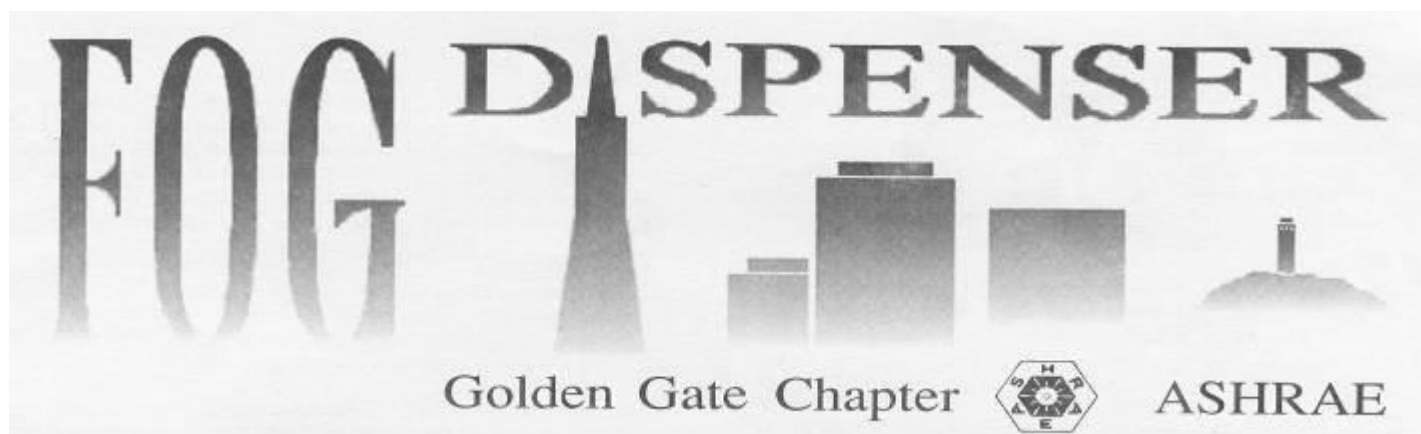




VOLUME XLVII - NUMBER 4

January 2009

January Meeting Details

Date: Thursday, January 8, 2009

Place: PG&E Pacific Energy Center, San Francisco,
([directions](#))

Schedule:

11:30 am Registration and social half-hour
12:00 pm Lunch, announcements and introductions
12:30 pm Main Program
1:30 pm Adjourn

Cost:

	<u>Before noon</u> Tue. 01/06/09	<u>After noon</u> Tue.01/06/09
<u>ASHRAE</u> <u>members</u>	\$40	\$47
<u>Non-</u> <u>members</u>	\$47	\$50
<u>Students</u>	Free with registration	
<u>Voucher</u> <u>holder</u>	Free with registration	

Please make your reservation at

www.ggashrae.org/meetings/2008-2009/jan.htm

NOTE: If you make a reservation and cannot attend, you need to cancel in advance, or you will be billed. Tom Weaver will be taking reservations. If you need to CANCEL, please send a message to Tom at cancellation@ggashrae.org.

Getting from AEDGs to Zero-Energy Buildings

Speaker: Drury B. Crawley

ASHRAE Distinguished Lecturer
Team Lead, Commercial Buildings
Office of Building Technologies
U S Department of Energy

Buildings account for nearly 40% of U.S. energy use. ASHRAE, IESNA, USGBC, AIA, and DOE have collaborated on a series of Advanced Energy Design Guides (AEDGs) for at least 30% energy savings beyond Standard 90.1-1999. The guides provide prescriptive packages for each climate zone to reach the 30% energy savings. Recent studies have shown that it is possible today to achieve a zero-energy building but they are costly. This presentation provides an overview of the AEDG process as well as examples of packages and case studies from the guides. Also presented are examples of today's zero-energy buildings and a number of activities to aggressively move buildings to substantial energy savings over the next few years.

Speaker Bio:

Mr. Crawley leads DOE's Commercial Building Initiative – working to achieve cost-effective net-zero energy commercial buildings by 2025. He is also responsible for managing the U.S. Department of Energy's building energy software tools research and development activities including EnergyPlus (winner of an R&D100 Award in 2003), OpenStudio plugin for Google SketchUp, Energy-10, DOE-2, and SPARK, among others.

With 30 years of experience in buildings energy efficiency, renewable energy, and sustainability, he has worked in government research and standards development organizations, as well as building design and consulting companies. A registered architect, he is currently completing his PhD in Mechanical Engineering on the topic of building simulation as a policy tool, looking at the potential impacts of climate change on the built environment at the University of Strathclyde in Glasgow, Scotland. (**speaker bio continued on the next page**)

Golden Gate Chapter President's Message; January, 2009



The economy is on everyone's mind right now. The news is full of stories about credit problems, the sub-prime mortgage crisis, upside down loans, failing companies, recession and even depression. The latest this morning was President Bush announcing he is approving a \$17.4 billion loan to GM and Chrysler. The companies must prove viability by March 31st, 2009 or repay the loans. Given the depth and inertia of the problems, the lack of potential short term cash income, and the need for much, much more bailout money than this, it seems that breathing room for a more orderly transition to bankruptcy is the only purpose of this loan. As a business owner, this sorry state of affairs for two huge US Corporations speaks loudly to me, along with the fate of the major financial institutions recently bailed out. The number of companies struggling to survive in the US and around the world is pretty disconcerting right now.

Whatever company it is you work for, I hope your leaders are making wise decisions and planning for success in 2009 and beyond. Are you doing enough to help your employer and yourself be successful? Do you think about whether your time is spent on the highest payoff activities? Do you have an entrepreneurial approach to your work that focuses on doing exceptional work profitably? If you are not doing these things, you might want to consider changing your approach.

We are fortunate to be in an industry that has plenty of opportunities, even in this snowballing recession. Make the most of your good fortune and go out there and be the best you can be!

We had great attendance at our last meeting at Genentech, and I hope you continue to join us at our monthly Chapter meetings. Our next event is a lunch meeting on Thursday January 8th, 2009 at the PEC. Our speaker is Dru Crawley from the Department of Energy and an ASHRAE Distinguished Lecturer. We will post a summary of his topic shortly, but you can be sure it will be a lively presentation on an important issue relating to climate change.

In the meantime, it's Christmas! On behalf of the GGASHRAE Board of Governors, I wish you all a wonderful holiday and a prosperous New Year!

Jeff Blaevoet GGASHRAE President

Minutes of December 4, 2008 Chapter Meeting Genentech Campus; South San Francisco, CA

1. Joint Meeting with San Jose Chapter called to order by President, Jeff Blaevoet at 7:30.
2. Self Introductions
3. Speaker presentation: Scott Wayland introduced the speaker Doug DeVeney with Genentech. His topic: *Integrated Design: The Key to Success for Biotech Facilities*.
4. Scott Gainer, San Jose Chapter President, announced their upcoming meeting.
5. Jeff Blaevoet announced the next chapter meeting at Pacific Energy Center, NOON on Thursday, January 8, 2009.
6. Marble Draw. San Jose presided over the Raffle this year as it was our turn last year.
7. Meeting was adjourned at 9:00PM

Submitted by Gary Harbison, Secretary BofG

Speaker Dru Crawley Bio, Continued...

Mr. Crawley is active in ASHRAE [Chair of Standard 169 Weather Data for Building Design Standards, member of Standard 189.1P committee (green buildings); Head of Section 7; former member of the Research Administration Committee; former chair of TCs 2.8, 4.2, 4.7, and 7.1; and a member of Standard 140 (simulation program tests), and former member of Standard 90.1 committees]. He received an ASHRAE distinguished service award in 2003.

Mr. Crawley is also active in AIA, IBPSA, USGBC (member of the Research Committee and the Energy & Atmosphere TAG), and serves on the editorial boards of the *Building Research and Information Journal*, *Building Services Engineering Research & Technology Journal*, and *Journal of Building Performance Simulation*. He has published more than 100 papers and articles and made more than 200 presentations on building energy efficiency, sustainability, and renewable energy topics throughout the world.

ASHRAE – Wasteful?

Tom Gilbertson, Chapter Historian

ASHRAE has a newly remodeled Headquarters Building in Atlanta....you probably know this. What you may not know is how the redesign of the HVAC, and the building itself was shaped by the efforts of an ad hoc “Advisory Committee”.

First, the newly remodeled building is now reported to have the latest in technology for its “often” donated HVAC systems and equipment. This is as well as having the building envelope vastly improved, and I’m sure that it is....but the project didn’t start out that way. Initially the “historic remodel project”...(I have to call it historic to be able to write about it)...pretty much addressed the HVAC...and that was it. However, when the initial details become known certain folks protested the leaving of the single pane glass and poor thermal performance of the walls...and then the remodel concept began...slowly...to change.

The result is that the HQ Building’s glass and walls received a major upgrade, and the amount of energy that would have been wasted...regardless of what HVAC systems were installed...was greatly reduced...or at least the HVAC systems had a chance of having to deal with less invasive weather conditions. This change to the design of the project was accomplished in part by a long series of internet posted comments that shamed the project into what ASHRAE has to day.

Which brings me to the historical consideration of “waste”....

Just how much more do we “waste” today....as opposed to what was done in “yesteryear””yesteryear” is a term that all listeners to the “Lone Ranger” recall since the refrain went“from yesteryear comes the sound of the hoof beats of the great horse Silver!”....(The old (historic) line was that “Silver” was just two coconuts in the hands of a Harvard man.)

Well, in “yesteryear”...I don’t recall very much of anything being “wasted”.

Just how “wasteful”...and more devouring of “foreign oil”...to keep this in a present context, is our operation of, as an example...the lighting of buildings? “Why are so many lights, seemingly ‘always on’...? What would be wrong with lobbying to change some building codes to allow stairwell lights, above a very low minimum value... to be on occupancy sensors? Have you just observed how many high-rise buildings lights appear to be on at night?...Why not turn these “off”?....Oh, I know that arguments are made for cleaning crews, and maybe even some security reasons, but 90% of the time the buildings are over lit...my opinion...and therefore wasting lighting energy, and more than likely air-conditioning capacity.

How about waste during the construction process? Have you ever observed the debris boxes that are filled, leaving a high-rise building site? The pieces of lumber, rebar, conduit, pipe and wire that I see may be recycled...but they in many cases these could surly be simply re-used....what is wrong with that? Consider just how much energy is used in the production of this material; material that is simply “wasted” because we throw away something that could have been reused...without having to have been “recycled”?

How much food is “wasted” in the food service operations of school cafeterias, and restaurants?...The estimate that I see is as much as “40%”....which also means the energy to cook, prepare, and preserve this wasted portion was also “wasted”.

Perhaps as the U. S. economy “changes” we may see an increased premium on reduction of “waste”...of everything...energy for HVAC, lighting, refrigeration, ventilation....use of construction materials...everything that ASHRAE and ASHRAE members “touch” in their daily activities.

Historically we used to say....”Waste not...Want not”...maybe that historical saying will come back into vogue?

Are you doing your part to strengthen the U. S. economy?

Student Activities

Gina Kalil, Student Activities Chair

ASHRAE Members!!

The students need you and have requested at least an hour of your time!! I hope you will take this opportunity to reach out. Please contact me if you are willing to dedicate an hour to mentoring a student, taking them around a jobsite, showing them what you do in your daily work, or just speaking with them over the phone. If you want to get more involved come talk to me at the next meeting or email me and I can give you some details.

Travel Grants!!!

Congratulations to Brian Coffey, a UC Berkeley student. He was chosen to attend the ASHRAE winter meeting in Chicago! He will share his experience at our February meeting so make sure to attend!

Students –

If you are interested (or know a student who is interested) in attending the ASHRAE summer meeting in Louisville, Kentucky – please look into applying for the summer meeting travel grants!

Scholarships and Science Fair!!!

The deadline for submitting for scholarships is March 25th!

The science fair date this year is March 16-20th and we will be recognizing students whose projects relate to our industry! Go see this fair if you can – it is great!

We will recognize the scholarship winners and science fair winners at our May meeting so plan to be there! Our regional student activities director will also be here – so meet her if you are interested!

Finally, thanks to Linda Lam for stepping up to assist student activities for the local high schools. Her help is greatly appreciated!!! If you are interested in helping with student activities please let me know!!!

Any questions please contact Gina Kalil at gina.kalil@jci.com.

Young Engineers in ASHRAE

To ensure the future of the Society and the industry, ASHRAE is committed to advancing its programs and services for young members through helping them build their professional foundations.

With this in mind, ASHRAE has created a Committee called Young Engineers in ASHRAE (YEA), for members age 35 and younger! Be sure to check out the YEA Connection on <http://www.ashrae.org/members/page/861> for information of interest to young professionals.

What is the YEA Connection?

YEA Connection is specifically targeted at young ASHRAE members who wish to receive regular communication of interest to young people and who want to network and communicate with one another. It offers a regular newsletter, a free logo item, listserv, and information and updates on special events as they occur. It's a great opportunity to stay up-to-date with Society news and events and network with young professionals around the world.

Who qualifies to be in the YEA Connection?

All members age 35 and younger with the following member grades:

1. Member
2. Associate Member
3. Student Transfer
4. Affiliate Member

To subscribe to the YEA Connection, please send an email to youngengineers@ashrae.org with the following information:

1. Subject line: Subscribe to YEA Connection
2. Message body:
 - a. Your name
 - b. Your member number
 - c. Your physical mailing address
 - d. Your active E-mail address

Chapter Technology Transfer Committee (CTTC)

Tyler Bradshaw, ASHRAE Golden Gate CTT Committee Chair

2008/2009 Technology Awards

The Technology Transfer Committee would like to encourage all members to consider participating in the Technology Awards this year. **Entries must be submitted by February 28th 2009.**

There are three stages of competition and awards: Chapter, Region and Society. The first step in this process is to submit your project to the chapter level competition.

First place winners from the Chapter competition move onto the Region X Award Competition. Then the Regional first place winners are eligible to move onto the Society competition.

Every year ASHRAE conducts the Technology Awards program to:

- Recognize ASHRAE members who design and/or conceive innovative technological concepts that are proven through actual operating data;
- Communicate innovative systems designs to other ASHRAE members;
- Highlight technological achievements of ASHRAE to others, including associated professionals and societies worldwide, as well as building and facility owners.

Each year Society presents awards in some of the thirteen categories: Commercial Buildings (New and Existing); Institutional Buildings (New and Existing); Health Care Facilities (New and Existing); Industrial Facilities or Processes (New and Existing); Public Assembly Facilities (New and Existing); Residential Buildings (New and Existing) both single family and multifamily (Low & High Rise); Alternative or Renewable Energy Use.

For each category a first, second, and honorable mention winner may be named. Also, one of the category first place winners may be selected to receive the ASHRAE Award of Engineering Excellence. The recipient will have demonstrated the best overall compliance with the judging criteria.

Society's bar is set pretty high for the awards as indicated in the very short list of awards from the last few years.

The submitted project should be completed and occupied for one year by the due date for the Society award application - September 2009. Therefore, your project should have been occupied by September 2008. By that time there should be good measurement and verification data available. The one year of occupancy is not a requirement for the Chapter award but it is a strong suggestion. This is a requirement for the Society award competition.

Please see our CTTC website or the following links for more info.

<http://www.ashrae.org/publications/detail/14703>

<http://www.ashrae.org/publications/detail/14704>

<http://www.ashrae.org/publications/detail/14692>

<http://xp20.ashrae.org/STANDCOM/ShortForm.pdf>

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 Tyler Bradshaw at tbradshaw@rumseyengineers.com.

Marble Draw

Annie Foster

Get ready for Marble Draw 2009! The pot at January's meeting will be \$500, and the odds are 1 in 9, so be ready to buy your raffle tickets.

We are always in need of raffle sponsors. If you would like to donate a prize for a future meeting, please contact Annie Foster at 415-402-2248 or annie.foster@wspfk.com.

Announcements

2008 - 2009 Events Calendar

<i>Date</i>	<i>Venue</i>	<i>Presentation Topic</i>	<i>Speaker(s)</i>
Thursday, January 8, 2009 Lunch	PG&E Pacific Energy Center, San Francisco	Energy Topic TBD	Dru Crawley DOE
Thursday, February 5, 2009 Dinner	PG&E Pacific Energy Center, San Francisco	CO ₂ Based Demand Controlled Ventilation	Steve Taylor
Thursday, March 5, 2009 Joint Meeting with Redwood Empire Dinner	Embassy Suites, San Rafael	Airside / Evaporative Energy Saving Systems	Keith Dunnavant Des Champs
Thursday, April 2, 2009 Dinner	Scott's Seafood, Oakland	TBD / Tour	TBD / Tour
Thursday, May 7, 2009 Dinner	PG&E Pacific Energy Center, San Francisco	Showcase/Tech Awards/Student Science Fair	Showcase/Tech Awards/Student Science Fair
Thursday, Jun 4 2009 Dinner	Scott's Seafood, Oakland	TBD	TBD

TBD = To Be Determined

Visit www.ggashrae.org/calendr.htm for updates, presentation summaries, speaker biographies and to register for the meetings. If you have suggestions for meeting topics, please contact Jeff Blaevoet at jblaevoet@gb-eng.com.



CALIFORNIA HYDRONICS CORPORATION

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BZROUT@CALHYDRO.COM

CALIFORNIA HYDRONICS CORPORATION IS PLEASED TO ANNOUNCE OUR 2009 TRAINING SEASON

BASIC HYDRONICS

WEDNESDAY, FEBRUARY 25, 2009
WEDNESDAY, MAY 20, 2009
WEDNESDAY, SEPTEMBER 23, 2009

MODERN PLUMBING

DOMESTIC BOOSTER SYSTEMS, SUMP & SEWAGE, DHW HEATING
WEDNESDAY, MARCH 18, 2009

STEAM SYSTEM DESIGN

WEDNESDAY, NOVEMBER 18, 2009

CONDENSER WATER SYSTEMS

WEDNESDAY OCT. 14, 2009

HOTWATER BOILER DESIGN & APPLICATION

WEDNESDAY, APRIL 8, 2009

REGISTRATION: 8:00 A.M.

INSTRUCTION 8:30 A.M. - 4:00 P.M.

"LUNCH AND COURSE MATERIALS INCLUDED"

ONLY \$50 PER CLASS.

CLASS SIZE IS LIMITED TO A MAXIMUM OF 30 STUDENTS
PLEASE DO NOT MISS THIS CHANCE TO ATTEND

FOR FURTHER DETAILS OR TO REGISTER ONLINE,
PLEASE VISIT

WWW.CALHYDRO.COM

"Circulating Satisfaction Since 1957!"

California Hydronics Schoolhouse Course Descriptions

Basic Hydronics: An Introduction to Hydronic System Applications and Piping Design

- Boilers: construction types, burner types, efficiency definitions, and factors to consider when selecting a new, or retrofit boiler.
- Piping: piping strategies such as series loop, direct return, reverse return, and primary secondary piping. A B&G “System Syzer” calculator wheel is provided and demonstrated.
- Air Separation: types of air separators and their best location in the system.
- Pressure Reducing Fill Valves: how to calculate their pressure setting, and where to locate in the system.
- Expansion Tanks: types of tanks, where to locate, and sizing calculations.
- Pumps: types of centrifugal pumps, reading pump curves, series and parallel pumping, proper installation. Students will observe pumps being assembled at the Hayward facility.
- Control Valves: construction types, two way, and three way valves, sizing and selection.
- Balance Valves: definition of a balanced system, types of valves, automatic vs. manual balancing.

Steam System Design: The Basics to Commercial and Process Steam Piping Systems

- Fundamentals of Steam
- Heating Load
- Heat Transfer Stations
- Supply and Return Piping
- Steam Boiler Types and Piping

Condenser Water Systems: An In-depth Overview of Design and Application Considerations for Open and Closed Systems, utilizing Cooling Towers and fluid coolers.

- Chiller Applications
- Cooling Tower Operation
- Open and Closed-Loop Towers and Evaporative Condensers
- Psychometrics and Plume Abatement
- Tower Components and Construction Materials
- Selection Parameters
- Energy and Water Conservation
- Water Treatment, Water Conservation, and Mechanical Filtration Systems
- *Legionella*
- Code Compliance
- NPSH
- Piping and Pumping Designs

Domestic Booster / Sewage & Sump Pump Systems: A two-part course including Booster Pump Controls and the Correct Pump & Code Considerations for the Design and Sizing Sump Pump Systems

- Determining the correct requirements for sizing pump equipment and what codes determine choices.
- Determination of proper system components including pumps, controls, hydro pneumatic tanks, basins, break tanks and their sizing, and safety controls.
- Discussion of Constant speed verses Variable Speed motors, standard and premium efficiency motors.
- Tour of UL booster pumps assembly division.

Domestic Hot Water Systems: Design Considerations for Commercial Water Heating and Recirculation Systems

- Determining the projects requirements for domestic hot water and what codes determine choices. Potable water or Industrial water determinations.
- Determination of proper system components including energy source, storage considerations, expansion tanks, and circulation pump sizing.
- Discussion of each energy source: Nat. Gas, LPG Gas, Oil, Electric, Steam, Boiler Water.
- Discussion of Instantaneous verses storage type systems.
- Discussion of the ASME/National Board Stamping requirements, T&P safety relief valves, and Insurance Requirements for gas trains.

Net-ZERO

COUNTDOWN...NET-ZERO AND BEYOND

San Francisco March 29-31, 2009

“We have reached a time when the building industry is being called to shift to a new level of performance that will reduce our energy and carbon footprint. It is time to advance net-zero-energy building knowledge.”

To help drive the building industry toward market-viable net-zero-energy buildings, ASHRAE is hosting a specialty conference on the topic in March in San Francisco.

ASHRAE's Countdown to a Sustainable Energy Future...Net-Zero and Beyond conference takes place March 29-31 at Hyatt at Fisherman's Wharf in San Francisco.

The conference will provide a forum to discuss the role of policy and regulatory involvement in addition to providing application knowledge for the various aspects of net-zero-energy buildings for both residential and non-residential buildings. It will include building science, energy efficiency in HVAC, lighting and appliances, and renewable energy sources applied to buildings.

To register, visit www.ashrae.org/netzeroconference



ASHRAE defines net-zero-energy buildings as those which, on an annual basis, use no more energy from the utility grid than is provided by on-site renewable energy sources. These buildings use 50-70% less energy than comparable traditional buildings, and the remaining energy use comes from renewable sources, like solar panels or wind turbines incorporated into the facility itself.



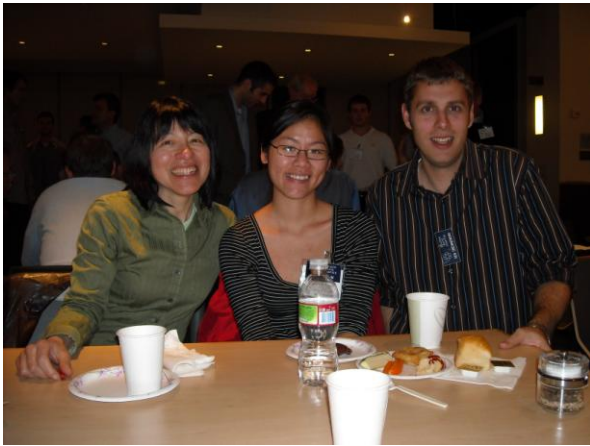
ASHRAE
1791 Tullie Circle • Atlanta, Georgia 30329

December Meeting Photos



Left: Tim Goeppner, Jim Frueh, Hans Kaufmann, Chris Hanzel

Right: Kirk Crowther, Andrew Rhodes, ?, Kathryn Lee



Left: Evangelina Encalada, Linda Lam, Ken Drewnowski

Right: ?, Gina Kalil, Pius Kao



Left: Stephen Scaife-Raffle Winner of B-Ball Tickets

Right: Doug DeVeney, Gurdaver Singh





Left:
Bob Braun-50
year Award

Right: Dale
Yeager, Jeff
Blaevoet

