ASHRAE Northern Nevada Chapter

Northern Nevada Chapter 126
January 2013 Newsletter

President Message:
Bryan Tilton

Happy New Year to everyone! I hope that you had a wonderful and safe holiday season. Last month's wine tasting was another success. I want to thank Whispering Vines for hosting the event, Mr. Lampson for the outstanding food again this year, our donors who made the night possible and everyone that helped with making this event a great time. All of the following companies/Individuals donated to this year's wine tasting event:

California Hydronics
Dick Lampson
DMG North
Etchemendy Engineering
Osborne Company
Norman Wright Equipment
Raglen System Balance
RHP Inc.
TJ Dobson
Western Nevada Supply
WN Mechanical Systems

This month we will be back at Pinocchio's (5:30 cocktails and 6:00 dinner) welcoming Vijayanand Periannan from the Munters Corporation. See below for more information on this month's dinner meeting. Hope to see you all there!

Sincerely,

Bryan Tilton
2012-2013 Northern Nevada ASHRAE President

President Elect / Programs Chair:
Brian Bassi

January 2013 Meeting ~ Thursday, January 17th, 2013

The meeting will be held at the Pinocchio's Bar and Grill
Cocktails at 5:30, Dinner at 6:00

Pinocchio's Bar and Grill
5995 S. Virginia St. Reno, NV 89502
(775) 826-5151

Speaker:

Vijayanand Periannan – Munters Corporation

Bio:

Vijayanand Periannan, member ASHRAE, is an Applications Engineer for Munters. Munters is a global leader in desiccant dehumidification, evaporative cooling, and air-to-air energy recovery systems and serves extensive industrial and commercial market segments, with total annual sales of approximately one billion dollars.

Vijay is a 2005 graduate of Virginia Tech with a M.S. in Mechanical Engineering. He received his undergraduate degree from National Institute of Technology Trichy, India with a B.S. in Mechanical Engineering. Vijay has worked in the HVAC industry for the past 7 years and has been focusing in the design of engineered air handling solutions involving Indirect/Direct Evaporative cooling, Air-to-Air Energy Recovery, and Dehumidification systems.

Topic Summary:

Vijay's presentation will include eliminating the myths of evaporative cooling.

I look forward to seeing you all at Pinocchio's for dinner!

Chapter Secretary Chair:
Dave Wyllie

BOG Meeting – November 8, 2012, Bangkok Restaurant.

- **Present were Bryan Tilton, Brian Bassi, Sandor Duran, Chun Lee, and Chris Little.**
- The annual Northern Nevada wine tasting event will be held at Whispering Vine, located at 3886 Mayberry Dr., Suite D, on Saturday 12/8/12 from 4-6 pm
- Bryan Tilton to speak to Mr. Dick Lampson about cooking for the event again, and ASHRAE will reimburse him for all expenses

- Pizzas will also be ordered from the adjacent Pizzeria
- ASHRAE will purchase a few bottles of alcohol and soda for members that are not drinking wine
- Bryan Tilton to contact potential sponsors for the wine tasting
- The Northern Nevada chapter met their 2011-2012 research promotion goal
- Dinner and speaker has been set up for the November meeting
- Brian Bassi has asked George Ghusn for the PowerPoint presentation to post onto the website
- Jason Bender to finish setting up the Northern Nevada Facebook and twitter account

Notes for this meeting were taken and prepared by Chun Lee.

Dinner Meeting – November 15, 2012, Pinocchio's Bar and Grill.

- President Bryan Tilton reminded those at the meeting of the upcoming Chapter Wine Tasting Event.
- 15 people attended the meeting

The speaker for the meeting was Dave Ellsworth, Harold Wells Associates, Inc.; the topic was Variable Frequency Drives (VFDs). Mr. Ellsworth covered major VFD topics of

- Energy savings calculations
- Drive standards
- Design and application considerations (including harmonics)
- Communications

Additional information was provided on the following topics:

- Bypasses and then need (or lack there-of) for them
- Maintenance
- Short Circuit Current Ratings
- Seismic Certifications
- Packaging-Reliability & Thermal Management
- Location Considerations
- Line Reactors
- Harmonics Calculations

This was a very informative presentation.

BOG Meeting – December 5, 2012, Great Basin Brewing Company.

- Present were Bryan Tilton, Brian Bassi, Jason Bender, Dave Wyllie, Chun Lee, and Chris Little.
- Details were finalized for the upcoming wine tasting event. Details included pizzas to be ordered, raffle prizes, silent auction items, other food and drink offerings.

Treasurer Chair:
Jason Bender

"Checking account balance is $6,164.37 and the savings account balance is $10,529.49."

Sustainability Chair:
Mark Hauenstein / No update this month.

Research & Promotions Chair:
Sandor Duran / No update this month.

Memberships Promotions Chair:
Chun Lee / No update this month.

Newsletter Editor:
Sal Cervantes / No update this month.

Shoot Chair:
Matt Brennan / No update this month.

CRC & Student Activities Chair:
Candice George / No update this month.

ASHRAE Shaping Tomorrow's Built Environment Today

Mission
To advance the arts and sciences of heating, ventilating, air conditioning and refrigeration, to serve humanity and promote a sustainable world.

Vision:
ASHRAE will be the global leader, the foremost source of technical and educational information, and The primary provider of opportunity for professional growth in the arts and sciences of heating, ventilating, air conditioning and refrigerating.

Concurrent with the ASHRAE Winter Conference . . .

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- Special emphasis on new technologies promoting energy efficiency and sustainability
- 2013 AHR Expo Innovation Awards

*Expo **co-sponsored by ASHRAE and AHRI** and held at the Dallas Convention Center, Dallas, TX.*

HVAC Design Training

Jan 14-18, 2013 • Jan 30-Feb 1, 2013 (Level I only) • Mar 18-22, 2013 • Jun 3-7, 2013 • Aug 12-16, 2013

HVAC Design: Level I - Essentials

Gain practical skills and knowledge in designing, installing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection using the newly renovated ASHRAE Headquarters building as a living lab.

HVAC Design: Level II - Applications

Developed by industry-leading professionals, the workshop provides participants with advanced level information about designing, installing and maintaining HVAC systems that can be put to immediate use. Participants will gain an in-depth look into Standards 55, 62.1, 90.1, and 189.1 and the Advanced Energy Design Guides, as well as a range of other HVAC topics including: HVAC equipment and systems; energy modeling; designing mechanical spaces; designing a chiller plant; and BAS controls.

Visit www.ashrae.org/hvacdesign to register

ASHRAE Learning Institute

Seminars & Courses at ASHRAE's Winter Conference and AHR Expo in Dallas, TX

2 WAYS TO REGISTER

Internet: www.ashrae.org/dallascourses
Phone: Call 1-800-527-4723 (US and Canada) or 404-636-8400 (worldwide)

Full-Day Professional Development Seminars

$485/$395 ASHRAE Member -- Earn 6 PDHs/AIA LUs or .6 CEUs

The Commissioning Process in New & Existing Buildings
Saturday, Jan 26 – 8:00 a.m. to 3:00 p.m.

Data Center Energy Efficiency
Saturday, Jan 26 – 8:00 a.m. to 3:00 p.m.

Healthcare Facilities: Best Practice Design & Applications
Saturday, Jan 26– 8:00 a.m. to 3:00 p.m.

Complying with Standard 90.1-2010
Tuesday, Jan 29 – 9:00 a.m. to 4:00 p.m.

Energy Modeling Best Practices and Applications: HVAC/Thermal
Tuesday, Jan 29 – 9:00 a.m. to 4:00 p.m.

Half-Day Short Courses

$159/$119 ASHRAE Member -- Earn 3 PDHs/AIA LUs or .3 CEUs

Air-to-Air Energy Recovery Fundamentals
Sunday, Jan 27 – 2:00 p.m. to 5:00 p.m.

Humidity Control: Applications, Control Levels
Buildings
and Mold Avoidance
Sunday, Jan 27 – 2:00 p.m. to 5:00 p.m.

Air-to-Air Energy Recovery Applications: Best Practices
Monday, Jan 28 – 8:30 a.m. to 11:30 a.m.

Application of Standard 62.1-2010:
Multiple Spaces Equations & Spreadsheet
Monday, Jan 28 – 8:30 a.m. to 11:30 a.m.

Combined Heat & Power: Design through Operations

Monday, Jan 28 – 8:30 a.m. to 11:30 a.m.

Buildings
Understanding Standard 189.1-2011 for

High-Performance Green Buildings
Monday, Jan 28 – 2:45 p.m. to 5:45 p.m.
Systems

Introduction to Ultraviolet Germicidal
Irradiation (UVGI) Systems
Monday, Jan 28 – 2:45 p.m. to 5:45 p.m.
Monday, Jan 23 – 2:30 p.m. to 5:30 p.m.

The Commissioning Process & Guideline 0
Monday, Jan 23 – 2:30 p.m. to 5:30 p.m.

Commissioning Process & Guideline 0
Monday, Jan 28 – 2:45 p.m. to 5:45 p.m.

Evaluating the Performance of LEED®-Certified

Monday, Jan 28 – 2:45 p.m. to 5:45 p.m.

Optimization of HVAC Systems & Components:
Techniques & Real-World Examples
Tuesday, Jan 29 – 9:00 a.m. to 12:00 p.m.

Energy Management in New and Existing Buildings
Tuesday, Jan 29 – 9:00 a.m. to 12:00 p.m.

Avoiding IAQ Problems
Tuesday, Jan 29 – 9:00 a.m. to 12:00 p.m.

Designing Toward Net Zero Energy Commercial

Tuesday, Jan 29 – 1:00 p.m. to 4:00 p.m.

Understanding & Designing Dedicated Outdoor Air

Tuesday, Jan 29 – 1:00 p.m. to 4:00 p.m.

Laboratory Design: The Basics and Beyond
Tuesday, Jan 29 – 1:00 p.m. to 4:00 p.m.

For Release:
Dec. 10, 2012

Contact: Jodi Scott
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Standard for High Performance Green Health Care Facilities Open for Public Review

ATLANTA – A prescription for the design, construction and operation of high performance health care facilities would be provided through a proposed standard from ASHRAE and the American Society for Healthcare Engineering (ASHE).

ASHRAE/ASHE Standard 189.3P, Standard for the Design, Construction and Operation of Sustainable High-Performance Health Care Facilities is open for public comment from Dec. 7, 2012-Jan. 21, 2013. Visit www.ashrae.org/publicreviews for more information.

“Healthcare facilities are often the largest and most energy intensive buildings in a community,” Standard 189.3 committee chair Michael Sheerin said. “In today’s competitive and regulated market, these facilities are challenged to provide capital for increasingly complex new buildings that meet sustainability objectives as they experience decreasing finances for life-sustaining services. In addition, health care facilities are home to services that require energy use for patient safety.”

Proposed Standard 189.3 would help facilities in meeting those multiple needs by providing the procedures, methods and documentation requirements for the design, construction and operation of high performance sustainable health care buildings. It would apply to patient care areas and related support areas within health care facilities, including hospitals, nursing homes and licensed outpatient facilities.

The standard covers key topical areas of site sustainability, water use efficiency, energy efficiency, indoor environmental quality and the building’s impact on the atmosphere, materials and resources. Additionally the standard has a special section to address the emissions, effluents and pollution that is commonly discharged from these facilities.

Proposed Standard 189.3 provides guidance to achieve improved energy efficiency for the selection of materials and furnishings and for utilizing green facility operating processes.

The standard builds upon the guidance for creating high performance buildings addressed in a parallel standard, ANSI/ASHRAE/USGBC/IES Standard 189.1, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings, while accommodating the unique factors that impact health care facilities.

Specific ventilation requirements for health care facilities are addressed in ANSI/ASHRAE/ASHE Standard 170, Ventilation of Health Care Facilities.

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For Release:
Dec. 12, 2012

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Chiller Efficiency Improvements Proposed for Standard 90.1

ATLANTA – Chiller efficiencies for air and water cooled chillers would be boosted to more than 20 percent under a proposed addendum to the ASHRAE/IES energy standard.

Proposed addendum ch to ANSI/ASHRAE/IES Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings, changes the requirements for air and water cooled chillers as defined in section 6.4.2.1 and the efficiency requirements listed in table 6.8.1C. This change is a continuation of the efficiency improvements that were implemented in 2010 by further improving the efficiency requirements, according to Dick Lord, a member of the committee who developed the proposal through a working team of the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) chiller section.

Addendum ch is open for public review from Nov. 30, 2012-Jan. 14, 2013. For more information, visit www.ashrae.org/publicreviews.

In 2010, a Path B was added to the standard for part load intensive water cooled chillers. Proposed addendum ch would expand Path B by adding requirements to include air cooled chillers. Also as part of this change, efforts were made to bring the efficiency requirements for water cooled positive displacement and centrifugal chillers together while considering the available technology, and to chillers to be applied at other application conditions where one technology may better suited than the other. If approved, the new efficiency requirements would go into effect on Jan. 1, 2015.

The proposed efficiency requirements in addendum ch increase annual energy savings to 23.1 percent vs. Standard 90.1-2004 and 8.3 percent vs. Standard 90.1-2010. In 2010, the overall weighted average savings resulted in a 16.2 percent improvement in chiller annualized energy use vs. Standard 90.1-2004.

Lord noted the average payback was calculated at 6.3 years, given some units that exceed the scalar limits. Chiller manufacturers are aware of this and know that redesign and cost reduction will be required, but do support the proposal, he said. Lord also noted that we are reaching maximum technological limits at a component level and that in the future the industry will have to look at the full HVAC system for further improvements. AHRI is in the process of forming a new working group to address systems approaches for efficiency improvements and will work closely with Standard 90.1.

In addition, improvements also were made to the requirements to clarify their use. AHRI has recently updated the AHRI 550/590 rating standard that is used for the rating of chillers and its certification program. As part of this effort, AHRI developed a hard metric standard with slightly different rating conditions than the inch pound (I-P) ratings and have released it as AHRI 551/591. For the International System of Units (SI) rating, the change was reflected in the ratings as well as revising the reference to the AHRI rating standard to include AHRI 551/591.

The Standard 90.1 committee also opted to exclude chillers when the leaving condensing temperatures are greater than 115F from the equipment efficiency requirements of Table 6.8.1C. This proposed clarification stems from the fact that high-lift, heat reclaim chiller applications often use a different compressor and sometimes a different refrigerant. The intention of using heat reclaim chillers is to increase system efficiency, but the effect on overall system efficiency cannot be assessed at standard cooling design conditions, Lord said. AHRI is developing rating requirements, test procedures and certification for heat reclaim chillers as well as heat pump chillers.

Also open for public comment from Nov. 30-Jan. 14 is addendum aq that makes minor changes to improve clarity and to address issues identified in sections 6.5.1.3.a and 6.5.3.2.1.

In addition, 15 proposed addenda also are open for public review from Nov. 30 until Dec. 30. They are:

- Addendum bs reduces occupancy threshold for demand controlled ventilation from greater than 40 people per 1000 ft2 to equal to or greater than 25 people per 1000 ft2 with exemptions for certain occupancies.
- Addendum ca requires that vestibule heating be locked out when outside air is above 45F, the same temperature that lockout of freeze protection or ice melting systems is required in section 6.4.3.8.
- Addendum cb to removes the 10,000 cfm threshold for optimum start and adds a threshold for systems controlled by DDC. The addendum also expands the requirement beyond air-based systems so that convectors and radiant systems would be included.
- Addendum cc adds minimum efficiencies for both axial and centrifugal fan evaporative condensers with R-507A as the test fluid to Table 6.8.1G.
- Addendum cd clarifies what to do with piping system accessories that are not in series with the piping circuit that do not have the same heat losses/gains and pressure drop
- Addendum ce establishes package single zone systems as the baseline HVAC system type for all retail occupancies of two stories and less.
- Addendum cf enables the establishment of a window-to-wall ration for retail strip mall buildings.

- Addendum ck requires the use of dual maximum control for variable air volume zone control when the building has DDC controls.
- Addendum cl updates the IEER values for air-cooled and water-cooled air conditioners and heat pumps above 65,000 Btu/h. Depending on the cooling capacity and product classes, the new IEERs are between 7 and 13 percent better than the values they are replacing. The new IEERs will become effective on Jan. 1, 2016. Note the IEER is a new metric that was developed by AHRI and first implemented in the 2010 standard and is a better representation of the annualized refrigeration system energy use of a typical commercial packaged air conditioner.
- Addendum cn allows laboratory designs that incorporate strategies to reduce peak airflows and minimum unoccupied airflows to document energy savings associated with reduced outside air volumes.
- Addendum co modifies the Lighting Power Densities in Table 9.5.1 to match the recommended light levels in the 10th Edition of the IES Lighting Handbook.
- Addendum cp corrects a value in table 5-5 for steel joist floors.
- Addendum cr modifies Table 9.6.1 to correct the required light levels for hospital corridors, assisted living dining spaces and retail sales spaces.
- Addendum an allows the option to use energy rates either from actual local rates or EIA state data, where approved by the building official when using Appendix C.
- Addendum ar corrects the definitions for walk-in coolers and walk-in freezers.

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For Release:
Dec. 18, 2012

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Is Moisture an Unwanted 'Occupant' In your Building? ASHRAE Seminar Shares how to Remove It

ATLANTA – No designer wants to see the unwelcome guests of mold and mildew show up in their building. Guidance on how to prevent moisture that causes their appearance is offered in several sessions at ASHRAE's 2013 Winter Conference in Dallas.

"Sooner or later, HVAC professionals throughout Texas and the Gulf Coast come up against the problem of preventing or getting rid of mold," Lew Harriman, a speaker at the Conference and author of ASHRAE's "ASHRAE Guide for Buildings in Hot and Humid Climates," said. "In June 2012, the ASHRAE Board of Directors approved a totally revised and updated Position Document on Indoor Mold and Dampness in Buildings. The Dallas Conference includes a comprehensive briefing on what ASHRAE experts have found to be the HVAC-related causes of mold in buildings, and what owners, contractors and designers can do to prevent the problem."

The 2013 Winter Conference takes place Jan. 26-30 at the Sheraton Dallas. To register and for complete Conference information, visit www.ashrae.org/dallas. The International Air-Conditioning, Heating, Refrigerating Expo, held in conjunction with the Winter Conference, will run Jan. 28-30. The Expo, www.ahrexpo.com, is held at the Dallas Convention Center.

The technical program features more than 200 sessions addressing energy conservation; facility management: operations, technology and energy improvements; large building design; standards, guidelines and codes; HVAC&R systems and equipment; HVAC&R fundamentals and applications; and refrigeration. The full Technical Program offers the opportunity to earn a year's worth of PDHs, NY PDHs, AIA LUs and LEED AP credits and runs Jan. 27-30.

A seminar, Diagnosing and Fixing Building Moisture Problems – Case Histories from Hot and Humid Climates, takes place 8-9:30 .m. Sunday, Jan. 27.

Moisture and humidity problems are often a complex mixture of decisions made by different professionals at different times about HVAC systems, architecture and building operations. Untangling the causes of problems and planning solutions requires understanding of the typical interactions between the building and its HVAC systems plus an appreciation of the practical aspects of operating buildings with limited budgets.

Case histories presented in this seminar can help building owners and facility managers avoid classic moisture problems and solve them when they occur.

Speakers and presentations are:
- Diagnosing and Fixing a Major Mold Growth Problem in a Health Clinic, Lew Harriman, Mason Grant, and Portsmouth, N.H.
- The Unintended Consequences of the New International Green Construction Code on HVAC and Mold Problems in Humid Climates, George Dubose, Liberty Building Forensics Group, Zellwood, Fla.
- Sources and Solutions of Classic Moisture Problems—Lessons Learned in Hot and Humid Climates, Raoul A. Webb, P.E., ENVIRON International Corp., Tampa, Fla.

A seminar, "Moisture Control in Commissioning of New and Existing Buildings," takes place 11 a.m.-12:30 p.m., Sunday, Jan. 27. Moisture control in the commissioning process is based on project requirements for moisture problem avoidance, building assessment, field testing, and building science. This seminar focuses on the interaction of building systems that affect moisture in buildings and demonstrates important lessons learned by use of case studies.
- Providing Moisture Control Solutions in Building Commissioning, Donald Snell and George Dubose, Liberty Building Forensics Group, Zellwood, Fla.
- The Art and Science of Building Enclosure Commissioning, Fiona Aldous, Wiss, Janney, Elstner Associates, Inc., Irving, Texas.

A seminar, ASHRAE Position on Limiting Indoor Mold and Dampness in Buildings, Unvented Combustion Devices and Indoor Air Quality: Review of Three Recently Published ASHRAE Position Documents, takes place from 11 a.m.-12:30 p.m., Wednesday, Jan. 30.

The seminar reviews three recently published Position Documents from ASHRAE, including "Limiting Indoor Mold and Dampness in Buildings." The paper describes 64 specific decisions that have been observed to either minimize or increase the risks associated with indoor moisture accumulation.
- The Revised ASHRAE Position Document on Limiting Indoor Mold and Dampness in Buildings, Lew Harriman, Mason Grant, Portsmouth, N.H.
- ASHRAE Position Document on Unvented Combustion Devices, Paul W. Francisco, University of Illinois, Champaign, Ill.
- ASHRAE Position Document on Indoor Air Quality, Chandra Sekhar, Singapore.

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December 20, 2012
Contact: Doug Read
Chair, High-Performance Building
Congressional Caucus Coalition
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Rep. Peter Welch New Co-Lead for High-Performance Buildings Congressional Caucus

WASHINGTON, D.C. – High-performance buildings help create local jobs, while lowering overall costs and enhancing their communities. In recognition of the critical need to improve our nation's public and private buildings, where people spend about 90 percent of their time, U.S. Representative Peter Welch (D-VT) has taken up the important task of co-leading the High-Performance Buildings Congressional Caucus.

Formed in 2008, the Caucus heightens awareness among federal policymakers about the major impacts that buildings

have on the health, safety and welfare of the general public, and the opportunities to design, construct and operate buildings addressing these factors.

Specifically, the Caucus focuses on the eight aspects of high-performance buildings outlined in the Energy Independence and Security Act of 2007:

- Accessibility
- Aesthetics
- Cost-Effectiveness
- Functionality
- Historic Preservation
- Productivity
- Safety and Security
- Sustainability

“This Caucus is about finding practical ways to make progress in Washington,” Welch said. “Despite the heated political rhetoric, common ground does exist. For example, while there are big differences on energy policy, everyone agrees that using less energy is a good thing. So why not work together make homes and buildings more energy efficient? It’s simply common sense. This Caucus will help identify more areas where we can work together, and I am pleased to serve as its co-chair.”

“The Coalition is delighted with Welch’s new leadership role as the Democratic Co-Chair of the Caucus,” Doug Read, chair of the Caucus Coalition, said. “His leadership over the years on building energy efficiency and sustainability has resulted in the introduction and passage of several key bills in Congress. The Coalition looks forward to working with him and the rest of the Caucus to continue educating members of Congress on the importance of high-performance buildings issues.”

The Caucus is supported by the High-Performance Building Congressional Caucus Coalition (www.hpbccc.org), a broad-based group of over 160 technical societies, associations, and businesses. Since 2008, the Coalition has held over 40 briefings on Capitol Hill to help educate policymakers and bridge the gap between the often highly technical and highly political worlds inhabited by the building community and Congress.

For Release:
Jan. 10, 2013

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ASHRAE Seeks Input on Revisions to Data Centers in 90.1 Energy Standard Scope

ATLANTA – Addendum cs to ANSI/ASHRAE/IES Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings, is open for advisory public review from Jan. 4-Feb. 3, 2013. The addendum proposes changes to definitions for computer rooms and data centers in Standard 90.1 to create a distinction between facilities covered by 90.1 and those which are intended to be under the scope of ASHRAE Standard 90.4P, Energy Standard for Data Centers and Telecommunications Buildings, proposed by ASHRAE in late 2012.

The definition proposed for computer rooms more closely aligns with ASHRAE Standard 100, Energy Efficiency in Existing Buildings, and the U.S. Energy Information Administration’s Commercial Building Energy Consumption Survey (CBECS). In addition, the definition is consistent with Uptime Institutes’ “Tier Standard: Topology” and the Telecommunications Industry Association ANSI/TIA-942 class rating for low-risk Tier I data centers. High risk data centers such as those designed as Tier II or greater per ANSI/TIA942 or ones with mechanical cooling system redundancy are expected to be covered by the 90.4P standard now under development.

Steve Skalko, chair of the Standard 90.1 committee, said with the development of Standard 90.4P feedback is needed from the industry to clarify the scope and definitions of each standard. Energy conservation requirements for high risk data centers, initially covered by Standard 90.1-2010, are expected to be detailed in the 90.4P standard. Computer rooms, which can include low-risk data centers, would remain under the scope of Standard 90.1.

“The costs and approaches used in determining appropriate HVAC applications used to achieve energy efficiency are different,” he said.

Computer rooms, which by the proposed definitions include low-risk data centers, are usually associated with electronic equipment spaces that are not considered risks and therefore money is typically not spent to install levels of component and systems redundancies. Computer rooms may be ancillary functions and add loads in a larger building and often are served from the same central cooling plants.

Computer rooms are designed to provide local data processing and information storage for in-house end users and clients, which the owner has deemed very low risk. Risk choices are made to reduce total life cycle costs associated with not only system selection and operation, but potential failures, business interruptions, continuity plans and overall company specific business model features like staffing requirements, according to Skalko.

By comparison, data centers designed as Tier II or greater per ANSI/TIA942 or ones with mechanical cooling system redundancy carry more risk, he said. Industry studies indicate downtime associated with such risk can cost tens of thousands of dollars a minute, with the potential to negate both past energy savings and future business viability in a single act. The demand for data centers has grown, as the electronic equipment needs have evolved with the huge demand for data processing services and storage in the age of digital devices.

A data center has the function to support the electronic equipment that commonly provides services to outside or external clients, hence the heightened awareness of risk and risk mitigation approaches employed. Data centers can support everything from an individual enterprise all the way to hosting services on the internet and must provide maximum operational run time on a 24-7 basis. These facilities are built with multiple levels of component redundancy, providing at least an N+1 mechanical cooling capacity redundancy, if not greater, as well as operational resiliency (increased staffing hours and expertise), Skalko said.

To comment or to learn more, visit www.ashrae.org/publicreviews.

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For Release:
Jan. 14, 2013

Contact: Jodi Scott
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Why Is It So Loud in Here? Free ASHRAE Session at AHR Expo Focuses on Acoustics

ATLANTA – Why is it so hot/cold in here? And why is it so noisy?

Those two thoughts are probably all that comes to mind for building occupants in regard to HVAC&R systems.

“Occupants aren’t like engineers who specialize in this,” Erik Miller-Klein, P.E., SSA Acoustics, LLP, Seattle, Wash., said. “They’re not wondering how energy efficient the system is or how the variable frequency drives are running or how sustainable the building is. The two metrics that occupants are concerned with are thermal comfort and noise.”

The question of why a space is quiet or noisy will be examined in a free ASHRAE session held as part of its 2013 Winter Conference.

The AHR Expo Session, “Basics of HVAC Noise Control,” takes place from 2-3:30 p.m. Tuesday, Jan. 29, in Room C147 of the Dallas Convention Center. ASHRAE Conference registration is not required to attend and no badge is needed.

“Designing HVAC systems with good acoustic performance can be a challenge,” Miller-Klein said. “This session addresses three common issues to improve acumen for sound and vibration, including the idiosyncrasies of selecting fans that optimize acoustic and energy performance for improved system design and the physics of sound that explains the performance and limitations of silencers and acoustic louvers.”

The session also will allow attendees to fine tune the most valuable and effective tool for acoustics – their ears – by providing audio examples to connect them with the fundamental aural experience.

Presentations and speakers are:

- Fan Selection Impact on Noise, Mark E. Schaffer, P.E., Schaffer Acoustics Inc., Pacific Palisades, Calif. The noise produced by a fan depends not only on its duty point but also on its type and size. For a given duty point a fan that is the wrong type and/or the wrong size can be as much as 30 dB louder than the optimum selection. This presentation will show examples of quiet and noisy fan selections and offer simple guidelines for selecting fans to minimize excessive fan noise.
- Understanding the Physics of Silencers , Dan LaForgia, Industrial Acoustics, and Bronx, N.Y. HVAC silencers or sound attenuators are used on many different types of HVAC equipment. Silencer manufacturers have various models designed to meet specific dynamic insertion loss and static pressure drop requirements. A properly selected silencer can reduce noise levels significantly across the entire frequency spectrum. However, if a silencer is improperly selected, issues in acoustic performance, pressure drop and self-noise may arise. The silencer itself may even become another noise source! This presentation will explain silencer definitions, testing procedures and how to properly select silencers to ensure the maximum performance is gained without disrupting the HVAC system.
- What Does That Sound Like and Mean? (Ear Training), Erik Miller-Klein, P.E., SSA Acoustics, LLP, Seattle, Wash. Understanding how noise can be an annoyance and what the goal criteria sounds like gives you, the designer and contractor the tools to be successful on the acoustic front. Explore the aural landscape of HVAC acoustics with your ears as we navigate successful projects and common issues and how to troubleshoot problems.

The 2013 Winter Conference runs Jan. 26-30 at the Sheraton Dallas. The International Air-Conditioning, Heating, Refrigerating Expo, held in conjunction with the Winter Conference, runs Jan. 28-30 at the Dallas Convention Center. To register and for complete Conference information, visit www.ashrae.org/dallas.

ASHRAE, founded in 1894, is a building technology society with more than 50,000 members worldwide. The Society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow’s built environment today.

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“This year, I’ve put a real emphasis on making technology more accessible to people as part of my presidential theme,” ASHRAE President Tom Watson said. “What’s more accessible than having the technology in your hand? The ASHRAE Event App acts as a digital guide to the Conference.”

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