March Meeting
Thursday, March 13, 2014
Main Meeting:
ASHRAE Std 189.1-2011 for High Performing Green Buildings
Approved for 1.0 PDH
Speaker: Dr. Thomas Lawrence
Tech Session:
ASHRAE Std 191 on Water Efficiency
Speaker: John Swift

Research Promotion Night
Joint Meeting with AEE

Meeting Manager:
Mike Gilroy
mpg@brplusa.com

Where:
Embassy Suites, Waltham, MA

Meal:
Strawberry Field Salad
Chicken
Red Velvet Cake

Time:
5:30—6:15 Technical Session
5:30—6:15 Social/Registration
6:15 – 7:00 Dinner
7:00 – 8:00 Main Presentation

Cost:
ASHRAE Boston Members: $40
Non-Members / Walk-Ins: $50
ASHRAE Student Members: Free

Please see page 3 for speaker bios.

ASHRAE Standard 189.1 for High Performing Green Buildings

ASHRAE, in conjunction with the U.S. Green Building Council and the Illumination Engineers Society, has developed a new standard for High Performance Green Buildings (Standard 189.1-2011). The Standard provides the minimum requirements for a high-performance green building, and was developed with the intent to provide a balance of environmental factors involved with designing, building, and planning for the operation of buildings. This session provides a detailed look at the standard, the background on its development and what is foreseen for its application and ultimate adoption, with particular emphasis on issues that architects would focus on.

Please register online whether pre-paying with credit card / PayPal or paying with cash or check at meeting at www.ashraeboston.org. RSVP by 5:00 PM on Friday, March 7th.

If you have any questions, you may contact Mark LaFrance, Attendance Chair, at ashraebostonattendedance@outlook.com.

Thank You
The Boston Chapter February meeting featured a presentation on a lessons learned in refrigeration designs. Past President and Refrigeration Chair, Steve Tafone, gave us a lively overview of what to avoid when designing these types of systems. Please see the meeting recap in the newsletter for more details.

This month’s meeting will be held on Thursday, March 13, and will feature ASHRAE Distinguished Lecturer Thomas Lawrence and his presentation on Standard 189.1-2011. The technical session will be a presentation on ASHRAE Standard 191 on Water Efficiency by John Swift. This will be our annual joint meeting with AEE, so the turnout should be good. I would encourage everyone to register for the meeting early in order to ensure a spot at this meeting. It is approved for 1.0 PDH.

The Chapter is continuing to search for methods to help the registration and payment process be more streamlined. For the past few months, the Chapter has been using Vertical Response as the program to generate and send our meeting notices. It has been noted that some of our members may not be receiving the email meeting notices. If you have not been receiving them, please be sure to have the email address Mark_LaFrance@mail.vresp.com added to your email program’s safe senders list. Please have your IT person do this, or you can read here for instructions - http://help.verticalresponse.com/how-to/tutorial/add_our_address_to_your_safe_sender_list.

Also it should be noted that next year we will no longer be accepting credit card payments at the meeting; only checks and cash will be taken at the door. All credit card payments will need to be done online.

We have some great events coming up in April, so please save the dates for the following:

- **Tuesday, April 8** – New Product & Energy Show - Along with the exhibit of products, there will be six (6) one hour seminars during the day. If you wish to reserve a booth, contact Jeff Schultz at jschultz@eypae.com.
- **Thursday, April 17** - ASHRAE Webcast “Buildings in Balance: IEQ and Energy Efficiency” - 1:00 PM – 4:00 PM. This will be hosted at BR+A – please contact Mike Gilroy (MPG@brplusa.com) for more information. A notice with more details will be sent out later this month.
- **Thursday, April 24** – Refrigeration Tour at the Harpoon Brewery – 7:00 – 9:00 PM. Join us for a tour of the brewing process as well as some sampling. This will be limited to 60 attendees so be sure to register early. A notice with more details will be sent out later this month.

A reminder that we still have many committees who are in need of volunteers. If you would like to be more involved with the ASHRAE Boston Chapter, this is a great way to start! Please contact me for the list of available committees and opportunities.

As always, I am open to your questions, comments and/or suggestions, so please do not hesitate to contact me. I look forward to seeing everyone at the upcoming meetings.

Teri Shannon, President

Materials for the April newsletter are due by **March 14, 2014**. Please submit employment/want ads in .pdf, .doc or .jpg format. A company logo may also be included. Please send me any ideas you would like to share or include in next month’s issue. Please see the website for additional information www.ashraeboston.org.

**EDITOR’S NOTE**

*By: Stephanie Lafontaine*

For more information, please call or e-mail me at: (857) 221-5942, northeastaire@gmail.com
Meet the March Speakers

Main Dinner Presentation: Dr. Thomas Lawrence, Ph.D., PE, LEED AP, ASHRAE Distinguished Lecturer

Dr. Lawrence is a Senior Public Service Associate with the University of Georgia, and has 30+ years of professional experience. Before going back for his Ph.D. in Mechanical Engineering at Purdue, he spent approximately 20 of those years in industry and consulting. He is the past chair of ASHRAE Technical Committee 2.8, “Building Environmental Impact and Sustainability”, and is a member of the committee which wrote the ASHRAE standard on high-performance green buildings (Standard 189.1). As an ASHRAE Distinguished Lecturer, he gives presentations and workshops on green building design at venues around the world. He is the chair of the editorial committee that produced the 4th edition revision to the ASHRAE Green Guide released in late 2013. Dr. Lawrence has been on the faculty at the University of Georgia since 2004, and is the coordinator for the mechanical engineering degree program there. Dr. Lawrence has a B.S. with Highest Distinction honors in Environmental Science from Purdue University (1978), a M.S. in Mechanical Engineering from Oregon State University (1982) and a second M.S. degree in Engineering Management from Washington University earned in 1989. He received a Ph.D. in Mechanical Engineering from Purdue University in the spring of 2004 with a research topic focused on demand control ventilation.

Technical Session: John Swift, PE, CEM, LEED AP – Principal, Cannon Design

John Swift has over 25 years of experience in high performance building systems engineering design. A member of the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), the Association of Energy Engineers (AEE), and the U.S. Green Building Council, he has extensive experience in the design and construction of numerous institutional and commercial building types that require optimization of occupant comfort while minimizing energy and water usage.

Mr. Swift is a voting member and a past chair of ASHRAE Technical Committee TC 2.8 Building Environmental Impacts and Sustainability, and is an Editor of the ASHRAE Green Guide. The Green Guide is a bestselling publication and one of the more prominent green guides in the institutional and commercial building design industry. Swift is also the chair of the standard committee for the proposed ASHRAE Standard for Water Efficiency (SPC 191).

John served on Governor Patrick’s MA Zero Net Energy Buildings Task Force, and is a past member of the Leadership Council of the Boston Chapter the US Green Building Council

Mr. Swift’s total commitment to an integrated design process and sustainable strategies make him a national leader in the design of high performance environments. Swift is a Principal with Cannon Design. In that role, Swift has led sustainability efforts throughout the firm, and has facilitated the acceptance of the Architecture 2030 Challenge.
March Technical Session Information

ASHRAE Standard 191 on Water Efficiency

Water efficiency and conservation is a critical factor in the design and operation of buildings. Buildings consume 20 percent of the world’s available water, a resource that becomes scarcer each year, according to the United Nations Environmental Program. Efficient practices and products provide opportunities to save significant amounts of water. The reduction of energy use and operating costs, and the expectation of increased government regulation will continue to drive faster adoption of water-efficient products and methods. ASHRAE’s mission is to advance the arts and sciences of heating, ventilating, air conditioning and refrigerating to serve humanity and promote a sustainable world. The proposed ASHRAE SPC 191 Standard is the organization’s effort to address water consumption and generate awareness to the fact that the efficient use of water is an important element in the considerations when developing a new campus, designing and operating a building- or retrofitting an existing building. The development of this standard will provide the tools that a design team needs to properly apply water efficiency measures on all aspects of a building design and construction project.

This technical session provides an overview of the latest public review draft of the proposed ASHRAE Standard 191 on Water Efficiency. The standard is intended to provide baseline requirements for the design of buildings, site, and mechanical systems that minimize the volume of water required to operate HVAC systems, plumbing systems and irrigation systems. The session includes two case studies that illustrate how to apply the proposed standard and identify the potential benefits associated with its use.

Presidential Award of Excellence
Boston Chapter - 2013-2014

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ASHRAE Boston Chapter Past Presidents

ASHRAE Boston saw many familiar faces at February’s chapter meeting as it featured the annual past president’s night at the Embassy Suites in Waltham, MA. The night also held a technical session covering hydraulic shock in refrigeration systems followed by the main presentation on “Lessons Learned in Designing AC Refrigeration Systems” by one of the Chapter’s long-time members.

The technical session was presented by Dr. Samuel Martin. Dr. Martin is a former professor at Georgia Institute of Technology and currently uses his expertise as a consultant for hydraulic shock and water hammer type applications. He gave an overview of one of his own experiments where he simulated condensation-induced hydraulic shock. The experiment used pressure transducers to study a liquid slug moving through a pipe containing ammonia gas. Dr. Martin also described how the ASHRAE technical committees are structured. He noted that a proposed change can take up to (4) four years before it takes effect if approved by the appropriate committee.

The social crowd and technical session attendees all gathered in the main hall for dinner. As dinner commenced, ASHRAE Boston Chapter President Teri Shannon made her general announcements including reminders for next month’s chapter meeting on March 13th and the ASHRAE product show on April 8th. Eric Edman, presently Chapter Historian and a past president of ASHRAE Boston, followed Teri by giving a warm introduction to the evening’s main presenter, Mr. Steve Tafone.

Mr. Tafone is currently employed by Suffolk Construction Company Inc. as the Vice President of Engineering. With more than 37 years of experience in the HVAC and construction industries, Mr. Tafone presented lessons learned on chillers versus direct expansion (DX) for DOAS. He noted that maintenance and floor area play big roles when deciding between the two design approaches. He also emphasized to “know what you’re asking for” when specifying pieces of equipment. Items such as a differential pressure sensor on a chiller system monitoring pump head pressure was one example used to demonstrate how a simple oversight can be very costly in the long run.

The February meeting concluded with Teri Shannon presenting gifts to the presenters followed by her closing remarks.
The New Product & Energy Show 2014

Date: Tuesday, April 8, 2014; 1:00 p.m. to 8:30 p.m.

Seminars 1:00 p.m. to 5:00 p.m.
Product Show 3:00 p.m. to 8:15 p.m.
Dinner 6:00 p.m. to 8:00 p.m.

Location: Lantana’s
Routes 28 and 128
Randolph, MA
http://www.ashraeboston.org/directions.html ~ parking lot map

Exhibitor Registration: Price $900.00 per single booth; Multiple adjoining booths are available.
Reservations are on a first come, first serve basis.
Click here for the 2014 product show application form,
http://www.ashraeboston.org/events/2014_product_show_application.doc

If you have not exhibited at our show before, but would like to this year, please contact the show chairpersons to be placed on our permanent mailing list and have a blank reservation form sent to you.

Registration forms will be stamped in order of receipt. Booths are limited. Checks registration (completed) must be received by March 25, 2014. Credit cards (Master or Visa) are now accepted along with an additional $25 processing fee for each booth. Click here for the form, http://www.ashraeboston.org/events/CreditCardAuth2014.pdf.

Booths:
Single – 8 feet wide x 6 feet deep
Double – 16 feet wide x 6 feet deep
a. A pre-printed sign will be attached to the backdrop with your company name.
b. Draped booths will be set up labeled prior to your arrival.
c. Tables 72" x 30" will be available upon your advanced request.
d. Electricity is available only upon your advanced request. No heavy electrical loads will be permitted. Please bring your own extension cords.
e. Water and drains are not available.
f. Internet connections available at an additional charge through Lantana’s.

Food: A complementary buffet dinner will be available to all attendees of the show.

Seminars: ASHRAE has reserved the facility for the entire day. Rooms are available for seminars from 1:00 p.m. to 5:00 p.m. Please contact Steve Tafone at stafone@suffolk.com if you are interested in providing a seminar. An outline of the seminar material will need to be submitted prior to approval. The seminars are intended to be educational and not commercial in nature.

Thank you for your interest and participation in the Boston Chapter – ASHRAE Product Show. You will receive a confirmation letter with additional information, plus some invitations for you to distribute to your customers who may not have received one. Please visit www.ashraeboston.org for more information and also for updated booth layout of exhibits.

Please contact me at 617-305-9894 or jschultz@eypae.com should you have any questions.

Sincerely,
Jeffrey H. Schultz
Product Show Chairman
Attention Product Show Vendors... Once again we will have trailer spaces available outside in the parking lot for vendors to showcase larger displays. Please contact Jeff Schultz (jschultz@eypae.com) or visit the Chapter website for more information.

We are currently at $2,630 in RP donations, thank you to all that have given to date. We still have a ways to go to meet our goal of $21,300, so if you haven’t made a donation please think of doing so. We will be making more phone calls in the coming months to help reach our society goal.

Contribution envelopes will be available at every meeting to make it easier for you to help out. As always there is a link at the Chapter website (www.ashraeboston.org) and you can pay online.

Did you know that 100% of the money donated to Research Promotion actually goes towards Research? In fact our Region receives over $4 toward research projects and grants for every $1 donated to ASHRAE Research Promotion.

ASHRAE has a general fund that pays for the remaining expenses, such as salaries, travel, reimbursements, etc. So when you donate to ASHRAE Research, every dollar actually goes into the funding of research development that gives us the information we use on a daily basis from the ASHRAE Handbooks and various other standards and information material that ASHRAE supplies!

Mission: To improve the quality of life and to answer tomorrow’s questions through research TODAY.

Over $2 million is raised annually to help fund $16 million in research projects and student grant-in-aides. There are over 80 research project and student grant-in-aides going on.

Research is used to update the Society's standards and guidelines.

Contributions come from more than 6,700 members, non-members, and companies. 100% of all funds raised go directly to research projects that support the HVAC&R industry.

Active research projects are conducted all around the world at various universities and organizations.

ASHRAE is qualified 501(c)3 and all contributions are tax deductable.

Please fill out the form in this newsletter and mail it to me with whatever contribution you can make or you can go to the ASHRAE Boston website at www.ashraeboston.org.

Mailing Address: ASHRAE Research  
Air Industries Inc.  
c/o Stephen Nicholas  
200 Sutton Street  
North Andover, MA 01845

Click on the Donation Form under Research & Promotion, or go there directly with this link: http://www.ashraeboston.org/researchpromo/donation-form.html

Credit card payments can also be made when via Society’s ASHRAE website via this link: https://www.ashrae.org/aboutus/resource_promotion.asp

I would like give a big THANK YOU to all the members and Companies that have made donations to RP!
ASHRAE Publishes 2013 Editions of Refrigerant Safety Standards

Feb 3, 2014
Contact: Jodi Scott

ATLANTA – The 2013 editions of ASHRAE’s major refrigerants-related standards, incorporating 41 new addenda, have been published.


Standard 34-2013 contains the 2010 standard and 36 published addenda. Among the key changes incorporated into the standard are:

◆ assignment of designations and safety classifications for one new single compound refrigerant and 14 new refrigerant blends.
◆ changed the refrigeration concentration limits (RCL) values of 19 refrigerants listed in the 2010 standard to comply with more current methodology.
◆ changed the flammability safety classifications of four refrigerants from Class 2 to Subclass 2L, based on optional burning velocity measurement data.
◆ added Toxicity Code Classification assignments for 18 refrigerants that had been unassigned in the 2010 standard.
◆ clarified methodology for conducting flammability tests and for determination of fractionated compositions for flammability testing.
◆ updated methodology by which the heat of combustion is calculated for refrigerant blends, and provided heat of combustion calculation examples for refrigerant blends.
◆ defined requirements that applicants shall provide evidence of the existence of an azeotropic blend, if requesting an R-500 series designation.
◆ modified sections of the standard to add bubble-point and dew-point definitions and test conditions, clarified applicant documentation requirements related to GLP compliance and added critical pressure data and specific volume calculation methodology for applicant submissions.

Standard 15 contains the 2010 standard plus five published addenda. Key changes to the standard include:

◆ clarification of the location requirements for machinery room mechanical ventilation.
◆ clarification that design pressure is expressed in terms of relative pressure or gauge pressure (not absolute pressure).
◆ wording to ensure the standard more closely harmonizes with the 2012 International Mechanical Code (IMC) section 1101.10.

Standard 15-2013 and Standard 34-2013 are sold together. The cost is $107 ($89, 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.
The upcoming March meeting will be the final traditional monthly meeting of the 2013/2014 ASHRAE Boston season. The New Product & Energy Show will follow in April and the Installation of Officers is in May. We need to finish with strong student member attendance at these final meetings. Student Activities PAOE points are on the line.

Speaking of Student Activities PAOE points, we racked up 50 points thanks to the work of two gentlemen from RDK Engineers. Gregory Titterington, President of RDK’s Andover office, and Senior Project Manager, Kevin McNamara, gave two-hour presentations to groups of students enrolled in the Masters of Architecture program at the Boston Architectural College. The presentations focused on HVAC system fundamentals and sustainable strategies. Thank you Gregory and Kevin!

A second reminder:

The 2014 New Product & Energy Show, presented by the Boston Chapter of ASHRAE, takes place on April 8. I’ll be looking for the Student Chapters to participate. Given the typical turnout at this event (local engineers, contractors, equipment sales representatives, etc.), this is a wonderful opportunity for students to get some face time and network with local employers. Please stay tuned for information about ways to participate!

By now, Student Chapter advisors should have received an invitation to participate in a tour of the Waterworks Museum in Chestnut Hill - the site of the historic steam powered pumping station for the reservoir serving Boston. Once I have a feel for the dates and times that could work for your students, we can begin to coordinate the best times with the museum.

This May, I will be stepping into my role as President of the Boston Chapter. With that, my responsibilities associated with running the Boston Chapter will greatly increase. At this time, I am looking for a couple of motivated members to join Student Activities and help me to continue the success of the committee. Please drop me a line at daniel.diorio.2@bc.edu if you’re interested in helping.
Every month, prior to the Main Program, the Boston Chapter of ASHRAE’s Board of Governors meet to discuss Chapter business. This article, based on the Secretary Meeting Minutes, shall serve as an informative summary for members as to what is happening behind the scenes of the Boston Chapter. Please feel free to contact me with any questions or for additional information.

Meeting Date: February 11, 2014

Monthly Meeting Schedule Update – The March meeting will be a joint meeting with AEE on Thursday, March 13th by Distinguished Lecturer Thomas Lawrence on ASHRAE standard 189.1. Technical session scheduled.

Technical Tour – The BOG decided to hold the Harpoon Brewery Refrigeration Tour on Thursday, April 24th from 7-9 PM.

Webcast – ASHRAE Boston Chapter will hold a webcast on Thursday, April 17th at the office of BR+A. Teri Shannon will send notification email.

The New Product & Energy Show will be on Tuesday, April 8th at The Lantana. Jeff Schultz informed the BOG that a third of the booths have been filled.

Fundraising – The BOG voted the proceeds from the 50/50 raffles to go towards Research Promotion.

Registration Software – The registration software research committee compiled a list of potential registration software for comparison. The BOG will further examine cost and benefit of each.


Committee Updates:

Grassroots Government Activities – Steve Rosen informed the BOG that Stacie Suh and Christine Reinders volunteered to assist the GGAC.

Membership Promotion – Dan Carrington volunteered to be the MP chair for 2014-2015

YEA – Justin Mole has volunteered to be the YEA chair for 2014-2015, William Tang will become the YEA co-chair to assist Justin.
WEBMASTER’S NOTES

By: Steve Rosen

We hope you are enjoying the new ASHRAE Boston website! If you have not been there yet now is a good time to do so! This screenshot below was from our Homepage indicating the November Meeting. Please visit every month to register electronically for the monthly meetings. You can register as a Member or Non-Member; this will facilitate our process and you will no longer have to wait in line at the venue to register! www.ASHRAEBoston.org

FREE SUNDAY RIVER & SUGARLOAF DISCOUNT SKI VOUCHERS, SAVE $19 PER ADULT TICKET

The Boston Chapter is participating in the Sunday River/Sugarloaf corporate voucher program again this year. Each voucher entitles you to purchase up to four discounted lift tickets [$68 Adults, $58 Teen, $48 Junior/Senior] at either ski resort by presenting an ASHRAE membership card, picture ID, and voucher. The regular prices are $87/$69/$56. Contact Ed Waldman, ewaldman1@verizon.net, if you would like any vouchers. The change this year is that the voucher is a PDF that I can e-mail to you, but they have become stricter about showing your ASHRAE card when you purchase the tickets. There is no charge for the vouchers and there are no blackout dates. Complete rules below:

How To Use Vouchers

1. Bring your corporate voucher to any participating resorts ticket window.
2. Present your voucher, photo ID, and valid ASHRAE membership card to the ticket seller. In the absence of the individual member, immediate family members defined as spouse and children, must present some form of ASHRAE identification, plus a photo ID in order to receive the discount.
3. Each person expecting the corporate pricing must be present with the corporate voucher holder at the time of ticket purchase. The ticket seller will take the voucher in exchange for up to 4 lift tickets.
Grassroots Government Affairs
By: Steve Rosen

Recently the U.S. Senate confirmed Senator Max Baucus (D-MT) as the new U.S. Ambassador to China. As a result, Senator Baucus will leave the Senate – and his Chairmanship of the Senate Finance Committee. Senator Ron Wyden (D-OR) will become the new Finance Committee Chair and concurrently step down from his post as Chairman of the Senate Energy and Natural Resources Committee – the Committee with jurisdiction over energy efficiency legislation such as Shaheen-Portman.

Senator Mary Landrieu (D-LA) will become the new Chair of the Energy and Natural Resources Committee, and will likely encourage the Committee to work on issues most important to her and Louisiana. While Senator Landrieu supports energy efficiency, it is not one of her top priorities. Instead, she will likely be more focused on oil, gas, and related issues.

The change in Committee leadership certainly does not spell the end for energy efficiency legislation such as Shaheen-Portman, however some pressure for Senate action may be lost as Senators focus on their new leadership roles. The end result will be that energy efficiency proponents will have to work extra hard to get Shaheen-Portman passed in the Senate.

Next month we can review what the Shaheen-Portman legislation is!

Employment Ads

S.J. Ginns Associates, Inc.

Your Source for Heating and Air Conditioning Equipment

HELP WANTED!

Manufacturers representative company seeking HVAC Salesperson to cover territory north of Boston, New Hampshire and Maine. Small company located in Hingham, MA. Send resumes to: pbarrett@sjginns.com.

ASHRAE Boston Chapter – Employment Ads

The NorthEastAire is published monthly, September through June. It is posted on the Chapter website at www.ashraeboston.org. A link is sent each month to all members of the Chapter, currently over 900.

Newsletter Rate: $200 for 1/4 page, $400 for 1/2 page, $800 for full page

Website Rate: $300 per calendar month

Format: Word format, company logos in .jpg or .gif

Deadline for April Newsletter: March 14, 2014

Any questions, please contact Stephanie Lafontaine, Newsletter Editor at 857-221-5942 or northeastaire@gmail.com
Society news

New ASHRAE, Green Grid Publication Provides Background on Data Center Metrics

ATLANTA—Power usage effectiveness (PUE™) has become the industry-preferred and globally adopted metric for measuring the energy efficiency of data centers. In response to this demand, ASHRAE and The Green Grid have published “PUE™: A Comprehensive Examination of the Metric.”

This is the 11th book in the Datacom Series of publications from ASHRAE Technical Committee (TC) 9.9, Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment. ASHRAE TC 9.9 collaborated with The Green Grid on the book.

“Our primary goal is to provide the data center industry with unbiased, vendor neutral data in an understandable and actionable way and this latest publication on the PUE metric does exactly that,” Don Beaty, publication subcommittee chair of TC 9.9, said. “We want to ensure that data center designers, owners and operators have access to information that enables them to make informed and educated decisions based on their business needs and value systems.”

For this book, all previously published material related to PUE was consolidated and augmented with new material. The content includes detailed information on procedures for calculating, reporting and analyzing PUE measurements, plus quick references to other resources in print and online. The intention is that a broad audience—from those implementing and reporting data center metrics seeking in-depth application knowledge and resources to executives hoping to gain a higher level of understanding of the concepts surrounding PUE—can easily grasp the guidance offered.

"Data centers are complex systems for which power and cooling remain key issues facing IT organizations today,” John Tuccillo, chairman of the board for The Green Grid Association, said. “The Green Grid Association's PUE metric has been instrumental in helping data center owners and operators better understand and improve the energy efficiency of their existing data centers, as well as helping them make better decisions on new data center deployments.”

PUE was first defined by The Green Grid, a non-profit, open industry consortium of end users, policy makers, technology providers, facility architects and utility companies working to improve the resource efficiency of information technology and data centers throughout the world.

The cost of “PUE: A Comprehensive Examination of the Metric” is $59 ($50 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 click here.

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. Through research, standards writing, publishing, certification and continuing education, ASHRAE shapes tomorrow’s built environment today.
ASHRAE Conferences 2013-2014
Attend to See What’s New, Learn New Skills, Earn PDHs, Network with Peers

ASHRAE IAQ 2013: Environmental Health in Low Energy Buildings
Oct. 15-18, 2013 | Vancouver, BC, Canada
www.ashrae.org/IAQ2013
Comprehensive overview presented via papers.

Co-organizer:

ASHRAE 2014 Winter Conference
Jan. 18-22, 2014 | New York, NY
Jan. 21-23, 2014 | AHR Expo
www.ashrae.org/newyork
Bookstore Sponsor:

First International Conference on Energy and Indoor Environment for Hot Climates
Feb. 24-26, 2014 | Doha, Qatar
www.ashrae.org/hotclimates
Papers focused on arid and humid hot climates.

Organized by:

ASHRAE Qatar Oryx Chapter
Co-sponsor:

Gold sponsor:

Endorsed by:

High Performance Buildings Conference
April 7-8, 2014 | San Francisco, Calif.
www.hpbmagazine.org/hpb2014
State-of-the-industry presentations

Efficient, High Performance Buildings for Developing Economies
April 24-25, 2014 | Manila, Philippines
www.ashrae.org/Developing2014
First ASHRAE conference on this topic.

Organized by:

ASHRAE ASHRAE Philippines Chapter
Co-sponsor:

Endorsed by:

ASHRAE 2014 Annual Conference
www.ashrae.org/seattle
2nd Annual Research Summit presented.

2014 ASHRAE/IBPSA-USA Building Simulation Conference
Sept. 10-12, 2014 | Atlanta, Ga.
www.ashrae.org/Simulation2014
Single collaboration of Energy Modeling and SimBuild Conferences.

Organized by:

Get Updated on Current Trends and Make Industry Connections at an ASHRAE Conference!
www.ashrae.org/conferences

HVAC Design Training
March 17 – 19, 2014 — Level I - Essentials — Atlanta, GA and Toronto, Canada
March 20 – 21, 2014 — Level II - Applications — Atlanta, GA

HVAC Design: Level I – Essentials - Registration is $1,239, $989 (ASHRAE Member)
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 - Registration is $829, $679 (ASHRAE Member)
In two days, gain an in-depth look into Standards 55, 62.1, 90.1, and 189.1 and the Advanced Energy Design Guides. Training will focus on a range of 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
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<th>Main Meeting/ Tech Session</th>
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<td>Tecogen Tour &amp; Presentation, &quot;CHP for Commercial Industrial Applications&quot;</td>
<td>Stephen Lafaille</td>
<td>-</td>
<td>Mark LaFrance</td>
<td>Embassy Suites, Waltham</td>
</tr>
<tr>
<td>Tuesday, September 10, 2013</td>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:markla@htseng.com">markla@htseng.com</a></td>
<td></td>
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<tr>
<td>October</td>
<td>Smoke Control (Main Meeting)</td>
<td>Nathan Birmingham RJA</td>
<td>1.0</td>
<td>Steven Tafone</td>
<td>Embassy Suites, Waltham</td>
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<tr>
<td>Tuesday, October 8, 2013</td>
<td>CFD Modeling for Engineers (Tech Session)</td>
<td></td>
<td></td>
<td><a href="mailto:stafone@suffolkconstruction.com">stafone@suffolkconstruction.com</a></td>
<td>Membership Promotion</td>
</tr>
<tr>
<td>November</td>
<td>ASHRAE Building Energy Labeling Program (Main Meeting)</td>
<td>William Bahnfleth</td>
<td>1.0</td>
<td>Dan Diorio</td>
<td>Embassy Suites, Waltham</td>
</tr>
<tr>
<td>Tuesday, November 12, 2013</td>
<td>ASHRAE 90.1-2010, IECC 2012 and LEED v4 (Tech Session)</td>
<td>Michael Pulaski and Chris Schaffner</td>
<td></td>
<td><a href="mailto:daniel.diorio.2@bc.edu">daniel.diorio.2@bc.edu</a></td>
<td>Student Activities YEA</td>
</tr>
<tr>
<td>December</td>
<td>Improving HVAC Efficiency Through Total Flow Control</td>
<td>Paul Delude Griswold Controls</td>
<td>1.0</td>
<td>Stacie Suh</td>
<td>Embassy Suites, Waltham</td>
</tr>
<tr>
<td>Tuesday, December 10, 2013</td>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:Stacie@stebbinsduffy.com">Stacie@stebbinsduffy.com</a></td>
<td>Research Promotion Joint Meeting with ASPE</td>
</tr>
<tr>
<td>January</td>
<td>DOAS: Design vs. Actual Operation</td>
<td>Jason Burbank</td>
<td>1.0</td>
<td>Dan Denisi</td>
<td>Embassy Suites, Waltham</td>
</tr>
<tr>
<td>Tuesday, January 14, 2014</td>
<td>Chilled Beam Application, Design &amp; Selection for DOAS Systems</td>
<td>George Hoekstra</td>
<td></td>
<td><a href="mailto:dandensi@yahoo.com">dandensi@yahoo.com</a></td>
<td>Membership Promotion YEA</td>
</tr>
<tr>
<td>February</td>
<td>Designing AC Refrigeration Systems—Lessons Learned</td>
<td>Steve Tafone</td>
<td>TBA</td>
<td>TBA</td>
<td>Embassy Suites, Waltham</td>
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<tr>
<td>Tuesday, February 11, 2014</td>
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<td>TBA</td>
<td>Past President’S Night History</td>
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<tr>
<td>March</td>
<td>ASHRAE Standard 189.1-2011 for High Performing Green Buildings</td>
<td>Thomas Lawrence Distinguished Lecturer</td>
<td>TBA</td>
<td>Mike Gilroy</td>
<td>Embassy Suites, Waltham</td>
</tr>
<tr>
<td>Thursday, March 13, 2014</td>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:mpg@brplusa.com">mpg@brplusa.com</a></td>
<td>Research Promotion Joint Meeting with AEE</td>
</tr>
<tr>
<td>April</td>
<td>New Product &amp; Energy Show</td>
<td>N/A</td>
<td>TBA</td>
<td>Jeffrey Schultz</td>
<td>Lantana’s, Randolph</td>
</tr>
<tr>
<td>Tuesday, April 8, 2014</td>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:jschultz@eypae.com">jschultz@eypae.com</a></td>
<td>Student Night</td>
</tr>
<tr>
<td>May</td>
<td>Installation of Officers</td>
<td>N/A</td>
<td>N/A</td>
<td>Dan Diorio</td>
<td>TBA</td>
</tr>
<tr>
<td>Tuesday, May 13, 2014</td>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:daniel.diorio.2@bc.edu">daniel.diorio.2@bc.edu</a></td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>Golf Outing</td>
<td>N/A</td>
<td>N/A</td>
<td>Bill Garvey</td>
<td>Halifax Country Club, Halifax, MA</td>
</tr>
<tr>
<td>Monday, June 2, 2014</td>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:wgarv@aol.com">wgarv@aol.com</a></td>
<td></td>
</tr>
</tbody>
</table>
# OFFICERS

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Company</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Teri Shannon</td>
<td>DAC Sales</td>
<td>207-985-0873</td>
<td><a href="mailto:tshannon@dac-hvac.com">tshannon@dac-hvac.com</a></td>
</tr>
<tr>
<td>President-Elect</td>
<td>Daniel Diorio</td>
<td>Boston College</td>
<td>617-552-8772</td>
<td><a href="mailto:daniel.diorio.2@bc.edu">daniel.diorio.2@bc.edu</a></td>
</tr>
<tr>
<td>Vice President</td>
<td>Stacie Suh</td>
<td>Stebbins Duffy, Inc.</td>
<td>781-258-1002</td>
<td><a href="mailto:Stacie@stebbinsduffy.com">Stacie@stebbinsduffy.com</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>William Tang</td>
<td>BR+A</td>
<td>617-254-0016</td>
<td><a href="mailto:wkt@brplusa.com">wkt@brplusa.com</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>William Garvey</td>
<td>RDK Engineers</td>
<td>857-221-5965</td>
<td><a href="mailto:wgarvey@rdkengineers.com">wgarvey@rdkengineers.com</a></td>
</tr>
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</table>

# BOARD OF GOVERNORS

## 2013-2016

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Phone</th>
<th>Email</th>
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<tbody>
<tr>
<td>Mike Gilroy</td>
<td>BR+A</td>
<td>617-925-9255</td>
<td><a href="mailto:mpg@brplusa.com">mpg@brplusa.com</a></td>
</tr>
<tr>
<td>Siobhan Carr</td>
<td>Andelman &amp; Lelek</td>
<td>781-769-8773</td>
<td>stebbinsduffy.com</td>
</tr>
<tr>
<td>Stephen Nicholas</td>
<td>Air Industries</td>
<td>978-682-9993</td>
<td><a href="mailto:snicholas@airinds.com">snicholas@airinds.com</a></td>
</tr>
</tbody>
</table>

## 2012 - 2015

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pat Duffy</td>
<td>RDK Engineers</td>
<td>617-925-8253</td>
<td><a href="mailto:rpersechini@rdkengineers.com">rpersechini@rdkengineers.com</a></td>
</tr>
<tr>
<td>Jeffrey H. Schultz</td>
<td>EYP Architecture &amp; Engineering</td>
<td>617-385-9894</td>
<td><a href="mailto:jschultz@eypae.com">jschultz@eypae.com</a></td>
</tr>
<tr>
<td>Jim Liston</td>
<td>Suffolk Construction</td>
<td>978-223-9143</td>
<td>stebbinsduffy.com</td>
</tr>
</tbody>
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## 2011 - 2014

<table>
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<tr>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>Robert Persechini</td>
<td>RDK Engineers</td>
<td>617-345-9885</td>
<td><a href="mailto:rpersechini@rdkengineers.com">rpersechini@rdkengineers.com</a></td>
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<tr>
<td>William Tang</td>
<td>BR+A</td>
<td>617-254-0016</td>
<td><a href="mailto:wkt@brplusa.com">wkt@brplusa.com</a></td>
</tr>
<tr>
<td>William Garvey</td>
<td>RDK Engineers</td>
<td>857-221-5965</td>
<td><a href="mailto:wgarvey@rdkengineers.com">wgarvey@rdkengineers.com</a></td>
</tr>
</tbody>
</table>

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- Stephanie Lafontaine, RDK Engineers  857-221-5942  slafontaine@rdkengineers.com

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2013 - 2014
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William Garvey
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Bruce Luchner
Stephen Nicholas

CONTACT STEPHEN NICHOLAS NOW! at 978-682-9993 or snicholas@airinds.com

Mail Check (Payable to “ASHRAE Research) to:
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Air Industries Inc
c/o Stephen Nicholas
200 Sutton Street
North Andover, MA 01845

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Name:__________________________________________________________
Company:_____________________________________________________
Address:_______________________________________________________
TEL:__________________________________________________________

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NorthEastAire

ASHRAE - BOSTON CHAPTER       www.ashraeboston.org

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