

Denver Meeting Information

DATE: Wednesday, January 8, 2014
TIME: 5:30 PM – Registration
 6:30 PM – Dinner
 7:00 pm – Program Begins
LOCATION: Dave & Busters
 2000 South Colorado Blvd
 Denver, CO 80222
RSVP: www.RockyMTNASHRAE.COM
COST: \$25 Rocky Mtn Chapter Members
 *Reservation made by 5:00 PM on Monday
\$35 Non-members and late reservations
 \$20 Students

Fort Collins Meeting Information

DATE: Wednesday, September 4, 2013
TIME: 12:00 Registration/Program Begins
NEW LOCATION: **Farnsworth Group Inc.**
1612 Specht Point Road, Suite 105
Fort Collins, CO 80525
RSVP: **Mike Fulton**
mfulton@westernmechanicalsolutions.com
COST: \$10 Rocky Mtn Chapter Members

ASHRAE 170: Hospital/Patient Facility Air Distribution

The presentation will cover different operating room air distribution and room pressure control strategies being utilized in today’s healthcare facilities. We will review the application of ASHRAE Standard 170 as well as considerations for controlling air velocity around the patient and surgical team.

Nolan Hosking is a Senior Product Manager at Price Industries, specializing in Critical Environment Solutions. A Professional Engineer with extensive experience in application engineering and design, Nolan oversees all product development initiatives for healthcare, laboratory and clean room solutions at Price. Nolan is a current voting committee member of ASHRAE 170 and is also actively engaged in other industry organizations.

This presentation has been registered for 1.0 GBCI Credits

Upcoming Events:

- January 24th- DU Hockey Night. DU vs. North Dakota
- February 5th - Denver Lunch Meeting
- March 5th - Denver Dinner Meeting and Fort Collins Lunch Meeting
- April 2nd – Denver Lunch Meeting
- May 2nd, 2014 Technical Conference.
- May 7th – Denver Dinner Meeting and Fort Collins Lunch Meeting.

RM ASHRAE is a USGBC/GBCI education provider!

The Rocky Mountain Chapter of ASHRAE is now a USGBC/GBCI education provider. If you would like to have a presentation submitted to the USGBC for LEED AP credentialing credits, please contact Jessie Jones jjones@rmhgroup.com or Michelle Swanson mswanson@rmhgroup.com for more information.

Table of Contents

PRESIDENT’S MESSAGE _____ 2
DU HOCKEY NIGHT SIGN UP FORM
 ROCKY MOUNTAIN BOG ROSTER _____ 3
 ASHRAE RESEARCH _____ 4
 SUSTAINABLE ENGINEERING COMMITTEE _____ 6
ROCKY MOUNTAIN CHAPTER LOGO POLO ORDER FORM
 GREENING OUR MEETINGS _____ 7
 YOUNG ENGINEERS IN ASHRAE (YEA) & STUDENTS _____ 8
 GOVERNMENT AFFAIRS _____ 9
 MEMBERSHIP PROMOTION _____ 10
 CHAPTER MEMBERSHIP APPLICATION _____ 11
 ROCKY MOUNTAIN CHAPTER HISTORY _____ 12
 ASHRAE SOCIETY NEWS AND PRESS RELEASES _____ 13
 EMPLOYMENT OPPORTUNITIES _____ 19

PRESIDENT'S MESSAGE

Dear Rocky Mountain ASHRAE:

First I hope everyone had a wonderful holiday and was able to spend time with family and friends. Amazing another year has gone by.

Second I would like to thank Michael Moschetti with ISU Insurance for presenting on “Risk Transfers as it Pertains to Construction”. I thought it was very informative as he gave important information we can not only use in our industry, but also our personal lives.

Our January meeting topic will be ASHRAE 170: Hospital/Patient Facility Air Distribution. Nolan Hosking from Price Industries will be our presenter.

For those attending the Northern Section meetings, please pay special attention to the location of the meeting. We are being forced to find potential new spots to hold the meetings. We appreciate your patience as we find a final home that will work for years to come.

Our annual DU hockey game is approaching. On January 24, DU will take on North Dakota. We’d love for you to join us to loudly cheer on a Pioneers victory. If you haven’t attended one of these in the past, they are a lot of fun even including raffle prizes between periods. You can sign up via the registration form in this newsletter.

Please make sure to mark your calendar for the Tech Conference on May 2. Planning is underway with all the presentations and speakers being filled. Along with our traditional tracks, we have added an entire track for Healthcare. Please keep an eye out for the “Save the Date” card in your mailbox coming soon. If you have any questions or concerns, please do not hesitate to contact me.

Best Regards,

Jon Rundquist

Chapter President
Rocky Mountain Chapter of ASHRAE



ROCKY MOUNTAIN ROSTER

Rocky Mountain ASHRAE 2013 - 2014 Board of Governors

Title/Committee Chair	Name	Email	Phone
President	Jon Rundquist	President@RockyMtnASHRAE.com	303.428.2800
President-elect/Tech Conf.	Jessie Jones	TechConference@RockyMtnASHRAE.com	303.239.0909
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Northern Section Chair	Mike Fulton	NorthernSection@RockyMtnASHRAE.com	720.934.8273
Membership	Chris Garofoli	Membership@RockyMtnASHRAE.com	303.396.9006
Website	Scott Jones	Webmaster@RockyMtnASHRAE.com	303.428.2800
Student Activities	Craig Wanklyn	Student@RockyMtnASHRAE.com	303.421.6655
Sustainable Engineering	Sara Frame	Sustainable@RockyMtnASHRAE.com	303.328.3436
Government Activities	Steve Ferguson	Government@RockyMtnASHRAE.com	303.428.2800
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Honors & Awards	Eugene Mitchell	Awards@RockyMtnASHRAE.com	303.322.0165
Social Media	Andrew Van Essen	SocialMedia@RockyMtnASHRAE.com	303.257.2642
YEA Chair	James Newman	YEA@RockyMtnASHRAE.com	303.421.6655

ASHRAE RESEARCH



Don't Wait, Please Donate for the 2013-2014 ASHRAE Year

Mail Check To:
ASHRAE RESEARCH
c/o Jessie Jones, The RMH Group
12600 W Colfax Ave, Suite A-400
Lakewood, CO 80215

Your contribution puts us closer to achieving
our goal. Please send what you can today!

* Individual contributions of \$100 or more and
Corporate contributions of \$150 or more
receive this year's Commemorative Coin
And Honor Roll Contribution status.

Name: _____

Company: _____

Address: _____

Telephone: _____

INDIVIDUAL	\$25.00	\$50.00	\$75.00	\$100.00	Other: _____
CORPORATE	\$75.00	\$100.00	\$175.00	\$250.00	Other: _____

Or Contact Jessie Jones at: 303-312-4641


































THANK YOU Donors!

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- Megan Sterl
- Michelle Swanson
- David Willets
- Engineered Products Company – Denver
- Haynes Mechanical Systems
- McNevin Company
- SBSA Inc.



Our goal for this year is to raise \$83,100

ASHRAE RESEARCH DONOR LEVELS AND RECOGNITION

Receives 1 day Meeting Registration*							-----		
Receives 2 tickets to Members Night Out and Welcome Party*									
Presented Commemorative Sculpture									
Individually recognized at President's Luncheon*									
Invited to President's Luncheon*									
Invited to Board of Directors Luncheon*									
Listed on special Display at President's Luncheon*									
Group photo published in spring issue of ASHRAE Insights									
Receives personalized shadowbox plaque							-----	-----	
Listed on RP Display in Registration							-----		
Receives Gold ASHRAE Commemorative Coin & Plaque							-----		
Receives Silver ASHRAE Commemorative Coin & Plaque					-----	-----	-----	-----	
Receives Bronze ASHRAE Commemorative Coin & Plaque				-----	-----	-----	-----	-----	
Receives Antique ASHRAE Commemorative Coin & Plaque			-----	-----	-----	-----	-----	-----	
Receives blue desktop coin holder		-----	-----	-----	-----	-----	-----	-----	
Listed in annual <i>Investor Honor Roll</i>									
	Honor Roll Donor** \$150-\$249	Major Donor – Antique \$250-\$499	Major Donor – Bronze \$500-\$999	Major Donor – Silver \$1000-\$2499	ASHRAE Associate \$2500-\$4999	ASHRAE Partner \$5000-\$9999	Golden Circle Donor \$10,000 - \$19,999	Platinum Circle Donor \$20,000+	

* ASHRAE Winter Meeting

** Individual Honor Roll Donor begins at \$100

SUSTAINABLE ENGINEERING COMMITTEE

Upcoming Meeting

DATE: Wednesday September 25th

TIME: 12PM – 1PM

LOCATION: Eaton Energy Solutions
143 Union Blvd. Suite 350
Lakewood, CO 80228

RSVP: Sara Frame
sustainable@rockymtnashrae.com

The Sustainable Engineering Committee is committed to advocate sustainable design, construction and operation to our members, the industry and our community through advocacy group meetings and educational seminars. We strive to promote sustainable practices at all ASHRAE events and sponsored activities.

This committee meets once a month for planning and coordination. If you have questions about the committee, please contact Sara Frame at sustainable@rockymtnashrae.com.

2014 SUSTAINABILITY PROJECT

The SEC is working with Energy Outreach Colorado (EOC) to choose a project for this year. To leverage the expertise of the chapter and to better serve the community the SEC has decided to partner with EOC on projects that need engineering design assistance. Two different potential projects have been considered but were postponed due to the building owners changing or delaying their plans.

PLANNING FOR HALF-DAY SEMINAR, FALL 2014

A half day event related to sustainability is being planned for fall 2014. More details to follow.

Are you aware of the Building Energy Quotient (bEQ) program and how it's helping building owners achieve levels of improved building performance. Setting high standards for improving energy performance is a major focus of ASHRAE's mission and we believe bEQ is an effective tool in this effort. bEQ is specifically designed to identify factors causing the gap between a building's design potential and its actual performance in operation. Only those who hold an ASHRAE Building Energy Modeling Professional or Building Energy Assessment Professional certification may submit workbooks and benefit fully from the bEQ program. At <https://www.ashrae.org/education--certification/certification/beg-brochures-for-your-use> you'll find revised brochures that reflect ASHRAE adding the As Designed rating to bEQ and how certification supports the program. Please let us know if you have any questions.

GREENING OUR MEETINGS

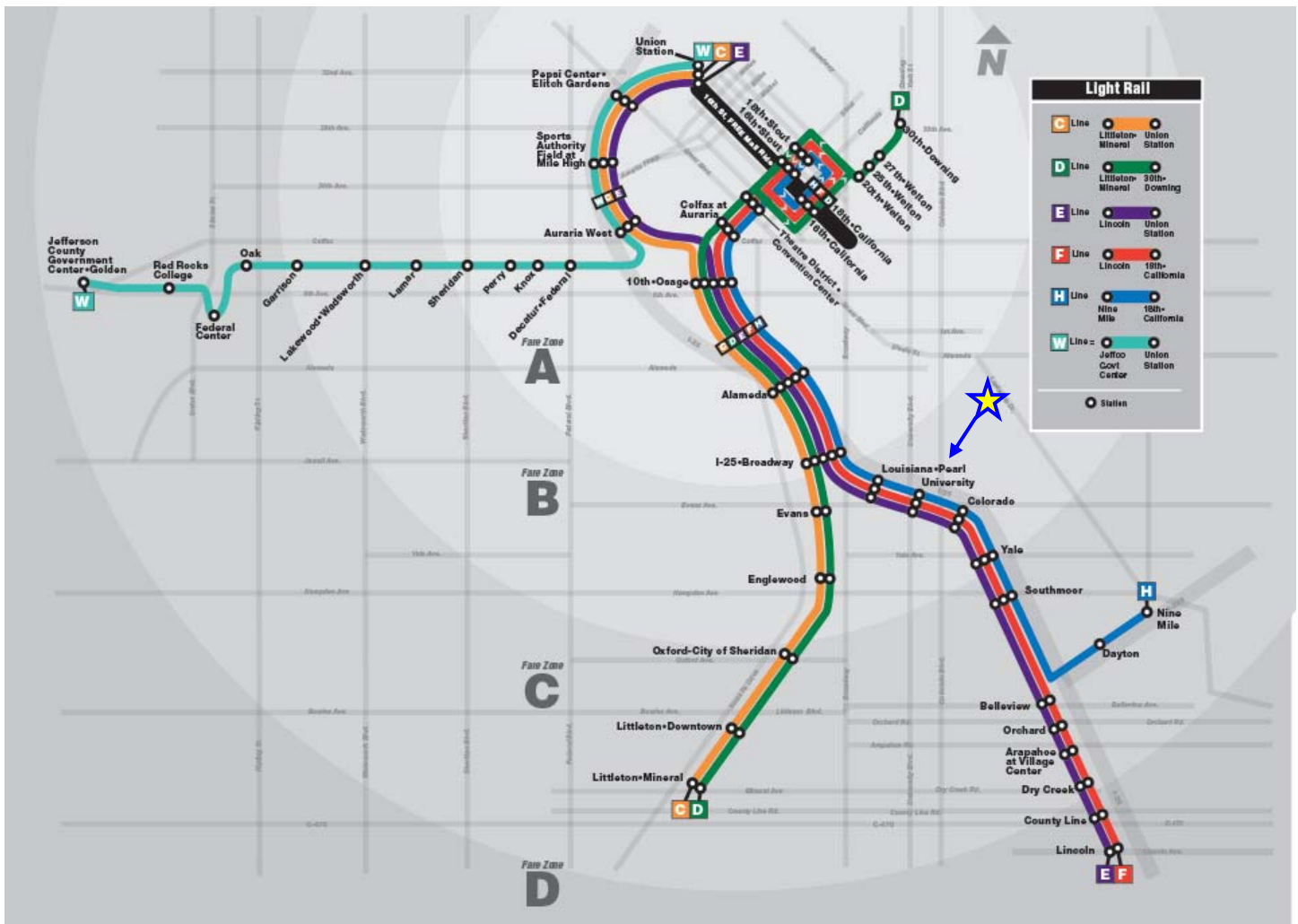
The Rocky Mountain Chapter of ASHRAE will present a free raffle ticket to anyone taking public transportation to the monthly ASHRAE meeting.

One raffle ticket will be given to each participant for each meeting. Visit www.rtd-denver.com for system maps and times or contact ridegreen@rockymtnashrae.com for further assistance.

Acceptable modes of alternative transportation:

- ✓ Walking
- ✓ Bicycling
- ✓ Bus
- ✓ Light Rail
- ✓ Alternative Fuel Vehicle
- ✓ High Efficiency Vehicle (35+ mpg)
- ✓ Carpooling (2 or more persons)

The ASHRAE meeting (Denver) at Dave & Buster's is located at the **Colorado Light Rail Station** for lines **E, F and H**. Any bus lines that pass through the **Evans and Colorado intersection** will also get you to Dave & Buster's.



YOUNG ENGINEERS IN ASHRAE (YEA) & STUDENTS

Young Engineers in ASHRAE (YEA) events are open to all ASHRAE Members, you do not have to be younger than 35 to attend.

Applications Now Being Accepted for the *HVAC Design: Level I - Essentials* Training Scholarship

ASHRAE's *HVAC Design: Level I - Essentials* training targets those new to the field, either as new hires or engineers and others in career transition. The next three opportunities to attend are:

Atlanta, March 17-19 (apply by January 10)

Toronto, March 17-19 (apply by January 10)

Atlanta, June 9-11 (apply by April 11)

The YEA Institute scholarship is offered for each training listed above and covers the full cost of Level I registration.

<https://www.ashrae.org/membership--conferences/yea-scholarship-for-hvac-design-essentials-workshop>

Registration Now Open for YEA Leadership Weekend Spring 2014

March 28-30, 2014 | Portland, Oregon.

Are you interested in expanding your knowledge, meeting fellow engineers and having some fun along the way? Look no further than YEA Leadership Weekend!

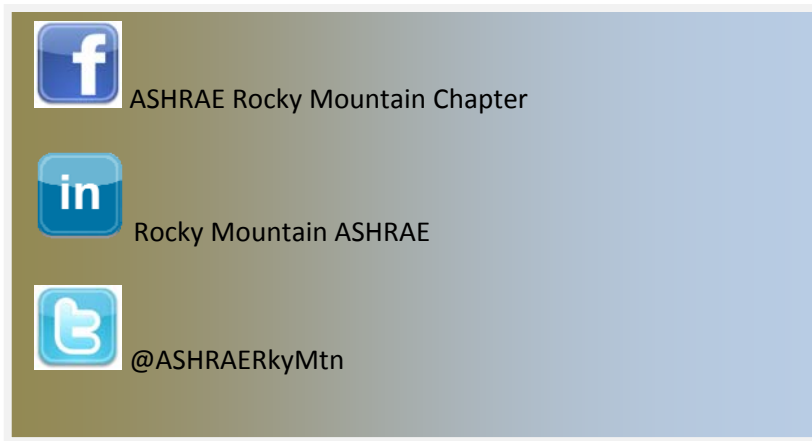
YEA Leadership Weekend is an opportunity for you—the future leaders of ASHRAE—to learn more about Society, develop soft skills and network with other young professionals. Over 300 YEA members have already taken advantage of this great opportunity...will you be next?

<https://www.ashrae.org/membership--conferences/young-engineers-in-ashrae/yea-leadership-weekend-spring-2014>

Stay tuned local events are in their planning stages. Have any ideas? Thoughts on a PE/FE study group?

Contact YEA Committee Chairman James Newman at YEA@RockyMtnASHRAE.com for more information.

Or at:



GOVERNMENT AFFAIRS

Government Affairs is now its own standing committee. This committee's responsibilities are to keep the Chapter members informed of Government activities such as new laws and regulations, legislative and building department activities as well as making ourselves available to the local government entities as an information source. The committee is chaired by Steve Ferguson who can be reached at Government@RockyMtnASHRAE.com if you are looking for more information or are interested in being involved.

President Obama Issues Memo on Federal Leadership in Environmental, Energy, and Economic Performance

U.S. President Barack Obama sent a new [memo](#) to the heads of federal agencies and departments that establishes new goals for renewable energy and energy management practices. Of particular interest may be section 3 of the memo, "Building Performance and Energy Management", in which agencies are required to continue installing building energy meters and sub-meters (as required by the National Energy Conservation Policy Act), install water meters where cost-effective and appropriate, enter energy and water metered data into Portfolio Manager, publicly disclose annual benchmark energy performance data through the U.S. Department of Energy's web-based tracking system, and incorporate the [Green Button](#) data access system/program into report, data analytics and automation, and processes.

As agencies seek to implement these new and continuing requirements, ASHRAE may be able to be of assistance through our technical expertise, standards, and guidance. To this end, preliminary discussions have begun to obtain more information.

If you have any questions, please contact ASHRAE's Government Affairs Office at WashDC@ashrae.org.

Year Set to End Without Major Energy Efficiency Bill; Policymakers Begin Looking for Alternatives

Many long hours have been spent since 2011, when the Energy Savings and Industrial Competitiveness Act ([S.1392](#)), also known as Shaheen-Portman, was first introduced, and with another year about to end without passage, some Members of Congress are becoming restive, looking for new avenues to advance energy efficiency legislation.

Despite the grumbling, at this stage, Shaheen-Portman is still the primary vehicle for energy efficiency in Congress. Yet, as supporters continue rallying behind the bill, the familiar obstacles of clearing time on the Senate's packed schedule, and reaching an agreement on the number and nature of amendments to the bill remain. Already 120 amendments have been introduced, and since one-third of the Senate is up for reelection in 2014, more amendments are expected, as Senators seek to use Shaheen-Portman as an opportunity to demonstrate their commitment to either advancing energy efficiency or taking stances on other issues important to them and their constituents – even if those issues are not immediately related to energy efficiency.

The future for Shaheen-Portman is both clear and vastly uncertain. Senators Shaheen and Portman will undoubtedly try again to pass the bill through the Senate, but a small group of Senators could keep passage from occurring – and an attempt of this nature is fairly likely. Thus, the real questions are whether the combined efforts of supportive Senators talking with their colleagues, and stakeholder groups mobilizing constituents, will be enough to convince key Senators from offering unrelated amendments that would hold-up or derail passage of the bill.

What will the New Year bring? Keep reading the *Government Affairs Update* and [email Mark Ames](#), ASHRAE's Senior Manager of Federal Government Affairs, to find out.

MEMBERSHIP PROMOTION

Welcome to the "The Membership Promotion Page." We would like time to welcome the following new ASHRAE members for the month of December:

- Mr David Podorson
- Mr George Paich
- Mr Cris Brown
- Mr Philip diZerega
- Mr Tim Fredrick
- Ms Amy Jiron

If you have questions or need membership assistance please send an email to Membership@RockyMtnASHRAE.com or call Chris Garofoli at 303-396-9006.

Also, please look around your company and through your contacts to let people know about the benefits of joining ASHRAE. We continue to bring in new young members of the industry to keep them involved with technology and standard advancements.



ASHRAE Rocky Mountain Chapter



Rocky Mountain ASHRAE



@ASHRAERkyMtn

Industry History:

In 1820, as the steel industry was making huge technological advances, chemists tried to create a rust-proof, or stainless steel. A French metallurgist observed that when carbon steel was combined with an alloy like chrome, it did yield a rust-resistant metal. A century would pass before two British scientists continued his work and, in 1913, Europe was introduced to stainless steel. Its smooth, hard surface doesn't trap dirt, bacteria or molds - and today, stainless steel is used in everything from silverware and jewelry to spacecraft.





MEMBERSHIP APPLICATION

Name: _____

New Member Renewal National Member ID _____
*National membership is required to join chapter.

Address: _____

Email: _____

Name Tag: _____ (\$10) Yes
**Name as it is to appear on the tag.

I would like to be contacted about participating in the following events.

Mentor	Trade Show	Meeting Volunteer	Sustainability Project
Meeting Presenter	Raffle item for meeting	Committee Participation	

Please make check payable to **Rocky Mountain Chapter ASHRAE**.

Annual Membership	\$50
Name Tag	\$10
Total	_____

Please mail to:

Chris Garofoli

3416 Alcott St Denver, CO 80211

membership@rockymtnashrae.com

ROCKY MOUNTAIN ASHRAE HISTORY

In June of 1978, the newsletter praised the “Program Committee” for increasing attendance at Chapter meetings. Recently, the Rocky Mountain Chapter held the now annual Student Night and President’s Night/Luncheon.

“Program Committee: The increased attendance at Chapter meetings can be attributed to several factors. In addition to scheduling speakers and topics of a broad general interest, our Program Committee added the following incentives for meeting attendance:

1. A student night in November which attracted 40 college students from the University of Colorado, Colorado School of Mines and Colorado State University.
2. A past presidents’ night in November with all former Chapter presidents receiving a complimentary dinner pass.
3. A joint meeting in April with the local chapter of A.S.P.E. coupled with a visit by the HUD Solar Van at that meeting.
4. Publishing in our Chapter newsletter a minimum of 8-10 photos of members enjoying themselves at meetings and Chapter functions.”

Industry History:

In 1994, the U.S. Department of Energy announced production of solar panels giving nearly twice the efficiency of existing panels. Made by United Solar Systems of Troy, Mich., these amorphous silicon submodule (1 ft²) panels converted 10.2% of solar energy into electricity, as compared to 6% previously possible. This was possible by using new thin-film photovoltaic technology. The company has subsequently produced flexible solar shingles based on thin film photovoltaics that can permit the roofs of ordinary commercial and residential buildings to evolve from simply providing protection from the weather to becoming a source of much-needed electric power.

In 1978, Sweden became the first nation to curb aerosol sprays to halt the destruction of the ozone layer.

In 1927, commercial telephone service (using radio) began between New York and London.

In 1914, Henry Ford announced the newest advance in assembly line production of “modern” cars he had introduced six weeks earlier, on 1 Dec 1913. The new continuous motion method reduced assembly time of a car from over 12 hours to 93 minutes.



ASHRAE Publishes 2013 Version of Thermal Comfort Standard

ATLANTA – Major revisions for design and measurement of comfortable spaces are included in a newly published 2013 standard from ASHRAE.

ANSI/ASHRAE Standard 55-2013, *Thermal Environmental Conditions for Human Occupancy*, combines the 2010 standard and 18 published addenda into a consolidated standard. The core of the standard in Sections 4 and 5 specifies methods to determine thermal environmental conditions (temperature, humidity, air speed and radiant effects) in buildings and other spaces that a significant proportion of the occupants will find acceptable at a certain metabolic rate and clothing level.

Section 7 of the standard includes new requirements for the measurement and evaluation of existing thermal environments and is also applicable to commissioning.

The standard has been re-written with a renewed focus on application by practitioners and use of clear, enforceable language. Requirements are now clearly stated and calculation procedures appear sequentially.

Other noteworthy additions to the standard include an allowance for the cooling effect of air movement as a way to extend the upper limit of the comfort zone in naturally conditioned spaces and addition of a predictive model for occupant clothing behavior based on extensive field research. These additions provide new methods for improving occupant comfort while minimizing energy use, according to Gwelen Paliaga, chair of the committee that wrote the standard.

Documentation requirements to show that a design meets Standard 55 are contained in Section 6 and a sample compliance form is provided in appendix J. Both of these sections are clarified and streamlined for use by owners and third party rating systems.

The 18 addenda published since 2010 are summarized in detail in Informative Appendix M, and the most noteworthy changes are summarized here:

- The normative body of the standard, comprising Sections 3 through 8, have been rewritten and reorganized.
- Requirements are more clearly stated, definitions are added to Section 3, and informative supporting information has been moved from the body to informative appendices.
- Procedures are clarified and appear in a more sequential manner. For example, a “representative occupant” with representative “clothing insulation” and “metabolic rate” shall be defined as input into thermal comfort calculations.
- The cooling effect of air movement now applies to naturally conditioned spaces as well as mechanically conditioned spaces, and in each case correction factors are given that adjust the comfort boundaries when air movement is present.
- A new alternate procedure for estimating occupant clothing insulation based on outdoor weather was added. This procedure is based on extensive field research and can be used for design calculations, annual simulations and control of occupied spaces.
- Major revisions to Section 7 procedures for measuring comfort in existing spaces including survey and physical measurement methods and a new section on evaluating and reporting results.

ASHRAE SOCIETY NEWS AND PRESS RELEASES (CONT.)

- The standard now requires that two of the key comfort parameters, air speed and air temperature, must be calculated as an average that the occupant experiences at three heights across the body and over a period of time.

The cost of ANSI/ASHRAE Standard 55-2013, *Thermal Environmental Conditions for Human Occupancy*, is \$95 (\$81, 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.

ASHRAE Offers First Opportunity to Comment on Proposed Guideline for Commissioning Existing Systems, Assemblies

ATLANTA – With functional changes and occupant productivity driving the need to commission existing facilities, ASHRAE is developing a guideline that addresses the commissioning process. The guideline is now open for public input.

ASHRAE Guideline 0.2P, *The Commissioning Process for Existing Systems and Assemblies*, describes the procedures, methods, documentation, requirements and physical activities of the commissioning process for existing buildings, systems and assemblies using the principles developed in ASHRAE Guideline 0-2005, *The Commissioning Process*.

The proposed guideline is open for public comment from Dec. 6 until Jan. 20, 2014. For more information, visit www.ashrae.org/publicreviews.

“The most fundamental difference between new and existing building commissioning besides the obvious – one is new construction, one is existing – is that the function of the space may have changed substantially since it was designed,” Bill Dean, chair of the committee writing Guideline 0.2, said. “Related to that is that the building occupants are people with a voice and opinion as opposed to the theoretical occupant in new construction represented by the architect or owner. A great deal of the focus in the past was on energy savings being used to fund building improvements; now we are seeing functional changes and occupant productivity driving the need to commission existing facilities.”

Commissioning of existing systems also should result in energy and cost savings. Dean referenced a 2009 study from Lawrence Berkeley National Laboratory that suggests a median 16 percent energy savings with a 1.1 year payback for energy based existing building commissioning. The study noted “commissioning is arguably the most cost-effective strategy for reducing energy, costs and greenhouse-gas emissions in buildings today.”

Commissioning also impacts occupant comfort and assists in repurposing buildings. The quantifiable non-energy benefits are often equal to or greater than energy savings.

Guideline 0.2P is a process guideline that is intended to be applied to any type of facility.

For example, we envision technical requirement guides being written to cover building envelope, elevators, fire alarm systems, smoke control, lighting electrical, plumbing, site infrastructure and district heating and cooling, etc.” Dean said. “The same ASHRAE committee is currently developing the technical requirements for a proposed standard on existing HVAC&R systems (1.2P, *The Commissioning Process for Existing HVAC&R Systems*).”

ASHRAE SOCIETY NEWS AND PRESS RELEASES (CONT.)

Other commissioning guidance from ASHRAE includes Guideline 0-2005, *The Commissioning Process*; Guideline 1.1-2007, *HVAC&R Technical Requirements for the Commissioning Process*; and Guideline 1.5-2012, *The Commissioning Process for Smoke Control Systems*; and Standard 202-2013, *Commissioning Process for Buildings and Systems*.

ASHRAE also is working on several other guidelines related to commissioning: Guideline 1.2P, *The Commissioning Process for Existing HVAC&R Systems*; Guideline 1.3P, *Building Operation and Maintenance Training for the HVAC&R Commissioning Process*; and Guideline 1.4P, *Procedures for Preparing Facility Systems Manuals*.

ASHRAE Seeks Presentations for Efficient, High Performance Buildings for Developing Economies Conference

ATLANTA – Presentations are being sought for a conference focused on the design, construction and operation of buildings in developing economies.

Organized by ASHRAE along with the Philippines Chapter, the Efficient, High Performance Buildings for Developing Economies Conference will take place April 24-25, 2014, in Manila, Philippines. It is co-sponsored by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and endorsed by the International Association of Plumbing and Mechanical Officials (IAPMO).

Call for presenter proposals are due Jan. 31, 2014. A 400-word abstract addressing a specific topic and speaker background information are required. Presentations of case studies, preferably with actual performance data, are of most interest. Notifications will be issued in February 2014.

The conference addresses the challenges developing countries face in sustainable construction, such as rapidly growing energy demand, population density and urbanization, and focuses on aspects relating to design, construction and operation of high performance buildings, including the HVAC&R industry's role in meeting this objective.

The conference seeks to bring people from diverse cultures and climates together to share building design approaches that are responsive to local needs, said Ashish Rakheja, conference co-chair. A key motivation behind the conference is to utilize traditional construction practices.

"The papers and presentation will provide examples of how to apply the latest technology to achieve cost effective solutions to support high performance buildings in developing economies," he said.

Papers are sought on the following themes:

- Design criteria for developing countries

Hot and humid climates

Thermal comfort preferences and cultural expectations

Impact of thermal design criteria on energy use and occupant well-being

- Indoor air quality

ASHRAE SOCIETY NEWS AND PRESS RELEASES (CONT.)

Impacts of outdoor air quality issues

Potential application of natural ventilation

- Energy efficiency

Indoor environmental quality constraints on energy efficiency

Reductions in emissions of global warming gases through use of renewable energy

Energy impacts associated with water use

- Standards and government regulations

Green building programs in developing countries

Energy efficiency standards

Indoor air quality and comfort regulations

- Refrigeration

Refrigerants: limitations and opportunities

Applications, e.g. improved food preservation

- Rural communities

Water use

Lack of energy infrastructure

Combustion using low-grade fuels

In addition, presentations based on papers and invited speakers from around the world will focus on the most critical challenges facing developing economy countries.

ASHRAE SOCIETY NEWS AND PRESS RELEASES (CONT.)

SAVE THE DATE

April 17, 2014

1:00pm - 4:00 pm EDT

FREE ASHRAE WEBCAST

Buildings in Balance: IEQ and Energy Efficiency

This **FREE** webcast will feature industry experts who will identify the link between energy efficiency and Indoor Environmental Quality (IEQ) through the integrated design process. Viewers will be able to recognize the importance of the four cornerstones of IEQ and how system selection can benefit both energy efficiency and IEQ.

Visit www.ashrae.org/IEQWebcast for additional information about the program, sponsorships, continuing education credits, speakers, and registration.

ASHRAE Publishes Revised Standard on Ventilation in Health Care Facilities

ATLANTA—In some sense, designers of health care facilities must follow the same creed as health care professionals: to first do no harm. A newly revised standard for ventilation of health care facilities, can help designers by providing the minimum requirements for the design of ventilation systems for health care facilities to provide environmental control for comfort, as well as infection and odor control.

ANSI/ASHRAE/ASHE Standard 170-2013, *Ventilation of Health Care Facilities*, was written by ASHRAE and the American Society for Healthcare Engineering (ASHE). When the standard was first published in 2008, it was the first American National Standards Institute (ANSI) standard in the nation to specifically address ventilation in health care facilities.

“Without high-quality ventilation in health care facilities, patients, health care workers and visitors can become exposed to contaminants through normal respiration of particles in the air.” Paul Ninomura, chair of the 170 committee, said. “Ventilation systems and designs for health care facilities are intended to provide a comfortable environment for patients, health care workers and visitors while diluting, capturing and exhausting airborne contaminants including potentially infectious airborne agents.”

Standard 170 has been in constant maintenance since 2008 and the past five years have provided an opportunity to review and further improve it. The revised standard features updates, changes and clarifications dealing with humidity, ducted returns, recirculating rooms units and duct lining, to name just a few refinements.

One trend that almost all classes of buildings have seen on the rise lately has been energy efficiency. Health care facilities can be energy extensive buildings and energy recovery can provide significant savings. Provisions for the application of energy recovery are now specifically addressed in 170-2013. However, as the standard stipulates, if energy recovery systems are utilized, the systems cannot allow for any cross-contamination of exhaust air back to the supply airstream. Run around coils are just one example of a system that is permitted, according to Ninomura.

The standard also addresses some issues that may reduce costs to build and operate health care facilities. Standard 170 allows relative humidities as low of 20 percent for some rooms. This may result in smaller capacity of

humidification equipment, lower operating costs and reduced maintenance costs. The standard permits some use of plenum returns in outpatient facilities, which in turn may result in lower construction cost and operating costs.

Additionally, some hospitals are interested in utilizing displacement ventilation to reduce operating costs. The standard addresses the application of displacement ventilation within patient rooms.

Poorly ventilated health care facilities may increase the concentration of airborne contaminants including fungi or mold, which may cause allergic responses in even healthy workers and occupants. Considering the various occupancies and patient populations, great care must be taken in the design of health care ventilation systems.

The cost of ANSI/ASHRAE/ASHE Approved Standard 170-2013, *Ventilation of Health Care Facilities*, is \$58 (\$48, 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



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