



ASSOCIATION OF
ENERGY ENGINEERS

Bay Area Chapter

NEWSLETTER

June 1999

Dinner Meeting Information

Tuesday,
June 22nd

Energy Efficiency in Cleanrooms for High-Tech Industries

Our speaker will be our own past president, **Dale Sartor**, from the Lawrence Berkeley National Laboratory (LBNL). Dale will discuss the potential energy conservation measures that can be applied to these high-energy-use facilities. Mr. Sartor is a head scientist engineer working for the Applications Team of LBNL. He has extensive experience with HVAC systems, process systems, and has authored several articles in the energy conservation field. He earned his MBA, Master of Science degree, and BS degree from UC-Berkeley. He is a former president of the AEE Bay Area chapter and a Registered Professional Engineer in California.

See the enclosed flyer for more info...

PRESIDENT'S MESSAGE

by Ed Spivey

I am so pleased to have invited my self to be my own guest president for the June meeting, hahaha. This month is a milestone for me as my oldest graduates from high school this year to joyfully burden me with his pursuit of an engineering degree. This brings me to what will be the underlying theme of this message. I'm, well lets say, well seasoned. But before I go off on my tirade, allow me to give you a little background on me.

As many of you know, I am a recent transplant from Florida, where I was born and raised. I think everyone takes one of those life career test in high school that is suppose to provide you with insight as to what it is that you would be good at and would like doing when you grow up, mine said I should be an actor or electrical engineer. Actor, go figure, so off to the college of engineering at a rather small school in Tampa. As it turned out, I loved engineering and better yet I was really good at it, that and throwing a Frisbee. It wasn't long before I was the lab rat for a couple of three professors and pursuing my masters. They taught me how to play the dogs and groomed me to be a consulting mechanical engineer, literally. I though it was a complement at the time, however they just recognized in me the tenacious attitude it took to deal with contractors.

Finally my dad said "enough school," that and I wanted a good stereo. So following my mentors' collective advice, I went to work for a major manufacturer so as to "learn the industry from the top down". Then I could pick the consulting firm of my choice. Well it didn't work out exactly that way. I did go to work for York selling applied equipment. Years later I thought Trane or Carrier would have been better but now I realized how lucky I was that I chose York. The York Division of Borg-Warrner, being at the time a distant number 3, was trying to stand out by pushing energy efficiency in most of their product line. After York school, I got the engineering accounts and given the few contractors I called on, was grateful for that. So I ran around Tampa

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1999 Board

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(800) 770-8539

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Interested in involvement?

Contact: Ed Spivey
(925) 944-8929

President's Message (Cont.)

and Orlando trying to sell York based on Life Cycle cost analysis to engineers who had not seen a York salesman in years and really didn't want anyone making their life complicated. Not being terribly successful, I looked at it as York was the problem, not realizing that everyone, and that means everyone, has to pay their dues (important life message).

From there, an acquaintance from college, Ralph Bosek, convinced me to join a small start-up mechanical-electrical department in an existing civil firm. As fate would have it within 30 days I was in charge of the mechanical group as a result of attrition. We did the normal smaller commercial building design work at first. Ralph always wants to try new stuff and in 1979 came across Cycle 1 of President Carter's Institutional Conservation Program. At crunch time I found my self sequestered for two 70 hour weeks doing nothing but psychometric bin analysis by hand on what seemed at the time to be countless AHU's for a 600,000 sq.ft. hospital (no PC's yet folks)!. Well that was enough of that and Cycle 2 was done with DOE 2.1B. We had to buy main frame computer time and after the first computer bill, we got real efficient, real fast, and we use to work mostly at night when computer time was cheapest. Needless to say by 1982 I was burned out and decided sales was a lot easier.

I went to work for an independent manufacturer's rep. We represented McQuay, Westinghouse, Evapco, Peerless, Liebert, Mitco and just about every other HVAC product, short air devices and ductwork. I went to every product school offered. The PC had just come out and CPM gave way to DOS and VisiCalc gave way to Lotus 123. Knowing how to turn a PC on, I became real popular among many mechanical consulting engineers I called on. A buddy acquired the Sun-Keeper Line of DDC Systems and we spent many an evening writing control sequences in drum programming code for HVAC systems. Cool stuff for 1983.

Eighteen months later I picked the engineer that taught me the practice of consulting engineering. DDC Systems and chilled water plants were common. By late 1984, when I was in my third primary-secondary chilled water plant design, I realized I needed to better understand exactly how variable flow secondary pumping was going to work at part load. The challenge was, with two pumps in parallel, each with a variable speed drive, how do I determine when to stage on and off the second pump to efficiently run the plant; I then could write the sequence to operations for the controls contractor.

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Bay Area Chapter

AEE Bay Area Chapter serves as a unique forum for the discussion of energy issues and concerns. AEE Bay Area Chapter provides common professional meeting ground for facility managers, design and specifying engineers, utility and vendor representatives and energy researchers to participate in vigorous peer-to-peer dialogue, learning and group discussion.

AEE Bay Area Chapter strives to provide quality professional development opportunities which build knowledge and skills through meetings, seminars and publications. Emphasis is placed on:

- Assessing the applicability of emerging technologies, and
- Improving the performance and reliability of current technologies.

Meetings are held on the fourth Tuesday of the month. All interested persons are welcome to attend, participate and join the Chapter. If you are interested in joining the AEE Bay Area Chapter, contact Ken Moore at (415) 460-0460.

President's Message (continued)

Thus I embarked on my first of what would become many “spread sheet science projects”. Though small by today’s standards, it was all I could do to get it into Lotus at the time. This sheet has been the child of many a pumping energy model since. I stayed at this ME firm doing new construction design work, eventually running the mechanical design group. I saw the adoption of AutoCAD and lots of delicious projects until in late 1988 the new construction market crashed.

Bosek and Gibson had started their own energy-based auditing and retrofit design firm in 1986. Forgiving my earlier shun to make it Bosek, Gibson and Spivey, they allowed me to run their mechanical design group when I joined in 1989. Actually I had been teaching their engineers the Plant and Economics section of DOE 2.1D (recently ported to a PC) and doing chiller replacement design work on the side since 1986, so the staff had been anticipating my arrival long before I did. Lots of hospital chiller plant rebuilds ensued in a location demanding chilled water 8,760 hours per year. Working directly with plant operating engineers improved my sensitivity regarding equipment maintainability and work phasing to eliminate or at list limit down. I worked often with the energy group to assure the viability of their proposed retrofit measures and in 1992 found myself drafted to run the Cycle 15 ICP effort. Shortly after that I was asked to help the upstart California office, moved here and fell in love with the Bay Area.

Inspired by Doug Chamberlin’s autobiography last month, I realized that each of us that have risen to leadership positions within the firms for which we work, have hard earned experiences, long nights and untold hours debugging control sequences that went awry. I have had my share of “situations” to work my way through. We all have. So why are we (I mean the energy and retrofit design engineering community) often giving our services away. A number of times that I have bid a project, I have been informed that I was twice the price of the low bidder. I am here to inspire you to take stock in yourselves. I too have bitten at the occasional dangling carrot, but we have to resist. The facts are to do this work, each of us have invested a lot into both our formal and experience-based education. Those of us in charge of others have the fundamental responsibility to continue our education. We allow ourselves to be commoditized too often and the whole industry pays the price. The facts are that each facility that we address is unique and the solutions have to be individually tailored to provide the optimum result. When we work against unreasonable financial pressures, the work suffers, projects fail to produce, we don’t allow enough time to remain current because we are always working, the industry gets yet another black eye, and subsequent projects are harder to sell because clients become wary. In the grand scheme of cost and reward, good engineering is a fraction of the overall cost, is the corner stone around which the whole project is built and is absolutely critical in achieving the goal. Poor engineering is a waste of resources. Having worked with many engineers around the country, in my opinion, the general level of talent in the field of energy engineering is significantly higher in the Bay Area than the average. It is my wish, that each of you appreciates the value you bring to your work and the industry.

As hopefully all of you know, the Bay Area Chapter of AEE has an up and running web site, one of the purposes of which is to disseminate information. We are going to have a location where interested parties can download various freeware or shareware software. To support that effort I have (or will be) uploaded several of my “spreadsheet science projects”. I urge you to disassemble that which interest you, learn from it, use it, report found error to the author, and farther add to the collection. We learn from one another, for is that not one of the motivating factors in our interest in AEE.

Respectfully submitted, Ed Spivey.



Announcements

Career Opportunity

NORESCO is a national leader in designing and providing energy services programs. There are currently opportunities for bright, motivated team members in our South San Francisco Office in the areas of **Project Management, Engineering, Sales** and:

Measurement & Verification Specialist

Duties will include: Monitor and verify energy savings of long term performance contracts in both utility and non-utility sponsored programs. Perform measurement and verification, data collection, troubleshooting, and integrity checks. Install and maintain measurement and verification (M&V) systems for Utility and Performance Contract Programs. Receive, diagnose and solve trouble calls for Energy Management Systems. Develop M&V strategies for lighting and HVAC energy conservation measures.

The Successful applicant will have the following skills and interests: 1-3 years work experience, general background or interest in energy efficiency, strong computer knowledge, exceptional attention to detail and Customer Assistance skills, experience helpful in engineering, construction, and field work.

NORESCO offers competitive salaries and a full array of benefits. Please forward resume with a cover letter to: **NORESCO**, Human Resources, 100 Produce Avenue, Suite L, South San Francisco, CA 94080, Fax (650) 589-3750, msaunders@noresco.com.

Database Wiz?

AEE Bay Area Chapter needs a database manager to help us keep track of who's paid up and who hasn't. Meet exciting high profile board members & everybody who's anybody in the Bay Area energy efficiency world. If you are interested contact Jim Kelsey at (510) 834-6420 or kelsey@kw-energy.com.

Do you know someone who might be interested in joining AEE Bay Area Chapter?

The benefits of joining include:

- Participating in exciting and informative programs
- Receiving a monthly newsletter containing information on meetings, events, and job openings
- Communicating with other energy professionals

For membership application:

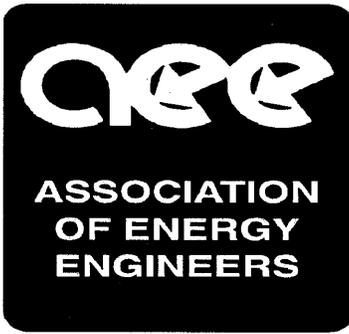
Contact Ken Moore
(415) 460-0460

Meetings are held on the fourth Tuesday of each month. All interested persons are welcome to attend, participate and join.



Bay Area Chapter

175 Filbert Street, Suite 205
Oakland, CA 94607-2541



Bay Area Chapter

PRESENTS

An exciting and informative evening

on

June 22, 1999

- 6:00 - 6:30** **Social**
- 6:30 - 7:30** **Dinner:** Linguini Parma with herbs, spices, gorgonzola cheese and parma ham and pine nuts or Poached Salmon with tomato-fennel sauce. A vegetarian option is also available. Coffee is included.
- 7:30 - 9:00** **Chapter Business and Program:** The topic for program will be Energy Efficiency in Cleanrooms for High-Tech Industries. **Dale Sartor**, from the Lawrence Berkeley National Laboratory (LBNL), will present the latest findings of his research in this interesting topic. Mr. Sartor will discuss the potential energy conservation measures that can be applied to these high-energy-use facilities. Mr. Sartor is a head scientist engineer working for the Applications Team of LBNL. He has extensive experience with HVAC systems, process systems, and has authored several articles in the energy conservation field. He earned his MBA, Master of Science degree, and BS degree from UC-Berkeley. He is a former president of the AEE Bay Area chapter and a Registered Professional Engineer in California.
- Location:** The Faculty Club, University of California, Berkeley
(directions are on the dinner reservation FAX form)
- Cost:** \$25.00 Members
 \$30.00 Non-Members
 \$15.00 Students
- Reservations:** Reservations can be made through our website at www.aee-sf.org. You can also call Leslie Kramer at (415) 434-0900 ext. 146 , e-mail to lkramer@brownvence.com, or fax to (415) 956-6220 using the handy fax form. Reservations must be made by noon Friday, June 18. Please tell us your meal choice as well.





DINNER RESERVATION FAX

ASSOCIATION OF ENERGY ENGINEERS
Bay Area Chapter

TO: Mima Guilles, BVA
(415) 956-6220 (FAX)

Please make _____ reservations for the June 22nd meeting. The following are the names of those who will attend. (Select an entree for each)

<i>Name</i>	<i>Linguini Parma</i>	<i>Poached Salmon</i>	<i>Vegetarian</i>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature: _____

Company: _____

Phone: _____

Reservations may also be made by calling Mima Guilles or Leslie Kramer at (415) 434-0900.

Please Make Reservations by noon on Friday, June 18th.

Directions to the Faculty Club	
From Highway 24	From Highway 80
<ol style="list-style-type: none"> 1) Take Route 13 North to Berkeley 2) Follow Ashby to College Avenue. 3) Turn right onto College Avenue to Bancroft Way. 4) Turn left at Bancroft. Go half a block. Bancroft Parking Structure is below the tennis courts on the right, across from U.C. Museum. 5) Park in lot after receiving permit from attendant 6) Walk north from lot and to the right of North Field. Pass between Morrison and Hertz Halls to the Faculty Club. 	<ol style="list-style-type: none"> 1) Take University Avenue exit. 2) Follow University until it dead ends at Oxford. 3) Turn right on Oxford to Durant. 4) Turn left on Durant and follow College Avenue. Turn left. 5) Follow instructions 4 through 6 from the column to the right.



You can also make your dinner reservations online

Make your reservation and dinner selection for the next meeting at the chapter website:

www.aee-sf.org