



ASHRAE

Technology for a Better Environment
Northern Nevada Chapter 126
October 2011 Newsletter

PRESIDENT'S MESSAGE: **CHRIS LITTLE**

First off I would like to thank last years officers and volunteers; we had a great year last year! We hosted a great CRC, had good dinner meeting attendance, and two fantastic fundraisers. It will be a hard year to follow, but we are going to do our best!

We had a good turnout for last months meeting, the first of the year, which is often our least attended meeting overall. Those of you who showed up were treated to a very informative and entertaining speech from Dr. Stanley Mumah. I would like to thank both our speaker and our attendees once again.

Lastly, we are attempting to make sure that our email list is up to date and that everyone who would like to be receiving Northern Nevada ASHRAE emails is receiving them. When sending out the first meeting announcement, I noticed that several addresses on our list were no longer valid. So please, help us out and ask your colleagues and coworkers if they received this and if not to contact me with their names and emails. With the tough economic times, I know many people in our industry have changed jobs, companies, etc and we want to make sure we keep them in the loop.

Thank you and see you at this months meeting!
-Chris Little

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PRESIDENT ELECT / PROGRAMS CHAIR:
BRYAN TILTON

October 2011 Meeting ~ Thursday, October 20th, 2011

The meeting will be held at the Claim Jumper Restaurant
Cocktails at 5:30, Dinner at 6:00

Claim Jumper Restaurant
4905 S. Virginia St. Reno, NV 89502
(775) 829-0200

First, I would like to give a big thanks to all of those who made last month's dinner meeting. That was a great way to start the year, let's keep it going. Thank you!

Speaker:

Matt Gaedtke – Director Lab Exhaust Systems, Greenheck Fan Corporation.

Bio:

Matt has 17 years of HVAC experience with Greenheck Fan Corporation. Along with providing technical support to owners, engineers and contractors on the selection and use of Greenheck's commercial and industrial products, Matt also plays an active role in developing new products and training customers on latest ventilation technology. He has conducted numerous presentations on Fan Fundamentals, Sound, System Effect, as well as Laboratory Exhaust Ventilation. Matt graduated from the UW Madison in 1994 with a BS in Mechanical Engineering and completed his MBA through UW Oshkosh in 2004.

Topic Summary:

Presentation will be on the Laboratory Exhaust and Energy Recovery.

Thank you all again for a great start to the upcoming year!

TREASURER CHAIR:
BRIAN BASSI

"Checking account balance is \$2,918.42 and the savings account is \$12,513.80. Great turnout for last month's dinner meeting."

RESEARCH AND PROMOTION CHAIR:
SANDOR DURAN

ASHRAE Members-

We are starting a new campaign and need your help to do our Chapters part to help further research in our industry. We have a Chapter goal of \$5,000 to be donated for the 2011-2012 Research Promotions Campaign. I'd like to thank those that have contributed in the past, but we will need everyone's help to reach our goal for this year. Please start thinking about what you can do as an individual to help our chapter do its part to support the research projects that help keep our industry moving forward by improving the technology that shapes the systems that we are all involved with. Please at a minimum take some time request that your company support our chapter with a donation to the ASHRAE RP Campaign!

Please send any donations or checks to my office for collection and processing, or bring the checks to a meeting and give it to me there! You will receive receipt that can be used for tax-deduction purposes.

ASHRAE

C/O CR Engineering
5434 Longley Lane
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Sandor Duran
RP Chair, ASHRAE N. Nevada

SHOOT CHAIR:
MATT BRENNAN / No update this month.

CRC & STUDENT ACTIVITIES CHAIR:
CANDICE GEORGE / No update this month.

MEMBERSHIPS PROMOTIONS CHAIR:
CHUN LEE / No update this month.

CHAPTER SECRETARY CHAIR:
JASON BENDER / No update this month.

Mission Statement

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

For Release:
Sept. 20, 2011

Contact: Amanda Dean
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ASHRAE, AHR Expo Return to Chicago for 2012 Winter Conference

ATLANTA—Registration is open for ASHRAE's 2012 Winter Conference in Chicago where attendees have the chance to discuss and examine the latest topics in the building industry, such as high performing buildings and integrated design, as well as participate in technical tours; attend ASHRAE Learning Institute courses; earn professional credits; and obtain ASHRAE certifications.

The 2012 Winter Conference takes place Jan. 21-25 at the Palmer House Hilton. The International Air-Conditioning, Heating, Refrigerating Expo®, held in conjunction with the Winter Conference, will run Jan. 23-25. The Expo, www.ahrexpo.com, is held at the McCormick Place.

In keeping with ASHRAE's goal of continuing education the Conference offers over 200 Professional Development Hours, as well as Continuing Education Units, which can be applied toward a Professional Engineering license.

The technical program features more than 90 programs and 300 speakers addressing energy modeling applications; integrated design; healthcare, laboratories and data center applications, among others; operations and maintenance; high performance buildings; as well as refrigeration and systems and equipment sessions. Additionally, there is a new “mini-conference” on Installation, Operation & Maintenance of HVAC Systems built within the Technical Program. The O&M mini-conference is scheduled on Jan. 22-23. The full Technical Program, which will be announced later this month, offers the opportunity to earn a year’s worth of PDH’s, NY PDH’s, AIA LU’s and LEED AP credits.

The Chicago Virtual Conference is included with a paid Conference registration—comp and single day registration excluded—and includes on-demand access to all speakers’ audio presentations synced to their presentations. Attendees and speakers can post comments on the presentations for a two-week period. Those not attending the Chicago Winter Conference in person may register for the Virtual Conference only. Register at www.ashrae.org/chicagovirtual.

Five Professional Development Seminars and 15 Short Courses are offered to help industry professionals stay current on HVAC technology, including how to apply the newest ASHRAE standards. The ASHRAE Learning Institute (ALI) is offering a new half-day short course on the basics of combined heating and power systems, as well as updates to the full-day professional development seminars focusing on Standards 62.1, Ventilation for Acceptable Indoor Air Quality, and 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings. ALI courses are approved for renewal of professional engineer and professional architect licenses, as well as for industry certification programs.

Additionally, ASHRAE offers a special administration of all six certification examinations on Jan. 25: Building Energy Assessment Professional (BEAP), Building Energy Modeling Professional (BEMP), Commissioning Process Management Professional (CPMP), High-Performance Building Design Professional (HBDP), Healthcare Facility Design Professional (HFDP) and Operations & Performance Management Professional (OPMP). ASHRAE’s certification program recognizes industry professionals who have mastered knowledge and skills reflecting best practices in certain aspects of building design and operations. More information on each certification can be found at www.ashrae.org/chicagoexams.

ASHRAE Conference technical tours give you a first-hand look at technology developed by members to further the industry. Tours include the North Central College Residential and Recreation Center, Loyola University Information Commons, the University of Chicago Mansueto Library and Rush University Medical Center Central Energy Plant.

The Winter Conference also includes a program designed for students of the Society. Highlights of the program, held on Sunday, Jan. 22, include speakers, a professional development session and presentations by the recipients of the Student Design Competition and a technical tour of the University of Chicago library.

To register and for complete Conference information, visit www.ashrae.org/chicago.

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For Release:
Sept. 23, 2011

Contact: Jodi Scott
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Alternative to ASHRAE Standard 62.1 Ventilation Rate Procedure Proposed

ATLANTA – Public comment is being sought on the proposed allowance of an additional default value to the ventilation rate procedure in ASHRAE’s indoor air quality standard.

ANSI/ASHRAE Standard 62.1-2010, Ventilation for Acceptable Indoor Air Quality, sets minimum ventilation rates and other requirements for commercial and institutional buildings. The ventilation rate procedure provides a prescriptive method for determining minimum ventilation requirements. It accounts for pollutant sources from both the building and its

occupants, and allows the designer to account for the efficiency of different ventilation systems when delivering outdoor air to the breathing zone.

Some users of Standard 62.1 believe that the ventilation rate procedure is “too complicated,” according to Standard 62.1 chair Roger Hedrick. “While the 62.1 committee disagrees with this in most cases – the basics of the VRP are quite straightforward – the committee agrees that application of the multiple-zone recirculating system equations described in Section 6.2.5 and Appendix A can be complex.”

Proposed addendum f, open for public review until Oct. 16, provides an additional default value for V_{pz} .

“Difficulty determining an appropriate value for V_{pz} seems to be a frequent issue with users of the multiple space equations,” he said. “The committee decided that supplying a default value would simplify application. However, the default value is necessarily conservative. In a large number of applications, determining the ‘lowest zone primary airflow value expected at the design condition analyzed’ will result in a value for V_{pz} that is higher than the default, resulting in a reduced outdoor air intake requirement.”

Addendum f is open for public review until Oct. 16, 2011, along with proposed addendum h. Also, proposed addendum g to the standard is open for public review until Oct. 31, 2011. For more information, visit www.ashrae.org/publicreviews. The other addenda open for public review are:

- Addendum h (until Oct. 16). Table 6.1 in the standard includes ventilation rates for “Sports arena (play area)” and “Gym, stadium (play area).” Both space types have ventilation rates based on floor area only, with a per person rate of zero. Users of the standard have expressed interest in applying demand controlled ventilation to these space types, which is effectively prohibited by the lack of a per person component to the ventilation rate. This proposed addendum replaces both of these space types with “Gym, Sports Arena (play area),” with $R_p = 20$ cfm/person and $R_a = 0.06$ cfm/ft². In most cases, the overall ventilation rate for these spaces is expected to decrease, possibly significantly, according to Hedrick.

One concern about allowing CO₂-based demand controlled ventilation in these spaces is that the volume per person in these spaces is typically large, which means that CO₂ concentration changes will have longer than usual lag times behind occupancy changes, he noted.

- Addendum g (open until Oct. 31). Currently users are directed that for space types that are not listed in Table 6-1 they should select the space type from the table that is most similar to the space being designed. However, some space types are actually ventilated using the exhaust ventilation requirements of Section 6.5 and Table 6-4. This proposed addendum adds language directing the user to select the space type that is most similar to the space in question from either Table 6-1 or 6-4, and to design the ventilation for the space according to the Section 6.2 or 6.5, as appropriate

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Sept. 23, 2011

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ASHRAE is Supporting Sponsor of Solar Decathlon 2011

ATLANTA—ASHRAE is proud to once again shine a light on the key role solar energy will play in the development of net-zero energy buildings as a supporting sponsor of the Solar Decathlon 2011.

The Decathlon—sponsored by the Department of Energy and held on the National Mall from Sept. 23-Oct. 2—is a competition in which 20 teams of college and university students compete to design, build and operate the most attractive, effective and energy-efficient solar-powered house.

“The students participating in the Solar Decathlon are the future leaders of the building industry,” Ron Jarnagin, ASHRAE president, said. “ASHRAE is eager to support these young leaders in their goal of finding the best way to reach net-zero. We can learn a lot from their innovation, enthusiasm and dedication.”

As part of its role as a supporting sponsor ASHRAE will host two workshops, one focusing on recent updates on commercial and residential building design standards, held Friday, Sept. 23, and one focusing on renewable energy options for homeowners, to be held Sunday, Sept. 25.

To provide the Solar Decathlon student teams with the best possible engineering resources as they plan their solar homes, ASHRAE has made available a variety of resources to the student teams such as HVAC Simplified and the ASHRAE GreenGuide, to name just a few.

Perhaps the greatest resource ASHRAE has to offer is its members’ expertise. Over a dozen ASHRAE members have been selected by DOE and the National Renewable Energy Lab to serve as Solar Decathlon Observers. ASHRAE Observers are assigned to observe two to four houses each to manage the 10 contests that make up the entire competition. ASHRAE Observers plan to dedicate several days to serve in this capacity.

“I believe that the Solar Decathlon is a unique opportunity for students to design, test, build, and see their buildings work,” Dru Crawley, an ASHRAE member and volunteer Observer, said. “This hands-on application of what they’re learning in a broad range of disciplines cannot be replicated any other way.”

Additionally, ASHRAE has encouraged its members who live in the D.C. area to volunteer their time at the Solar Decathlon by helping to answer questions asked by the visiting public or assisting organizers with operating the competition. Whether available to volunteer for a few hours or multiple days, ASHRAE members’ volunteer contribution helps make the Solar Decathlon 2011 a success.

ASHRAE also offers students, who participate in several intense days of construction, a way to relax by co-sponsoring a student reception with USGBC and AIA on Sept. 24. The reception allows participants to meet and greet decathletes, organizers and sponsors, as well as enjoy great food and the chance to win raffle prizes.

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For Release:
Sept. 27, 2011

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ASHRAE Introduces New Liquid Cooled Datacom Environmental Classes

ATLANTA – A new whitepaper that serves as the first vendor neutral thermal guideline for liquid cooled data processing environments is available for free download from ASHRAE.

“2011 Thermal Guidelines for Liquid Cooled Data Processing Environments” creates data center classes for liquid cooling that can enable fulltime economizers for a number of applications in many climates, according to Don Beaty, chair of the Publications Subcommittee of ASHRAE’s Technical Committee (TC) 9.9, Mission Critical Facilities, Technology Spaces and Electronic Equipment.

“2011 Thermal Guidelines for Liquid Cooled Data Processing Environments” can be downloaded for free from the ASHRAE TC9.9 website at www.tc99.ashraetcs.org.

The increasing heat density of modern electronics is stretching the ability of air to adequately cool the electronic components within servers as well as the data center facilities that house these servers. To meet this challenge, the use of direct water or refrigerant cooling at the rack or board level is now being deployed. This trend of increasing heat densities combined with the interest in energy and waste heat recovery created the need for liquid cooling guidelines to help bridge the gap between IT equipment design and data center facility design, according to Beatty.

Five liquid cooling classes have been created:

- W1 – Facility Water Supply Temperature of 2 to 17 C
- W2 – Facility Water Supply Temperature of 2 to 27 C
- W3 – Facility Water Supply Temperature of 2 to 32 C
- W4 – Facility Water Supply Temperature of 2 to 45 C
- W5 – Facility Water Supply Temperature of > 45 C

In addition to the classes, the whitepaper provides insight into other considerations for liquid cooling including condensation, operation, water flow rates, pressure, velocity and quality as well as information on interface connections and infrastructure heat rejection devices.

This whitepaper follows an earlier whitepaper released in May 2011, “2011 Thermal Guidelines for Data Processing Environments – Expanded Data Center Classes and Usage Guidance,” which addresses air cooling in data centers and created new data center environmental classes which expanded the opportunity for chiller-less data centers (fulltime economizers).

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