



ASSOCIATION OF  
ENERGY ENGINEERS

Bay Area Chapter

# NEWSLETTER

May 2001

**Meeting Information**  
**Tuesday,**  
**May 22<sup>nd</sup>**

*AEE Bay Area Chapter Presents*

### **State Of The Art Combustion Technology—Ultra Low Nox For Cogen / Self-Gen / Boilers**

**6:00 – 6:30 p.m.**  
Social

**6:30 – 7:30 p.m.**  
Dinner

**7:30 – 9:00 p.m.**  
Chapter Business and Presentation

**Location:**  
Sinbad's Restaurant, San Francisco

**Cost:** \$35.00 for Members  
\$40.00 for Non-members  
\$15.00 for Students

**Reservations:** Call Rory Moran at (925) 437-2718 or FAX  
(877) 638-4942. See inside for more info...

conservation. He said that California has effectively said "Well, we can conserve our way out of the problem. All we have to do is conserve; we don't have to produce any more power." This is the stuff that really gets my blood boiling. Conservation got us into this? Has he given any thought to how long ago we would have hit the current crisis *without* all the work that has been done to improve energy efficiency?

Now the next phase of the attack looks to be the co-opting of energy efficiency. For those of you who don't know how co-opting works as a political strategy, let me digress a minute. You co-opt an opponent's position by adopting some (twisted) version of it as your own, carefully using some of the same jargon, and with some of the surface appearance in tact. Then you effectively sideline the issue by giving it some offhand recognition and claiming it as your own. For instance, Cheney said in defense of his position, "There are lots of ways we can use technology to get better, more efficient, conserve more, get more mileage, if you will, out of our energy resources, without saying to the American people, you've got to live in the dark, turn out all the lights, don't enjoy the things that our modern society brings you. That shouldn't be necessary."

Geez that sounds *almost* like a plug for energy efficiency but it's not. I'll have to look back at some old audits to see the last time we recommended that a client live in the dark and turn out the lights. He's using something that we in the efficiency business have been saying for years in defense of efficiency improvements. I agree that energy efficiency shouldn't have to hurt, and if we try to do it in a way that is unacceptable to John & Jane Q Public, then we'll shoot ourselves in the foot. I thought that's why we threw out the word "conservation" years ago – because it sounds like you make do with less, while energy efficiency means using less juice without sacrificing comfort and service. But Cheney is ready to ditch efficiency efforts for good, using the same line of reasoning.

Bush has made similar nods toward conservation that are really intended to do more harm than good. For instance, he has required all federal facilities to reduce consumption by 10%, on top of the already tough goals set under the Clinton administration. And unless there has been a secret appropriation of funds for efficiency improvements, they have to do it without any funding for capital improvements.

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## President's Message

### **CHENEY DECLARES WAR ON ENERGY EFFICIENCY**

No one in the energy efficiency business expected any great leaps from the Bush/Cheney administration, but who knew how bad they were going to be? On the California energy crisis they began with what I like to call the "let them eat cake" policy. That is that California got themselves into this mess, they can get themselves out of it. Never mind that California is the biggest state economy in the nation, and certainly the prime driver of much of the growth of the last decade. But the "let them eat cake" position didn't go far enough, and now they have come out to declare outright war on conservation (Leslie, I hope you don't mind me paraphrasing you here) and so far they are attacking on two fronts. First, Cheney has blamed our current woes on an over-reliance on

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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 that 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 Ryan Wood (800) 770-8539.

## Secretary's Report

AEE – Bay Chapter Meeting, April 24, Sinbad's Restarant, San Francisco

### **PRESENTATION: RETROSPECT – THE OAKLAND ADMINISTRATION BUILDING PROJECT**

Scott Wentworth, an energy engineer with the City of Oakland, and Erik Kolderup, Vice President of Eley Associates, described the Oakland Administration Building project, a groundbreaking experiment in the use of energy performance contracting for new building construction. The project was completed in spring 1998, and occupancy began in the summer of 1998.

Scott told us that the City of Oakland needed to find a new administration building after the 1989 Loma Prieta earthquake. City of Oakland officials developed a project plan for two new buildings with a total gross area of 540,000 ft<sup>2</sup> (consisting of 400 ksf office, 37 ksf retail, and 90 ksf parking), and a budget cost of about \$80 million. They also decided to use the design-build route for construction. The Oakland energy staff, however, was concerned regarding energy issues in relation to the design-build process. They wanted to be able to predict during design how the building would perform, and to be able to influence the design before it was too late for changes.

In collaboration with Charles Eley and Associates, Oakland energy staff used the performance contract approach in order to maintain control of energy efficiency during design. This is a good match with the design-build approach. In their planning stages, the energy staff decided to ask how far they could go beyond Title 24 requirements (instead of setting a goal such as 15% below T24). Using modeling, they decided that they should set a goal of 27% below Title 24 energy consumption, or about \$450,000 savings per year. The penalty to the contractor for over-budget energy performance was set at 15 times the second year excess energy cost, while the City agreed to pay five times the second year energy benefit. While caps were placed on both the excess and benefit payments, Scott said that he would in retrospect remove the caps for future projects.

Technologies used to achieve the savings included economizers, VFDs on fans and pumps, daylight harvesting, occupancy sensors, and efficient lamps and ballasts.

Eric continued on to describe the verification procedures and observed verification results. Some measurement problems occurred during the first operation year. During the verification year, weather, heating and cooling energy, lighting, plug loads, and elevators were all measured. Lights, equipment, and plug loads were all passed on to the DOE2 energy model for the comparison DOE2 runs.

Some observations from measured results: the final yearly energy cost values were split almost equally (one-third each) between miscellaneous equipment, lighting, and HVAC (fans, cooling, heating, and pumps); the final energy consumption for the project was 10.5 kW/sf/day; and most of the energy savings (based on the target model) came from fan energy reductions. – **Stan Boghosian**

## President's Message (continued)

Is this what you do if you want energy efficiency efforts to succeed? I think not. Would he ask an oil crew to find 10% more oil without spending any money on drilling rigs, roughnecks, and petroleum engineers?

I expect the Bush/Cheney big oil front to use the California energy crisis to justify attacks on new fronts as well:

- ✍ Drilling in Alaska. They've already tried to justify this one and I expect to hear it again.
- ✍ Blocking the advancement of CAFE standards - fuel efficiency standards for cars and light trucks that have not kept up with the pace of technology. All they have kept up with is the consumer's desire for big SUVs.
- ✍ A revamped promotion of nuclear power. According to NPR there is a lot of Wall Street interest in this "clean, safe technology" and Cheney has already come out in support of renewing licensing agreements and greater reliance on nukes. If this scares you, better get out your protest banners because this sleeping giant is about to wake up.
- ✍ Relaxing air quality standards for electricity generators.
- ✍ Increased reliance on coal. Note the recent increase in "clean" coal research at the expense of energy efficiency and renewables research.

So this is really war. And who will win the war in the end? My money is on the environment because, to paraphrase Amory, "Nature bats last and owns the stadium." In the meantime, we need to buckle down, get politically active, and defend energy efficiency from these baseless attacks.

In sunnier news, I am really encouraged by the public support for efficiency and conservation efforts lately. The Chronicle has been printing suggestions on saving energy and I'm impressed by some of what I see. Of course some consumers miss the mark a little in terms of the relative magnitude of some conservation strategies, but some are offering pretty keen ideas. For example, the Chron included reader suggestions to put plastic covers on cases in grocery stores and reduce power "leakage" from appliances that don't really turn off (such as TVs, VCRs and anything in your house with a transformer) by unplugging them.

– **Jim Kelsey, Chapter President**

# Career Opportunities

## Job Opportunity at Brown, Vence & Associates (BVA)

BVA is one of California's leading energy engineering firms with main offices in San Francisco and Roseville, CA. We are seeking a senior energy engineer to join our team. The ideal candidate should possess an engineering degree, a P.E. license, and a minimum of 5 years experience in identifying energy efficiency measures, evaluating projects (using building simulations, bin-data calculations, etc.), conceptual design of efficient lighting and HVAC retrofits, engineering economic analysis, and audit report preparation. We offer a competitive salary with excellent benefits. Fax or email resume to Leslie Kramer. Fax: (415) 956-6220, e-mail: lkramer@brownvence.com.

## Berkeley Lab – Environmental Energy Technologies Division – Project Manager Opportunity.

As a project manager for our Environmental Energy Technologies Division, you will be an integral member of a research team that develops technologies and processes to mitigate the environmental effects of energy use. Desired qualifications: experience developing and facilitating large, complex energy efficiency projects, preferably in the high tech sector; experience leading multi-disciplinary teams to apply energy efficiency technologies; experience making presentations and producing end-user resource guidelines; proficiency in MS Office; extensive experience in critical facility design, energy management programs, energy retrofit project management and/or facilities management. Interested? Go to [www.lbl.gov](http://www.lbl.gov) for more details about Berkeley Lab. Apply on-line at [www.cjo.lbl.gov](http://www.cjo.lbl.gov) or email application to [employment@lbl.gov](mailto:employment@lbl.gov). Send your resume in plain text, no attachments please. Or mail to Berkeley Lab Staffing Office, One Cyclotron Road, MS 937-0600, Berkeley, CA, 94720. Reference job title and source code EE/013146/BEE1.

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



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

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