requirements were added.
- Lighting: Most interior Lighting Power Densities were lowered, and additional occupant sensing controls and mandatory daylighting requirements were added for specific spaces, along with a new five-zone exterior Lighting Power Density table.
- Mechanical: Most equipment efficiencies are higher, energy recovery is required in more applications, economizers are required in more climates and more energy-conserving controls are required.
- Modeling requirements have been clarified and expanded so that building modelers can more accurately compare energy cost of their building project with an appropriate baseline building as defined by the standard.

“The 2010 edition of Standard 90.1 represents a significant accomplishment by ASHRAE and IES to implement cost-effective measures for energy conservation in new buildings designed using the standard,” Steve Skalko, 90.1 committee chair, said.

Since being developed in response to the energy crisis in the 1970s, Standard 90.1 has become the basis for building codes, and the standard for building design and construction throughout the United States.

The cost of 90.1-2010 is \$125 (\$106, members). The standard is currently available as a PDF download with hard copies slated to be available for purchase later in November. Hard copies are now available for pre-order. To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide) or visit www.ashrae.org/bookstore.

Donate to ASHRAE Research NOW at www.ASRHAE.org/contribute or call Scott Mackay at 343-3663

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