

FOG DISPENSER



MAY 2012 DINNER MEETING & PRODUCT SHOW

MAIN PROGRAM:
PRODUCT SHOW
& AWARDS NIGHT

SPEAKERS:
BAY AREA SCIENCE FAIR
STUDENT WINNERS



Be a part of the special evening including the pre-meeting product show. After dinner we will hear from future science and engineering students that have won Bay Area Science Fair judging, Chapter Scholarship Recipients, as well as industry colleagues winning 2011/2012 ASHRAE Technology Awards.

THURSDAY, MAY 10, 2012
(5:00 PM TO 8:45 PM)

**PG&E PACIFIC ENERGY
CENTER, SAN FRANCISCO**

AGENDA:

5:00 pm
Product Show
6:30 pm
Dinner with
announcements
and introductions
7:00 pm
Break
7:10 pm
Main Program
8:45 pm
Adjourn

COST:

**GG ASHRAE members,
but please register**

Before 3pm, Fri. 5/4 \$40.
After 3pm, Fri. 5/4 \$50.

**Non-Members,
but please register**

Before 3pm, Fri. 5/4 \$50.
After 3pm, Fri. 5/4 \$55

Students/Voucher Holder
Free, but please register

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GOLDEN GATE ASHRAE
FOG DISPENSER
VOLUME L - NUMBER 5
MAY 2012 COVER

2012 EVENT CALENDAR:

► **THURSDAY, MAY 10** 5:30 PM - 9:00 PM

LOCATION: PG&E Pacific Energy Center, San Francisco

TOPIC: Awards & Product Show

SPEAKER: Award Winners

► **SATURDAY, JUNE 10** 11:00 AM - 2:00 PM

LOCATION: Oakland, Park

First GGASHRAE picnic

► **THURSDAY, JUNE 14** 5:30 PM - 9:00 PM

LOCATION: Scott's Seafood, Oakland

TOPIC: Interactive Workshop

SPEAKER: Josh Bukstein,

Nerd Improv

www.nerdimprov.com

TBD = To Be Determined. Visit www.ggashrae.org/calendr.htm for updates, presentation summaries, speaker biographies and to register for the meetings.

EMPLOYMENT OPPORTUNITIES

Mechanical Engineers

PAE Consulting Engineers, Inc. is a full range mechanical, electrical and lighting design firm focused on sustainable building design. We are seeking client focused mechanical engineers with a successful track record and professional presence in Northern California to support our San Francisco office.

Our project types include Educational Facilities, Government, Commercial, Health Care, and Industrial.

Responsibilities include: client interaction, and design solutions that reflect our commitment to sustainable and energy efficient/Net Zero environments.

Qualifications: Good communication skills, ability to interact and coordinate design concepts with clients, architects and other engineers. Lead mechanical design on projects with minimal supervision.

BSME

EIT / PE

LEED AP

5-7 years experience

We are a firm that values and respects our staff, fosters an environment that encourages learning and growth, and is committed to the success of our clients.

We offer a great benefits package including employer paid medical/dental/vision insurance.

Please send resume and cover letter to

Patty.Hamilton@pae-engineers.com

2012



Dear Golden Gate ASHRAE Members and Friends,

The plume over my head must be especially fast and hot these days as I work diligently with the incredible Golden Gate Board of Governors and dedicated committees to wrap up another exciting year. I learned a lot from distinguished lecturer, Dr. Kishor Khankari at the April chapter meeting. His CFD graphics and personalized examples reminded me of the unique characteristics in every design process and every building operation.

This month we have YEA speed networking, Golden Gate ASHRAE product show and awards! Bay area science fair winners, student scholarship recipients, and chapter Technology award winners will all be invited to share a short background into their recent successes. We have a great number of technology award applicants and I am very excited to hear from some of our esteemed colleagues.

Work opportunities took me to Washington DC for a few days last week. The city is full of exciting culture, international diversity, and a lot of construction development. I left with three key take aways:

- ***I am proud to be an American.*** The Memorials lining the National Mall are an incredible reminder of our history and the sacrifices of many.

- ***I am proud to be a woman in science and technology.*** Visiting the Smithsonian Air and Space Museum I was brought back to my first visit there when I decided I wanted to be an astronaut. While I am no space explorer, I am an adventurer and risk taker of a different sort. The opportunities and encouragement I have received throughout my life have empowered me to be a better person. I always look forward to the Golden Gate ASHRAE May chapter meeting as we recognize and encourage the future generation's innovation and achievements.

- ***I am proud to be making a difference by helping buildings reduce energy consumption.*** Every building I step into, every skyline I admire, I now scrutinize their systems and performance. Do you have the same sensation? Whatever contribution we may have, small or grand, it does make a difference to occupant comfort, building aesthetics, and energy usage. We are shaping the built environment.

Respectfully Yours,

Kristin DeMartini, Golden Gate ASHRAE President

May – 2012...ASHRAE and History and People....Who Moved Both

Tom Gilbertson, Chapter Historian

"ASHRAE"...The American Society of Heating Refrigeration and Air-conditioning Engineers"...and the history of our Country....are intertwined.....and **"History"**....is laced with the grand accomplishments of ASHRAE, and its members ... ASHRAE has done more than any other Society, and its related industries to make the Country a great place to live. But remember...it is the items that are specifically addressed by ASHRAE that improve the quality of life....like no other....but we need the people to move everything forward.

People make the difference...and our Golden Gate Chapter has an outstanding example....driven by history.... of an individual that "makes the difference".....Dick Glumac!

As History turned the World in the past 100 years....at an ever increasing rate...this "Dick Glumac" has lived and tasted most of the World's major-history making actions...like few others....consider how World History, starting with WWI.... has spun the Balkan's and shaped what Dick has been through...and accomplished!

Dick was born in Zagreb, Yugoslavia....when **"Yugoslavia"**.....was barely 1-year old...From 1918 after leaving the Austro-Hungarian Empire in 1918...Zagreb was in the Kingdom of Serbs, Croats and Slovenes....and was not "Yugoslavia" until 1929...and here is "Dick"....a new little boy in a new little country!

Growing up in the 1930's...playing happily (mostly) in the River Sava....only to experience WWII from an entirely too close-up location.....living first under a German occupation....then Russian occupation....then Tito's puppet government.....and **finally**,.... Dick in 1951 as an accomplished member of the "Sever Swim and Water Polo Club" of Belgrade is able to help **negotiate** a trip to Innsbruck, Austria.....Much more than swimming and water polo was planned!

The trip was "arranged" chiefly to enable political defection.....to quietly leave behind friends, family.....Country....and at 21 years of age.... with virtually no money, and little more than an "almost-empty suitcase"...to "start-over".....but where?

Curiously Dick's "trip" trailed through refugee camps, Innsbruck, Austria.... an application to immigrate to California....(if he could wait for 3 or 4 years)...then papers for Canada.....on to Bremerhaven, Germany...then a refugee ship with over 2,000 German DP's (Displaced Persons) and seven Yugoslav's.....and finally landing in Quebec City, Canada with \$40.00....and that almost empty suit case...and a gift of \$20.00-Canadian from Canadian-immigration...then to find employment that was yet to start that ASHRAE-marked career.

Oh...did I mention that Dick, at every turn was feverishly studying that goofy new language...**English**.

Canada had it challenges, too...very little work...cutting timber in the winter of 1951-1952.....and finally enrolling at the University of Toronto to study mechanical engineering...and graduating in 1956.

Montréal, Toronto, Ottawa, Vancouver....Vera Cruz, Xalapa all work and travel locations for Dick, and eventually California in 1962 to work first for a space-age firm, and then for Hellman & Lober – Consulting Engineers in Los Angeles....finally in 1965, work with Buonacoursi and Murray....then Buonacoursi & Associates...some "bent" promises...and finally Glumac & Associates- 1971!!

But our story doesn't end there...it just starts!

Première engineering accomplishments starting with a one-man firm....that grew...and continues to grow...Portland, Sacramento, Los Angeles, Irvine, Seattle, Silicon Valley, Las Vegas, Corvallis, Shanghai, Hong Kong.....all of this from a water polo player who had to leave his country....and start with nothing.....in a country where he couldn't initially, even speak the language....and that multinational firm...practicing all that is good about ASHRAE...now operating in ten cities!

Glumac and Associates meeting requirements that are based in ASHRAE-lore...moving forward and producing accomplishments....all led by a man that basically "swam" his way through history....to ours and ASHRAE's benefit.... Yes....in history, and in action...Dick Glumac and ASHRAE are intertwined....and for that we are all thankful.

YEA Speed Networking Event

What is speed networking?

Get to know a lot of different people in 1 hour!

Why should I go?

If you are a YEA member, you will **meet other people** in the Golden Gate chapter. If you are a DMA member, then come and **inspire young members** to get involved in ASHRAE. Other reasons- **pizza, beer, Autodesk gallery tour, fun!!**



Will I have fun?

YES- look at these two ready to go the event!! RSVP now!!

Date: **Tuesday, May 8th 2012**

Time: **6:00-8:00pm**

Where: **Autodesk Gallery**

Cost: **\$10 (thank you to our Sponsor-Norman S. Wright & Autodesk)**

YEA is a committee of Golden Gate ASHRAE that promotes members 35 years old and below to get involved in ASHRAE.

DMA are members distinguished members of ASHRAE- that may or may not be older than 35 years old, feel young at heart, and heart ASHRAE.

David Blindheim, ASHRAE Golden Gate CTT Committee Chair

2012 Technology Awards Results

We had 13 excellent entries for Chapter Tech Awards this year! Come to the May Dinner meeting, hear about these innovative projects, and congratulate the award winners.

NEW COMMERCIAL:

- First Place (tie): Ed Roberts Campus, James Woods, Arup
- First Place (tie): Research Support Facility, National Renewable Energy Laboratory (NREL), Joe Tai, Stantec

EXISTING COMMERCIAL:

- First Place: Integral Group Deep Green Office, Peter Rumsey, Integral Group
- Second Place: PG&E 77 Beale St. Office Building, 25th Floor, Jeff Blaevoet, Guttman & Blaevoet

NEW INSTITUTIONAL EDUCATIONAL:

- First Place: City College of San Francisco Ocean Campus Academic Multi-Use Building, Hormoz Janssens, Interface
- Second Place (tie): Nueva School, Tyler Bradshaw, Integral Group
- Second Place (tie): Science & Natural Resources Building, Columbia College, Gurdav Singh, Guttman & Blaevoet

EXISTING INSTITUTIONAL EDUCATIONAL:

- First Place: Linde + Robinson Lab, Cal Tech – Eric Soladay, Integral Group

NEW INSTITUTIONAL OTHER:

- First Place: Segundo Student Services Center, UC Davis – Abdel Darwich, Guttman & Blaevoet

NEW HEALTH CARE:

- First Place: Laguna Honda Hospital Replacement – Alisdair McGregor / Aldrin Tordecilla / Andrew Rhodes, Arup

INDUSTRIAL FACILITIES OR PROCESSES:

- First Place (tie): State of California Central Utility Plant, Benjamin Sun, WSP Flack & Kurtz
- First Place (tie): Truckee Corporation Yard Administration Building, Guttman & Blaevoet

RESIDENTIAL:

- First Place: Tah-Mah-Lah Residence – Alex Densmore, Integral Group

Join the CTTC Committee

If you like to assist the chapter and get involved with ASHRAE, the Chapter Technology Transfer Committee is one of the best places and we could use your help. Talk to a board member or contact David Blindheim at dblindheim@integralgroup.com.

MARBLE DRAW



Ross Farris & Christine Lee

A big thank you to Conservation Mechanical Systems, who graciously donated prizes for the last meeting! A few lucky folks took home some great prizes but there was no marble draw winner last month. This is good news for you! That means the odds of winning have increased to 1 in 5! And aside from that grand prize of \$500, we will have some other wonderful prizes for the raffle.

Thank you to all who donated at last month's meeting for making it the best meeting so far in terms of marble draw donations! We are looking for a sponsor for the next meeting, which is the product showcase. Please contact us as soon as possible if you want to sponsor the prizes for this well-attended event. If your company donates prizes, your company's logo will display on a slideshow during the non-speaker portions of the meeting

Please contact Ross Farris or Christine Lee for more details:

RFarris@glumac.com - 415.398.7667.

Christine.Lee@arup.com - 415.957.9445

Dear Members:

Now, as our society prepares for the 2012 Annual Conference, to be held from June 23rd to 27th in San Antonio, Texas, I would like to thank the membership of the ASHRAE Golden Gate Chapter for sponsoring me to attend last year's **ASHRAE Annual Conference—Sustainability Knows No Borders!**—in Montreal, Quebec.

As an **MBA Sustainable Management** candidate at **Presidio Graduate School** in San Francisco, and as one of your student members, I found the experience to be extremely valuable and perfectly aligned with my professional purpose of helping to transform our built environment into one that regenerates our biosphere, as well as the social and economic communities that it serves.

During my five days in Montreal, I had opportunities to attend the President's luncheon, a variety of seminars and forums, and the plenary session. Highlights included Kent Peterson's presentation, *Challenges in Making Green Buildings a Way of Life*, which addressed limited resources, information gaps, and other organizational barriers that prevent companies from taking advantage of smart energy investments. The *Update on the Energy Targets for Commercial Buildings* forum highlighted some of the challenges of establishing net zero energy targets. Ronald Jarnagin's panel on *North American Building Codes and Political Realities* provided insights into rebate and incentive trends for commercial property owners pursuing net zero buildings. And Jessica Granderson presented "Emerging Tools for Using Energy Consumption Information as part of a panel on *Using Building Energy Information in a Smart Grid World*."

My participation in the ASHRAE Annual Conference deepened my understanding of sustainable building issues and enabled me to pursue new career opportunities. Recently, I accepted a **Climate Corps fellowship with Environmental Defense Fund**, a leading national nonprofit organization. This summer, I will build the business case for energy efficiency at Forest City Enterprises, a NYSE-listed national real estate company with \$10.5 billion in total assets. In addition to analyzing energy-saving opportunities, I expect to develop custom energy-efficiency investment plans that cut costs and carbon emissions across the Forest City Enterprise real estate portfolio.

Once again, I would like to thank the membership of the ASHRAE Golden Gate Chapter for its generous support of my education. I wholeheartedly encourage other students to participate in programs such as these; it is my sincere hope that this enthusiastic endorsement encourages other student members to become more involved with our society!

Yours sincerely,

Wanda Lowrey

ASHRAE Funds 22 Undergraduate Projects; Creation of "Shack" to Study Energy Efficiency

Design and construction of a "shack" to demonstrate renewable and HVAC technologies, including solar thermal heating, photovoltaic power generation, high efficiency and green insulation options and wood pellet stoves, is being developed by undergraduate students in an ASHRAE Undergraduate Senior Project Grant.

This year, 22 schools from around the world were awarded grants. The grants, totaling some \$100,000, are awarded by ASHRAE to colleges and universities worldwide to promote the study and teaching of HVAC&R, encouraging senior undergraduate students to pursue related careers.

The grants are used to design and construct projects, such as Minnesota State University – Mankato's proposal to design and construct a renewable and HVAC technologies test-bed "shack."

"In the spirit of the Solar Decathlon and the movement toward 'tiny homes,' this project aims to design and build a structure of some 24 square feet that can be used to demonstrate renewable and HVAC technologies," Patrick Tebbe, faculty advisor at Minnesota State University – Mankato, said. "The 'shack' will be designed to accommodate a range of technologies for demonstration and testing in the classroom and research projects."

Given the university is located in the heart of ice fishing territory, the shack design will be loosely based on typical ice fishing huts or shacks. The inclusion of ice fishing creates an immediate engagement for both students and the public, according to Tebbe. He said the students hope this will generate interest in energy efficiency and sustainable design topics beyond upper level engineering courses. The shack also will be portable (most likely constructed on a sled) so it could be moved to test sites, high schools, open houses, etc., allowing for greater demonstration. It also could be adapted for summer applications.

The project will incorporate a flat plate solar collector to supplement interior heating, testing of various wood and pellet fueled stoves and weather stations from previous solar research. The construction materials likely will be supplemented with recycled and reused materials found locally.

continued on next page

Other ASHRAE grant recipients are:

- Purdue University – Calumet (Hammond, Ind.) – was deemed the top grant award winner for its project, Refrigeration and Heat Pump Teaching System. Two students from the university are invited to present their project as part of the Student Program at the 2013 ASHRAE Winter Conference in Dallas
- American University of Beirut (Lebanon) – Test and Optimize a Zonal Air Distribution System to Inactivate Airborne Microorganisms using Upper-Room Ultraviolet Germicidal Irradiation
- Carleton University (Ottawa, Ontario, Canada) – Measurement of Indoor Air/Environmental Quality in Arctic Housing and University Campus Buildings
- North Carolina A&T State University (Greensboro, N.C.) – Impacts of Air Filters on Energy Consumption in Typical HVAC Systems
- Sinclair Community College (Dayton, Ohio) – Primary – Secondary Hot Water and Chilled Water System Design and Installation
- Transylvania University of Brasov – Testing Laboratory Using Renewable Sources for Radiant vs. Convective Heating and Cooling
- Universidad Pontificia Bolivariana (Colombia, South America) – Clima Emulator Using Chilled Water HVAC System as Energy Sourced
- Universiti Teknologi Malaysia (Johor) – Effect of Ejector Geometric Parameter on the Unitary Air Conditioner as an Expansion Device
- University of Alaska Anchorage – Air Duct Simulator
- University of Alberta (Edmonton, Canada) – Undergraduate Boiler Performance Laboratory
- University of Urbana-Champaign (Illinois) – Design and Construction of an Energy Recovery Ventilation Demonstration Unit Using Heat Pump for Laboratory Use
- University of Indonesia (Kampus UI Depok) – Development of Smoke Venting Demonstration Apparatus
- University of Lagos (Nigeria) – Design and Fabrication of a Biogas-Powered Water Refrigeration Heating System
- University of Maryland (College Park) – Energy Consumption Analysis and Optimum Cooling Solutions for a Medium Size Data Center
- University of Minnesota (Minneapolis) – Desiccant Dehumidification Test Facility
- University of Windsor (Ontario, Canada) – Underwater Compressed Air Energy Storage System Model
- Western Kentucky University (Bowling Green) – Air Flow Visualization System Using Infrared Thermography
- Wright State University (Dayton, Ohio) – Heat Powered Demonstration Chiller
- California State Polytechnic University (Pomona) – Moisture Control for Carbon Dioxide Sensor Applied in a Residential Furnace
- Jimei University (Xiamen, China) – Design and Construction of an Experimental Facility for Fresh Air Ventilator with Exhaust Air Heat Recovery Systems
- University of Algarve (Faro, Portugal) – Development of Sensors for HVAC Systems Control Based in the Human Thermal-Physiology

For more information on the grant program, visit www.ashrae.org/grants. ASHRAE will begin accepting applications for the 2013-14 program in August 2012, with a December 2012 final deadline.

MEMBERSHIP PROMOTION

Erica Stewart

Please join us in welcoming the following members:

STUDENT:

Mr. Oscar L Estante

ASSOCIATE:

Ms. Danielle Dragon

Mr. Steve Hambalek

Mr. Christopher R. Hughes

MEMBER:

Mr. Raymond Wilbar LaTona

As a reminder, to be a member of the Golden Gate Chapter you must first be a member at Society (www.ashrae.org/membership/page/589). If you are currently a Society member and wish to join the Chapter, you must complete an application and send a check made payable to Golden Gate ASHRAE to our treasurer, Annie Foster (P.O. Box 19154, San Francisco, CA, 94119). Chapter dues are \$50 for Associates and Members, \$20 for Students. And remember, dinner is free for full-time students, all year long! Contact erica.stewart@kp.org for an application.

MEMBERSHIP ADVANCEMENT

If you are an Associate member, becoming a full member may be easier than you think. The following count toward the 12 points necessary to advance to full Member status. You must update your biography on the Society web site and email membership@ashrae.org to advance.

Non-accredited degree = 4 points

Accredited degree = 6 points

P.E. = 3 points

Every year working in industry = 1 point

CHAPTER RESEARCH COMMITTEE

The following individuals and companies have generously supported ASHRAE Research and the Golden Gate Chapter for the 2011-12 Campaign.

Thank you for supporting the research of tomorrow, TODAY!

ORGANIZATIONS

\$1000 & Over

Golden Gate Chapter

\$250 to \$999

R.F. McDonald Co.

Conservation Mechanical

Acutherm

Up to \$249

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INDIVIDUALS

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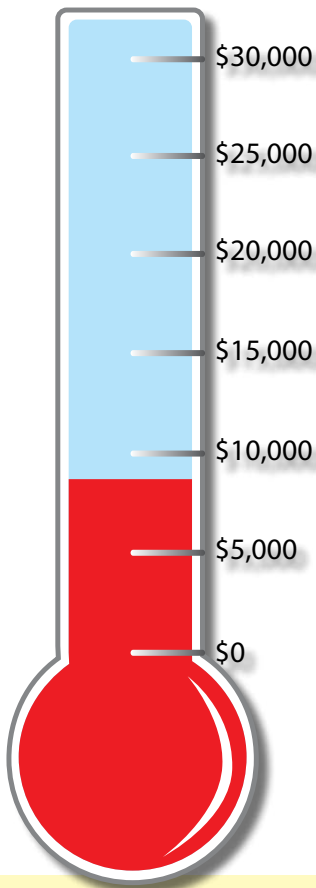
Shlomo Rosenfeld

Clifford Scofield

Jack Palmer

Joo Kim

James Nemecheck



Donations are tax deductible, by check, credit card or online at www.ashrae.org.

For more information, please contact Jon Shipley 415-264-5509,
jshipley@victaulic.com

We are currently at \$8,138.

ASHRAE Hosts Luncheon on Commercial Buildings Energy Consumption Survey

An update on the Commercial Buildings Energy Consumption Survey (CBECS) – one of the United States' most essential building energy use surveys – is featured at a luncheon hosted by ASHRAE in May.

Tom Lecky, director of the Energy Information Administration (EIA)'s Energy Consumption and Efficiency Statistics, which administers CBECS, will serve as guest speaker at the May 4 event at the National Press Club in Washington, D.C. ASHRAE President Ron Jarnagin will serve as moderator. The luncheon is part of the American National Standards Institute (ANSI) monthly Caucus luncheon services. As an ANSI member, ASHRAE is sponsoring the May event.

"The luncheon provides a great opportunity for ANSI Federation members and others in the built environment industry to hear about CBECS and how important it is to building performance benchmarking," Jarnagin said.

CBECS is a national sample survey that collects baseline information on the stock of U.S. commercial buildings, their energy-related building characteristics and their energy consumption and expenditures.

Last year, EIA announced it would not be releasing the results of the 2007 CBECS due to data collection errors. As a result of appropriations reductions, EIA also announced that it would halt work on the 2011 edition of the Survey. Currently, the latest version of CBECS data is from 2003. ASHRAE and other groups in the built environment industry asked the agency and Congress to reconsider, and allow work on the Survey to continue.

As a result, funding was restored, and CBECS is being conducted for reference year 2012. Data collection is slated to begin April 2013, with the first data releases expected in spring 2014. According to EIA, its focus is on collaboration with stakeholders to develop the CBECS questionnaire. ASHRAE has provided feedback on the document, which can be found at www.ashrae.org/government-affairs.

To obtain the data used in CBECS, interviews are conducted for a sample of commercial buildings representing the 50 States and the District of Columbia. For buildings in the survey, data are collected on the types, amount and cost of energy consumed in the building, how the energy is used, structural characteristics of the buildings, activities conducted inside the buildings that relate to energy use, building ownership and occupancy, energy conservation measures and energy-using equipment.

CBECS data are critical to the building community because they help form the basis for understanding patterns of energy use, informing the decisions of the industry and key policymakers and government programs, according to Jarnagin.

"For instance, CBECS data are used by ASHRAE in the development of its building energy efficiency standards, which are used by the federal government and most states," Jarnagin said. "CBECS data are also used by many federal and private sector programs in their efforts to promote building efficiency."

ASHRAE, NIST to Host Conference on Refrigerants

A joint conference focused on refrigerants and hosted by ASHRAE and the National Institute of Standards and Technology (NIST) has been announced for October 2012.

The ASHRAE/NIST 2012 Refrigerants Conference: "Moving toward Sustainability" takes place Oct. 29 -30, 2012, at NIST in Gaithersburg, Md.

"This conference addresses international concerns about the impact of refrigerants on climate change, which inevitably lead to increased focus on refrigerants with a low global warming potential (GWP) applied in high-efficiency systems," Piotr Domanski, conference co-chair, said. "This includes new generations of unsaturated fluorocarbons and expanded use of 'natural' refrigerants."

This is the fourth jointly sponsored refrigerants conference sponsored by ASHRAE and NIST. Past conferences provided information and updates on the phase-out of chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFC) refrigerants, which were implicated in destruction of the stratospheric ozone layer.

The conference provides the latest information on alternative refrigerants, likely time schedules, transition requirements, environmental effects of refrigerants, new refrigerant performance considerations and what will be required to phase-out the use of high-GWP refrigerants with other refrigerant alternatives and technologies.

All those involved in the different aspects of refrigerants and refrigeration technology – policymakers, manufacturers, researchers and government officials – will receive an opportunity to learn about the latest developments and directions going forward.

The conference features invited papers from leading global experts who will cover a broad range of topics, including:

- Status of current environmental, scientific and regulatory activities

continued on next page

- Potential applications of “natural” refrigerants
- Technical developments on new low GWP flourochemical refrigerants
- Equipment applications using low GWP alternatives
- The opportunities for reducing refrigerant emissions
- Panel discussions by industry experts at the end of each day.

The focus of the conference is on technical issues and the longer term opportunities for success from a global perspective. Experts of every facet of the issues to be covered in the conference are going to be available during the two days of the sessions for an information exchange with an evening dinner on Monday for more informal discussions.

Registration is slated to open in June 2012. The cost is \$390 (\$340, ASHRAE members). For more information, visit www.ashrae.org/refrigerants2012.

Changes Related to Data Centers, Lighting, Space Heating Energy Source Proposed for ASHRAE/IES Energy Standard

A proposed change to the ASHRAE/IES energy standard regarding data centers recognizes the role that system efficiencies – vs. only equipment – can play in reducing energy consumption.

“This change regarding data centers represents a building block as we work to build on the foundation of energy conservation in the standard,” Drake Erbe, 90.1 vice chair, said. “We recognize that equipment used in buildings is reaching maximum capabilities in energy efficiency. We now must examine the role that system efficiencies play in saving energy. Inclusion of data centers in the standard was a step in that direction.”

With publication of the 2010 standard, ANSI/ASHRAE/IES Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings, data centers were included within its scope for the first time. Most data centers were required to have economizers, but some in the data center industry disagreed with the requirement, maintaining that economizers are subject to static discharge due to low humidity, gaseous contaminants and reliability.

Erbe said the 90.1 committee worked with the data center industry and ASHRAE’s technical committee on mission control facilities, technology spaces and electronic equipment to develop an alternative path known as power usage effectiveness (PUE) to allow use of developing technologies for which there are no energy modeling tools available. The path is addressed in proposed addendum ap, which is currently open for public comment.

“This is a significant issue to design professionals in that without a simulation program available to model these systems they have to receive approval from the authority having jurisdiction for an exceptional calculation method, which, in most cases, is beyond the jurisdiction’s knowledge level,” Erbe said. “The PUE values were developed using water cooled chillers with water size economizers and air cooled chillers with air side economizers, using prescriptive requirements currently in the standard. The PUE values for all climate zones are able to be achieved by both of these conventional system types.”

In total, 15 proposed addenda to Standard 90.1 are open for public review. For more information, visit www.ashrae.org/publicreviews.

Also open for public comment is addendum ao, which offers an alternative compliance path for lighting requirements aimed at the large number of smaller, simpler buildings that make up a majority of new construction and retrofit activity, according to Eric Richman, chair of the standard’s lighting subcommittee. It provides a less complicated set of requirements that should be easier to apply to these types of facilities, and also includes more stringent Lighting Power Density (LPD) limits that may restrict the application of more lavish space lighting designs not commonly found in these facilities. This compliance path will replace the current whole building LPD table and only applies to a subset of building types that encompass many of the smaller, simpler buildings. The use of this method is optional and the full space-by-space method used by most designers for larger more complex facilities still remains for application to any building type, Richman said.

In addition, addendum al is open for public review. Users of Appendix G of the standard have noted that the baseline energy budget is different depending on whether electricity or natural gas is chosen for either space heating and water heating, according to Don Brundage, a member of the Energy Cost Budget subcommittee. In some cases, this can provide greater energy savings estimates from Appendix G when using one fuel versus another, and provides a strong incentive to specify the fuel that will provide the greatest energy savings using Appendix G.

“Proposed addendum al would make the baseline building energy budget (the minimum code baseline for determining

continued on next page

energy savings) the same regardless of the choice of fuel in the proposed building, eliminating this bias,” Brundage said. “This is done by setting rules to determine the fuel to be used in the baseline building for space and water heating. These rules are based on climate zones for space heating and type of building usage for water heating. This would make energy savings estimates using Appendix G more consistent and fair than under the current version of the standard.”

In addition to addendum al, ao and ap, eight other addenda are open for public review from March 23 until May 7. They are addenda af, ag, ai, am, an, aq, ar and at.

Things Heat Up for ASHRAE: Annual Conference to be Held in San Antonio, Texas

ATLANTA—In a city with deep historical roots, ASHRAE will convene in San Antonio, Texas, to not only “remember the Alamo,” but look toward a greener future. The 2012 ASHRAE Annual Conference focuses on everything from the basics of HVAC maintenance to integrated building design.

As members work together to shape tomorrow’s built environment, the influences of San Antonio’s past—Old Mexico, the Wild West and the Deep South—serve as a reminder of the Society’s significant role in the city’s hot and dusty past, as well as the Society’s position as part of a future of sustainability.

Join ASHRAE in this historic city; registration is now open for ASHRAE’s 2012 Annual Conference, June 23-27.

The Technical Program features focused tracks on Integrated Energy Systems, Building Modeling Applications, Refrigeration Applications and Indoor Environmental Applications and general tracks addressing HVAC&R Systems and Equipment and Fundamentals and Applications.

“Interoperability of Smart Building Systems and Smart Grid” is the topic of the Technical Plenary, presented by Lawrence Jones, Ph.D., Alstom Grid Inc., Washington, D.C., on Sunday, June 24.

Also, an Integrated Building Controls “mini-conference” addresses the extension of building controls from just mechanical systems to lighting, water consumption, security and other building systems, working toward the goal of “intelligent buildings.” Sessions related to this topic are scheduled on Sunday and Monday.

The technical program begins Sunday, June 24, and ends Wednesday, June 27, with all sessions at the Henry B. Gonzalez Convention Center. Complete program details are available at www.ashrae.org/sanantonio. The entire technical program is approved for PDHs, and the majority of sessions are also approved for NY PDHs, AIA LUs and LEED AP credits.

The ASHRAE Learning Institute offers eight instructor-led training opportunities. Participants may choose from two full-day and six half-day courses to stay current on HVAC trends, including a new offering on understanding ASHRAE Standard 189.1-2011, Standard for the Design of High-Performance, Green Buildings.

The Conference keynote speaker is Ryan Dorsey, the Gen Y Guy®. Dorsey will focus on “Crossing the Generational Divide,” explaining how four generations are currently working side-by-side in the workplace and the strengths, weaknesses and different perspectives of each. The Plenary session takes place Saturday, June 23 at Grand Hyatt San Antonio.

ASHRAE technical tours offer an inside view of how technology developed by members is practically applied in building environments. Tours at the Annual Conference include the SAWS Chiller Plant and the Blue Wing Solar Farm.

The ASHRAE Annual Conference takes place June 23-27. The Grand Hyatt San Antonio will serve as the headquarters hotel. Visit www.ashrae.org/sanantonio for more information.



Standard 189.1 Deemed Compliance Option for IgCC; ICC Announces Availability of New Green Code

The building industry now has greater flexibility in the design of high performance buildings through a change impacting application of the green building standard from ASHRAE, the U.S. Green Building Council (USGBC) and the Illuminating Engineering Society (IES) included in the International Green Construction Code (IgCC).

ANSI/ASHRAE/USGBC/IES Standard 189.1-2011, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings, provides a green building foundation for those who strive to design, build and operate high performance buildings. It covers key topic areas of site sustainability, water-use efficiency, energy efficiency, indoor environmental quality and the building's impact on the atmosphere, materials and resources.

Standard 189.1 now serves as a compliance option with the newly published IgCC, developed by the International Code Council (ICC) and endorsed by cooperating sponsors ASTM International and the American Institute of Architects. The change allows permit applicants – rather than the authorities having jurisdiction – the option to use Standard 189.1 as the path of compliance. In earlier versions of the IgCC, Standard 189.1 was deemed a “jurisdictional compliance option,” meaning code jurisdictions had to choose between the provisions of Standard 189.1 and the IgCC in determining which compliance path to take.

“ASHRAE is pleased to see this change take place, allowing building designers, owners and contractors to choose to design to Standard 189.1, instead of the choice being made solely by the jurisdiction setting the code,” Ron Jarnagin, ASHRAE president, said. “With today’s release of the 2012 IgCC, jurisdictions now have a viable green code at their disposal. Standard 189.1 stands on equal footing within the IgCC to provide a more complete set of options for governments and project teams alike.”

“IES also fully supports the change that removes the restriction,” Rita Harrold, director of technology, said. “The resulting freedom of choice will benefit all segments of the construction industry involved in developing design criteria for high performance buildings.”

The 2012 IgCC serves as a new model code for constructing and remodeling residential and commercial structures and is expected to increase sustainability, cost savings and job growth while providing direction for safe and sustainable building design and construction, according to the International Code Council.

“The IgCC adds to the strong foundation of guidance to move the industry forward in regards to high performance buildings,” Jarnagin said. “The document brings together the code expertise of ICC with technical expertise of ASHRAE to create a comprehensive green building code to improve overall performance of buildings, including reduction of energy consumption.”

“Today, the Code Council and its cooperating sponsors announce a new green construction code that will make a contribution toward healthier, lower impact and more sustainable building practices,” Richard P. Weiland, CEO of the ICC, said. “The International Green Construction Code published today was developed during the last three years with input from code and construction industry professionals, environmental organizations, policy makers and the public. Our community was diligent in developing a code that is not only adoptable, usable and enforceable, but also flexible and adaptable. We expect this new model code, like the family of other ICC Codes, to be adopted across the country and used globally.”

Early versions of the IgCC released during the development of the code already have been put into use by states and jurisdictions demonstrating the need and demand for safe and sustainable construction.

The IgCC was developed at public hearings with input from experts in code development and enforcement, architecture, engineering, building science, environmental advocacy, government, business, academia and the public.

The IgCC is the first model code to include sustainability measures for an entire construction project and its site – from design, through construction, certificate of occupancy and beyond. It establishes minimum green requirements for buildings and complements voluntary rating systems. The IgCC offers flexibility to jurisdictions which adopt the code by establishing several levels of compliance, starting with the core provisions of the code, and then offering “jurisdictional requirement” options that can be customized to fit the needs of a local community. A jurisdiction can also require higher performance through the use of “project electives” provisions.

The code acts as an overlay to the existing set of International Codes, including provisions of the International Energy Conservation Code and ICC-700, the National Green Building Standard, and incorporates ASHRAE Standard 189.1 as an alternate path to compliance. The IgCC provides model code language that establishes a baseline for new and existing buildings related to energy conservation, water efficiency, site impacts, building waste, material resource efficiency and other sustainability measures. The IgCC will be updated alongside the other model codes developed through the Code Council’s open, transparent and consensus-based code development process.

Building Labeling Program Helps Building Owners Save Energy

Energy use is one of the highest operating costs for building owners. It is also the most controllable. To help owners reduce their energy costs, a new building labeling program is available that not only rates buildings according to the in-operation energy use but also provides owners with suggested measures that can improve energy efficiency.

The Building Energy Quotient (bEQ) program assigns to buildings an energy usage quotient based on completion of an in-operation assessment that includes an ASHRAE Level I Energy Audit. ASHRAE, a building technology society with more than 50,000 members worldwide, is the developer of bEQ.

"bEQ lets a commercial building owner zero in on opportunities to lower building operating cost and make informed decisions to increase value," Tom Phoenix, P.E., a consulting engineer in Greensboro, N.C., who chairs the bEQ committee, said. "The ultimate goal of the program is to encourage more energy efficient buildings and give owners more control over rising energy costs."

The key component of the program is the in-operation assessment and the ASHRAE Level I Energy Audit, which serves as the industry standard for determining a building's energy use and producing an actionable plan to improve building performance. To meet bEQ's requirements, the assessment must be performed by an ASHRAE-Certified Building Energy Assessment Professional who will:

- Perform a walk-through survey to become familiar with building construction, equipment, operation and maintenance.
- Meet with the owner and operator to learn of special problems or planned improvements and operation or maintenance issues.
- Complete a space function analysis and determine whether efficiency may be affected by functions that differ from the original functional intent of the building.
- Identify low-cost/no-cost changes to the facility or to operations and maintenance procedures that will result from these changes with their approximate savings.
- Provide a summary of special problems or needs including possible revisions to operations and maintenance procedures.
- Recommend potential capital improvements and provide an estimate of potential costs and savings.

Registrants in the bEQ program receive:

- The bEQ In Operation Workbook of the complete building analysis.
- The bEQ Certificate presenting key building performance factors for operations staff.
- The bEQ Dashboard illustrating the level of In Operation performance.
- The bEQ Plaque showing the building rating for *public display*.

"The bEQ documentation provides data on actual energy use and other information that will allow owners to evaluate and reduce their buildings' energy consumption," Phoenix said. "When all the facts on a building's energy use are known, an owner can make informed decisions to manage energy use."

"bEQ demonstrates corporate responsibility to employees, tenants, investors and the public," he said. "The certificate provides the necessary documentation to meet disclosure requirements for building and real estate transactions," he added.

bEQ was introduced two years ago as a pilot program with the intent of providing an easily understood scale to convey a building's energy use in comparison to similar buildings and climate zones, while also providing building owners with building-specific information that highlights potential energy saving opportunities. Under the program, buildings are eligible to receive an In Operation rating as long as the building has at least 12 months of consecutive energy use data.

The rating is based on the building and how it is operated.

"Information on a building's energy use is the critical first step in making the necessary changes and choices to reduce energy use and costs," Phoenix said. The building also can display a plaque —much like a nutrition label or the miles per gallon rating for a car—with an easily understood rating scale to allow a comparison of the building's energy use with similar buildings, as well as demonstrate the building owner's commitment to energy efficiency.

Building energy use disclosure is already mandatory in California; Washington, D.C.; Austin, Texas; Washington State; the European Union; and Australia.

For more information, visit www.buildingenergyquotient.com.

APRIL DINNER MEETING RECAP



APRIL TOUR RECAP



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