ASHRAE Bi-State Chapter
Exchanger

Volume XXVII, Issue 4 | Serving the Hudson Valley and Western Connecticut | December 2013

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Upcoming Events

- **January 15 -** Save the date
- **January 18 through 23 -** ASHRAE 2014 Winter Conference New York City
- **February 12 -** Environmental Air Quality
- **March 12 -** Save the date
- **April 9 -** Save the date
- **May 14 -** Golf Outing
- **June 11 -** Save the date
- **August 14 through 16 -** ASHRAE Region 1 2014 CRC Hosted by Bi-State Chapter

Meeting Wednesday December 11, 2013

1 PDH Credit Approved

Presentation: Chilled Water Low Delta T Mitigation — MIT Beta Site Study

Please join us on Wednesday, December 11th for an informative presentation on "Chilled Water Low Delta T Mitigation" delivered by Bob Rybka from Belimo Americas. Bob is a Regional Applications Consultant with Belimo – and he has 42 years of industry experience in installation, service, development, sales and technical training for Process HVAC, Hydronic Systems and Controls.

Bob's presentation was developed as part of a Beta Site study performed by Belimo and MIT – and their findings were presented to the International District Energy Association (IDEA) Conference in Washington, DC this past February. The presentation will address the causes of low delta T – and how they can be corrected. By correcting these issues, a typical plant can realize significant energy savings by eliminating over-pumping and by running fewer chillers and pumps through the use of pressure independent valves.

Place: Casa Rina, 886 Commerce Street, Thornwood, NY 10592

Program: 5:30 - 6:00 PM Attitude Adjustment Time
6:00 - 7:30 PM Buffet Dinner
7:30 - 8:30 PM Main Presentation

$25 Members, $30 Non-Members

Engineering students: complimentary admission

The general public is invited and encouraged to attend. Walk-ins welcome.

Directions to Casa Rina

From Saw Mill Parkway - North or South
Exit at Marble Avenue - Exit # 27
Make right - continue to second traffic light
Make right onto Commerce Street
Casa Rina is the second house on your left.
Parking is on your right.

Please RSVP to Terry Connor if you plan on attending:

Email: Terry.Connor@jci.com
Phone: 914-593-5223

President's Message

By Terry Connor, LEED AP

I would like to extend a special thank you to T.J. Kieper, Nate Kochie and the entire IBM Facilities Team in East Fishkill for hosting a fantastic tour of their Central Utility Plant last month. It's not every day that one gets an opportunity to see 40,000 tons of cooling at one time… those of us who were present will surely remember it for quite some time!

Our chapter meeting for December will have us back in our usual venue (Casa Rina in Thornwood, NY) for an informative presentation on "Chilled Water Low Delta T Mitigation" delivered by Bob Rybka from Belimo Americas. Bob has 42 years of industry experience in installation, service, development, sales and technical training for Process HVAC, Hydronic Systems and Controls. Bob's presentation was developed as part of a Beta Site study performed by Belimo and MIT – and their findings were presented to the International District Energy Association (IDEA) Conference in Washington, DC this past February. The presentation qualifies for 1.0 PDH credit with NY State.

Finally, I would like thank those of you who have stepped forward and offered to volunteer your time as we prepare to host the CRC in August 2014. We are still looking for additional volunteers, so if you have the ability to help, please reach out to either of our CRC Committee co-chairs –
Mike Circosta (email: mjcarmonk@optonline.net / Ph: 914-273-9173) or
Cliff Konitz (email: c.konitz@verizon.net / Ph: 845-297-5864) for more details.

Terry Connor, LEED AP
Bi-State Chapter President

Harvesting Power When Freshwater Meets Saltwater

As a way to generate renewable electricity, researchers have designed methods that harvest the energy released when fresh and saline water mix, such as when a river meets the sea. One such method is called pressure-retarded osmosis, where two streams of water, one saline and one fresh, meet in a cell divided by a semipermeable membrane. Osmosis drives the freshwater across the membrane to the saltier side, increasing the pressure in the saline solution. The system keeps this salty water pressurized and then releases the pressure to spin a turbine to generate electricity. A team at Yale University has created a prototype device that increases the power output of pressure -retarded osmosis by an order of magnitude. At a full-scale facility, the estimated cost of the electricity generated by such a system could be 20 to 30 cents per kWh, approaching the cost of other conventional renewable energy technologies.

New York's Javits Center Installs Seven Acre Green Roof

The five-block-long Jacob K. Javits Convention Center in midtown Manhattan now sports a 7 acre (2.8 ha) green roof. It is the largest in New York and the second-largest in the United States. The green roof is intended to help absorb rainwater and insulate the building. New York City's average annual rainfall is about 50 in. (1270 mm). By moderating the volume and velocity of storm water runoff, the Javits green roof will contribute to improved water quality in the Hudson River. Clayton Rugh, Ph.D., of manufacturer Xero Flor America of Durham, N.C., calculates that the green roof will prevent approximately 6.8 million gallons (25.8 million L) of runoff per year.The installation is part of a $465 million renovation, encompassing a 110,000 ft^2 (10 200 m^2) expansion adjacent to the existing facility.

Research Promotion Contribution Form

PLEASE COMPLETE THE INFORMATION BELOW AND RETURN WITH YOUR CONTRIBUTION TO:

James Kolk
528 Middle Street
North Babylon, NY 11703
Phone: 631-219-8502 Fax: 610-923-3352

Please accept my research investment in the amount of $_____
Make checks out to **ASHRAE Research**.

Name_____Member #_____

Company_____Chapter Bi-State_____

Address_____

City_____State_____Zip_____

Please check one: ( ) Personal contribution
( ) Company contribution

Charge my gift to: ( ) Visa ( ) Master Card ( ) American Express

Credit Card #_____Expiration Date_____

Signature_____

Donors are recognized for their contributions as follows:

Honor Roll contributors are listed in the October ASRHAE Journal and receive the commemorative coin recognizing Giants in HVAC&R invention or innovation.

Individual Honor Roll beginning at $100
Corporate Honor Roll beginning at $150

Investors with contributions of $250 or more receive a wall plaque that can display six commemorative coins.

Contributions in any amount are gratefully received and 100% of the contribution goes directly to research. All contributions are tax deductible.

ASHRAE Joins Effort to Promote Better Prepared Workforce

ASHRAE has accepted an invitation from the U.S. Department of Energy (DOE) to join an effort that will improve building performance through a better prepared workforce. The goal is to advance the skill sets of engineers and other professionals involved in building design, operation and commissioning. Under DOE leadership, a Board of Advisors has been created for the Commercial Workforce Credentialing Council (CWCC). This Board will be led by the National Institute of Building Sciences (NIBS) with the participation of ASHRAE and other credentialing and professional development organizations. They will work to establish a set of voluntary national guidelines to improve the quality and consistency of commercial building workforce credentials.

The *Better Buildings Workforce Guidelines* will reduce the confusion and uncertainty around workforce credentialing; lower costs; and support better credentials, better workers and better buildings. The *Guidelines* will set an industry-validated Job Task Analysis (JTA) for each job title, as well as certification schemes (blueprints) and learning objectives for training programs.

Initially the *Guidelines* will address commercial building workforce training and certification programs for five key energy-related jobs: energy auditor, commissioning professional, building/operations professional, facility manager and energy manager.

Three of ASHRAE's certification programs are part of this initial development:

- Commissioning Process Management Professional
- Building Energy Assessment Professional
- Operations & Performance Management Professional

Once implemented, industry certification programs must then receive accreditation from the American National Standards Institute (ANSI) in order to be recognized by DOE as meeting voluntary guidelines for the Better Buildings Workforce. This accreditation provides independent verification that the certifications are developed, maintained and administered according to the highest standards of the testing industry. ASHRAE has already begun the process of seeking ANSI accreditation in anticipation of this requirement.

"ASHRAE's involvement in this process is very important," William "Bill" Bahnfleth, ASHRAE president, said. "Participating in the development of the Guidelines gives us a voice in how the workforce of our industry will be developed. These Guidelines will ensure that quality services are provided by professionals with recognized certifications to increase consumer confidence in the service provided and ultimately to ensure the quality of our future building stock."

ASHRAE representatives recently attended an initial workshop to bring together industry stakeholders; explain the purpose of the newly created CWCC; discuss high-level questions; and provide input into the composition of the subject matter expert committees.

NYSERDA Study: Most New Yorkers Ready to Replace Incandescent Bulbs with CFLs and LEDs

New Yorkers recognize the value of switching from incandescent light bulbs to more energy-efficient options, according to a recent survey conducted for the New York State Energy Research and Development Authority (NYSERDA).

More than half of those polled believe it's important to use CFL and LED bulbs that are ENERGY STAR® certified. In addition, the true cost implications are the top consideration for three-quarters of New Yorkers when choosing which light bulb to buy. While just over 40 percent of respondents viewed the high price of CFL and LED bulbs as a disadvantage, 47 percent identified energy cost over a bulb's lifetime as the top reason to switch from incandescent bulbs to their more energy-efficient counterparts.

ENERGY STAR certified LEDs last at least twice as long as CFLs, and cost 90 percent less to run than incandescent bulbs. ENERGY STAR certified CFLs use 75 percent less energy and last up to 10 times longer than traditional incandescent bulbs, providing savings of up to $70 in energy costs over the life of just one CFL.

Conducted by KJT Research, the survey reached 1,017 consumers across the state to help NYSERDA understand how consumers make light bulb purchases, the importance they place on energy-saving options and their perceptions about ENERGY STAR certified compact fluorescent light (CFL) bulbs and light-emitting diode (LED) bulbs.

ASHRAE Learning Institute

Seminars & Courses at ASHRAE's Winter Conference and AHR Expo in New York, NY

2 WAYS TO REGISTER

Internet: www.ashrae.org/newyorkcourses
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

Commercial Building Energy Audits NEW!
Saturday, Jan 18 – 8:00 a.m. to 3:00 p.m.

Healthcare Facilities: Best Practice Design & Applications
Saturday, Jan 18 – 8:00 a.m. to 3:00 p.m.

Significant Changes to Standard 90.1-2010 and IECC-2012 NEW!
Tuesday, Jan 21– 9:00 a.m. to 4:00 p.m.

Energy Modeling Best Practices and Applications
Tuesday, Jan 21– 9:00 a.m. to 4:00 p.m.

Effective Energy Management in New and Existing Buildings
Wednesday, Jan 22 – 9:00 a.m. to 4:00 p.m.

Operations and Maintenance of High-Performance Buildings
Thursday, Jan 23 – 8:00 a.m. to 3:00 p.m.

Complying with Standard 90.1-2013 NEW!
Thursday, Jan 23 – 8:00 a.m. to 3:00 p.m.

Introduction to Building Enclosure Commissioning NEW!
Thursday, Jan 23 – 8:00 a.m. to 3:00 p.m.

Half-Day Short Courses

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

Electric Rates, Rules and Regulations NEW!
Saturday, Jan 18 – 12:00 p.m. to 3:00 p.m.

Laboratory Design: The Basics and Beyond
Sunday, Jan 19 – 2:00 p.m. to 5:00 p.m.

Air-to-Air Energy Recovery Applications: Best Practices
Sunday, Jan 19 – 2:00 p.m. to 5:00 p.m.

Mathematical Optimization Techniques and their Applications: to HVAC&R Systems and Components
Sunday, Jan 19 – 2:00 p.m. to 5:00 p.m.

Combined Heat & Power: Design through Operations
Monday, Jan 20 – 8:30 a.m. to 11:30 a.m.

High-Performance Building Design: Applications and Future Trends
Monday, Jan 20 – 8:30 a.m. to 11:30 a.m.

IAQ Best Practices for Design, Construction and Commissioning NEW!
Monday, Jan 20 – 8:30 a.m. to 11:30 a.m.

Commissioning for High-Performance Buildings
Monday, Jan 20 – 2:45 p.m. to 5:45 p.m.

Designing High-Performance Healthcare Facilities NEW!
Monday, Jan 20 – 2:45 p.m. to 5:45 p.m.

Exceeding Standard 90.1-2013 to Meet LEED® Requirements NEW!
Monday, Jan 20 – 2:45 p.m. to 5:45 p.m.

Data Center Energy Efficiency
Tuesday, Jan 21 – 1:00 p.m. to 4:00 p.m.

Fundamentals and Applications of Standard 55 NEW!
Tuesday, Jan 21 – 1:00 p.m. to 4:00 p.m.

Design of Commercial Ground Source Heat Pumps NEW!
Tuesday, Jan 21 – 1:00 p.m. to 4:00 p.m.

Applications of Standard 62.1-2013: Multiple Spaces Equations and Spreadsheets NEW!
Wednesday, Jan 22 – 9:00 a.m. to 12:00 p.m.

Troubleshooting Humidity Control Problems
Wednesday, Jan 22 – 1:00 p.m. to 4:00 p.m.

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

Magnetic Nanoparticles Could Aid Heat Dissipation

Cooling systems generally rely on water pumped through pipes to remove unwanted heat. Now, researchers at MIT and in Australia have found a way of enhancing heat transfer in such systems by using magnetic fields, a method that could prevent hotspots that can lead to system failures. The system could also be applied to cooling everything from electronic devices to advanced fusion reactors, they say.

The system, which relies on a slurry of tiny particles of magnetite, a form of iron oxide, is described in the *International Journal of Heat and Mass Transfer*, in a paper co-authored by MIT researchers Jacopo Buongiorno and Lin-Wen Hu, and four others.

Hu, associate director of MIT's Nuclear Reactor Laboratory, says the new results are the culmination of several years of research on nanofluids — nanoparticles dissolved in water. The new work involved experiments where the magnetite nanofluid flowed through tubes and was manipulated by magnets placed on the outside of the tubes.

The magnets, Hu says, "attract the particles closer to the heated surface" of the tube, greatly enhancing the transfer of heat from the fluid, through the walls of the tube, and into the outside air. Without the magnets in place, the fluid behaves just like water, with no change in its cooling properties. But with the magnets, the heat transfer coefficient is higher, she says — in the best case, about 300 percent better than with plain water. "We were very surprised" by the magnitude of the improvement, Hu says.

Conventional methods to increase heat transfer in cooling systems employ features such as fins and grooves on the surfaces of the pipes, increasing their surface area. That provides some improvement in heat transfer, Hu says, but not nearly as much as the magnetic particles. Also, fabrication of these features can be expensive.

The explanation for the improvement in the new system, Hu says, is that the magnetic field tends to cause the particles to clump together — possibly forming a chainlike structure on the side of the tube closest to the magnet, disrupting the flow there, and increasing the local temperature gradient. While the idea has been suggested before, it had never been proved in action, Hu says. "This is the first work we know of that demonstrates this experimentally," she says.

Such a system would be impractical for application to an entire cooling system, she says, but could be useful in any system where hotspots appear on the surface of cooling pipes. One way to deal with that would be to put in a magnetic fluid, and magnets outside the pipe next to the hotspot, to enhance heat transfer at that spot.

"It's a neat way to enhance heat transfer," says Buongiorno, an associate professor of nuclear science and engineering at MIT. "You can imagine magnets put at strategic locations," and if those are electromagnets that can be switched on and off, "when you want to turn the cooling up, you turn up the magnets, and get a very localized cooling there."

While heat transfer can be enhanced in other ways, such as by simply pumping the cooling fluid through the system faster, such methods use more energy and increase the pressure drop in the system, which may not be desirable in some situations. There could be numerous applications for such a system, Buongiorno says: "You can think of other systems that require not necessarily system wide cooling, but localized cooling." For example, microchips and other electronic systems may have areas that are subject to strong heating. New devices such as "lab on a chip" microsystems could also benefit from such selective cooling, he says.

Scientists Invent Self-Healing Battery Electrode

Researchers have made the first battery electrode that heals itself, opening a new and potentially commercially viable path for making the next generation of lithium ion batteries for electric cars, cell phones and other devices. The secret is a stretchy polymer that coats the electrode, binds it together and spontaneously heals tiny cracks that develop during battery operation, said the team from Stanford University and the Department of Energy's SLAC National Accelerator Laboratory.

ASHRAE Certification Programs

Receive the recognition you deserve by earning an ASHRAE Certification at the 2014 ASHRAE Winter Conference and AHR Expo.

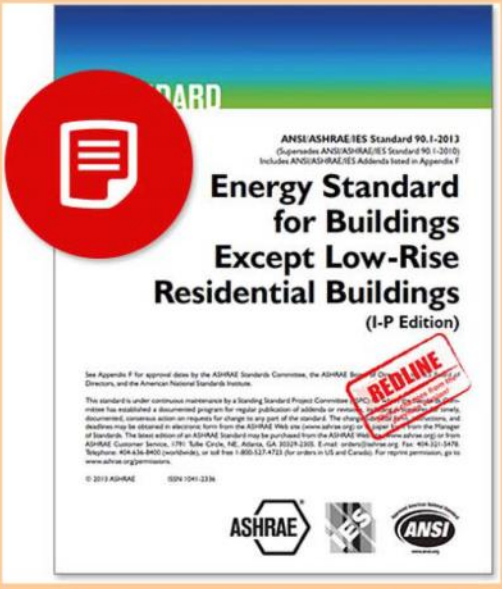
Take advantage of ASHRAE's special administration of the certification examinations on January 23, 2014. All exams will begin at 9:00 a.m. (candidates must report to the testing room at 8:30 a.m.). These exams are being offered in conjunction with the 2014 ASHRAE Winter Conference and AHR Expo in New York City. Refresh your knowledge in preparation of earning an ASHRAE certification with learning opportunities at the show and conference.

ASHRAE Certified

For more information, visit www.ashrae.org/NYCExams

Hot Products from ASHRAE

Latest Edition of Standard 90.1 Now Available as a Redline



Priced from $135 (Members Pay $115)
Available now in I-P or SI units

Use the redline to instantly identify updates in the 2013 revision of Standard 90.1.

This expanded document compares the 2013 edition to 2010, ensuring you know exactly what changes have been made from one edition to the next.

It's an indispensable reference for engineers and other professionals involved in the design of buildings and building systems. Select the redline upgrade in print or digital format to receive two documents; the clean, active version of the standard and the redline version.

About Standard 90.1-2013: *Energy Standard for Buildings Except Low-Rise Residential Buildings (ANSI approved; IES co-sponsored)* provides the minimum requirements for energy-efficient design of most buildings. Learn more

About Redlines: A redline document is a quick, easy way to compare all the changes between the active standard and the previous version. Redlines allow users to instantly identify additions, deletions, and other formatting and content changes. Learn more

Visit www.ashrae.org/bookstore to learn more about this and other outstanding ASHRAE publications!

Governor Andrew M. Cuomo's Highway Initiative Moves Forward

Governor Andrew M. Cuomo's vision for a New York Energy Highway took a major step forward on recently. Members of the Energy Highway Task Force, co-chaired by NYPA President and CEO Gil Quiniones, presented Governor Cuomo with a Blueprint for modernizing New York State's energy infrastructure. This comprehensive plan outlines a way to add up to 3,200 megawatts (MW) of electric generation and transmission capacity through private investments of up to $5.7 billion.

The New York Energy Highway initiative was introduced by Governor Cuomo in his 2012 State of the State address to ensure that New York's energy grid remains the most advanced in the nation and to promote increased business investment in the state. The Governor charged the Task Force with overseeing its implementation and enlisting the private sector.

Among the Blueprint's 13 specific actions are plans to:

- Invest $1 billion for 1,000 MW of new electric transmission capacity
- Initiate $250 million in new renewable energy projects, leveraging $425 million in private investment and creating 270 MW of new power
- Modernize and repower existing inefficient, high emission plants to create 750 MW of power, enabled by approximately $1.5 billion investment.
- Generate 1,200 MW of additional capacity through approximately $1 billion investment to help meet reliability needs to address retiring power plants across the state.
- Accelerate $1.3 billion of investment in existing transmission and distribution projects to enhance reliability, improve safety, reduce cost to customers and reduce emissions.
- Invest $250 million to develop Smart Grid technologies and create the most advanced energy management control center in the country.
- Initiate field studies of Atlantic Ocean offshore wind development potential

The Task Force created the Blueprint after reviewing 130 responses provided by 85 entities including investor-owned utilities, private developers and investors in response to a Request for Information (RFI) issued in April. Public comments submitted on the RFI responses were also considered in the development of the plan as were publicly available reports and analyses.

To view the Energy Highway Blueprint, visit www.NYEnergyHighway.com.

The RFI responses and public comments are available on the New York Energy Highway website.

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: ISIAQ

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

Bookstore Sponsor: AHRI CERTIFIED

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 Environment & Energy Research Institute, Member of Qatar Foundation
ASHRAE Qatar Oryx Chapter

Co-sponsor: AHRI

Gold sponsor: DAIKIN

Endorsed by: UNEP, IAPMO, CIBSE, REHVA

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: AHRI

Endorsed by: IAPMO

ASHRAE 2014 Annual Conference
June 28–July 2, 2014 | Seattle, Wash.
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: ASHRAE

Get Updated on Current Trends and Make Industry Connections at an ASHRAE Conference!

www.ashrae.org/conferences

ASHRAE

LEED v4 Launches at USGBC's Annual Greenbuild Conference

The U.S. Green Building Council (USGBC) has announced that LEED v4, the newest version of the LEED green building program, was launched recently at the annual Greenbuild International Conference and Expo in Philadelphia. LEED v4 encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria. Already, 122 beta projects from around the world are using LEED v4.

Highlights of LEED v4 include:

- New market sectors: New market sector adaptations for LEED include data centers, warehouses and distribution centers, hospitality, existing schools, existing retail and mid-rise residential projects.
- Time saving support tools and resources: Simplified LEED credit submittal requirements, descriptive step-by-step reference guide materials with videos and tutorials, and a more intuitive technology platform.
- Building performance management: LEED v4 is focused on outcomes so that building owners have a better understanding of how to manage their buildings to meet full performance potential.
- New impact categories: Climate change, human health, water resources, biodiversity, green economy, community and natural resources.

The first LEED v4 project certifications were recognized at the Greenbuild Conference and Expo: the Haworth Beijing Organic Showroom achieved LEED v4 Gold. Located in Beijing, China, this project certified its commercial interior space. The project is owned by Haworth, and the LEED process was administered by Bisagni Environmental Enterprise (BEE) Inc. 1800 K St. in Washington, D.C., was awarded LEED v4 Silver. This project was certified as an existing building and is owned by Deutsche Asset & Wealth Management and administered by Transwestern. Additionally, three core and shell projects earned LEED precertification: University Place in Philadelphia, 10 Emery St. in Bethlehem, Pa., and Capitol Tower Complex in Houston.

Bi-State Chapter Officers and Governors 2013—2014

Position	First Name	Last Name	Email	Phone	Fax
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President	Terry	Connor	Terry.Connor@jci.com	(914) 593-5223	(914) 593-5201
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BOG (term ends June 2016)	Michael	Circosta	mjcarmonk@optonline.net	(914) 273-9173	(914) 273-4097
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Historian	Robert	Roston	bob@rostonfamily.com	(914) 761-3364	(203) 504-7949
Reception	Joseph	Trongone	jatrong@optonline.net	(914) 332-7658	
Administrator	Cliff	Konitz	c.konitz@verizon.net	(845) 297-5864	(845) 297-5864
Golf	Steven	Abbattista	sabbattista@olace.com	(914) 919-3102	(914) 747-0453

Why Be Involved in a Local Chapter?

- Learn about the latest technologies presented in the program sessions
- Attain continuing education credits
- Meet industry associates and discuss local concerns
- Network amongst designers, installers, vendors, educators, in your local area to help improve business for all
- Share experiences with others
- Enjoy a social hour
- Carry out ASHRAE's mission on a local level

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

Notice to business card advertisers:

We are currently accepting business card advertisements for this year's newsletters. The cost of a business card ad is $125.00. The newsletter is published monthly, September through June (ten issues). That means for $125.00 ($12.50 an issue), your business card ad will circulate to approximately 300 recipients a month or an advertising cost of approximately 4 cents/recipient.

If you are interested in placing an ad, please forward a business card and check (payable to ASHRAE Bi-State) to:

ASHRAE Bi-State Chapter
DL Flow Tech
2421 Route 52
Hopewell Junction, NY 12533

Employment Opportunities

Employment ads may be submitted for inclusion in **The Exchanger** as follows:

1. $100.000 from companies placing ad for one (1) month.
2. $150.00 from companies placing ad for two (2) months.
3. No charge for members looking for employment.

Massachusetts Edges California as Most Energy Efficient State

Massachusetts is the most energy-efficient state, according to the American Council for an Energy-Efficient Economy's (ACEEE) annual State Scorecard. The report says that Massachusetts continued in the number one spot—which it has held for three consecutive years—because of its continued commitment to energy efficiency under its Green Communities Act.

The top ten states ranked in the Energy Efficiency Scorecard are: Massachusetts, California, New York, Oregon, Connecticut, Rhode Island, Vermont, Washington, Maryland and Illinois. The five states most needing improvement are: North Dakota, Wyoming, South Dakota, Alaska and Mississippi. The five most improved states are: Mississippi (appears in two lists), Maine, Kansas, Ohio and West Virginia.

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 and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow's built environment today.

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.

Upcoming Meetings

Month	Date	Promotion	Main Presentation	Tech Session
January	1/15/2014	Student Activities	Save the date	
January	1/18/2004 through 1/23/2014		ASHRAE 2014 Winter Conference New York City	
February	2/12/2014	Research Promotion	Environmental Air Quality	
March	3/12/2014	Sustainability	Save the date	
April	4/9/2014	Membership Promotion	Save the date	
May	5/14/2014	Student Scholarships	Golf Outing	
June	6/11/2014	Refrigeration	Save the date	
August	8/14/2004 through 8/16/2014		ASHRAE Region 1 2014 CRC hosted by Bi-State Chapter	

Studies Find Methane Emissions in California and U.S. 1.5 Times Greater Than Expected

Current official inventories of methane emissions, a potent greenhouse gas released from landfills, livestock ranches and oil and gas facilities, may be underestimated both nationally and in California by a factor of about 1.5, according to new research from the U.S. Department of Energy's Lawrence Berkeley National Laboratory (Berkeley Lab) and others.

A pair of new studies by Berkeley Lab scientist Marc Fischer and colleagues strongly suggest that methane emissions from oil and gas production may account for a significant portion of the underestimated emissions both in California and nationwide, and may be as much as five times greater than the current inventory estimates of EDGAR (Emissions Database for Global Atmospheric Research), the most comprehensive global methane database.

In "A multitower measurement network estimate of California's methane emissions" published recently in the *Journal of Geophysical Research (JGR)*, Fischer's team combines methane measurements from five towers located throughout the Central Valley with model predictions of expected methane signals, a method known as "atmospheric inverse modeling." They found that California's total methane emissions are 1.3 to 1.8 times higher than the current official inventory by the California Air Resources Board (CARB).

Separately, Fischer and Berkeley Lab scientist Sebastien Biraud contributed to a study led by Steven Wofsy of Harvard University that also used an inverse modeling approach to find that total methane emissions for the continental United States are 1.5 times the current Environmental Protection Agency (EPA) inventory, and as much as 2.7 times greater for the south-central part of the country, which represents 24 percent of total U.S. emissions. "Anthropogenic emissions of methane in the US" has been recently published in the *Proceedings of the National Academy of Science (PNAS).*