



ASSOCIATION OF
ENERGY ENGINEERS

Bay Area Chapter

NEWSLETTER

September 2002

Meeting Information
Tuesday,
September 24, 2002

AEE Bay Area Chapter Presents

Steve Greenberg's and Berkeley Eco House

*"Zero Energy Buildings and Beyond with
Photovoltaics"*

5:30 - 6:30 p.m.

Site Tour of Steve's House and Berkeley Eco House
(Optional)

6:30 - 7:00 p.m.

Special Time at Rustica

7:00 - 7:30

Dinner

7:30 - 9:00

Chapter Business and Presentation

Location:

Tour: Steve Greenberg's Berkeley Eco House
Berkeley, CA

Dinner: Rustica Restaurant
Oakland, CA

Cost: \$25.00/Members
\$30.00/Non-members
\$15.00/Student

Reservations:

Call Rory Moran at (925) 437-2718
FAX (877) 638-4942

chapter website www.aee-sf.org
or by e-mail rorym@axiomengineers.com
See insert for more information.

President's Message

Welcome back!

When we last met, we were sipping beer and cueing it up at Chalkers following the tour of the Pier One building in San Francisco in July. A great way to wind up a meeting. Thank you Bruce Chamberlain for a very interesting tour showcasing some innovative and leading edge ways to integrate the various systems in a unique retrofit.

I don't normally solicit web sites that come across my email desk but this one may be of interest to those of us working in the energy field. It's called "Energy Info Source" (www.energyinfosource.com). This site contains a wealth of energy related information ranging from new power plants to securing venture capital financing for energy projects. Although the news bytes are free, most of the reports require a fee in order to download to your computer. For example, if you want to receive the "Bi-weekly California Energy Update" (via email, PDF format), the cost is \$85 annually for an individual, \$225 annually for corporate users. The sample report for June is nine pages long. If you are bold enough to register, you can filter the areas of interest and receive free headlines via email. This is one to check out.

Thanks for listening



John Clark
President, AEE Bay Area Chapter

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Bay Area Chapter

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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 Leslie Kramer, 415-434-0900 ext 146.

Secretary's Report

AEE BAY AREA CHAPTER – JULY 23RD 2002 MEETING – GREEN PROJECT TOUR

Location: Pier 1 (building restoration project)

Tour Guides (and project design team): Reg Monteyne, P.E. – Flack and Kurtz, Inc.
Michael Bernard – SMWM

The tour of a recent green building tour was at Pier 1, which resides on San Francisco's Embarcadero, north of the Ferry Building. After the 1989 earthquake forced the removal of the Embarcadero freeway, this strip along San Francisco's downtown waterfront has gone through a period of rejuvenation which has included the renovation of Pier 1. Originally a debarkation point for the ferry system as well as a cargo unloading and storage facility, the pier, in recent years, has been used as a parking structure.

The Port of San Francisco solicited bids to develop Pier 1 into general office space (the largest tenant in this building is currently AMB). A portion of which would also house the Port's main administration offices. The goals from the outset of the project have been to maintain the historic character and fabric, minimize the visual impact of equipment in and around the building, re-use the existing building structure and provide energy efficient building systems. The design challenge for the consulting team was to meet all of these goals while still providing a comfortable working environment.

The original building square footage was 70,000; a second level was added as part of this project bringing the total area to 140,000 square feet.

The space conditioning system was a system relying on:

- radiant heating and cooling floors
- natural ventilation
- bay water heat rejection

The radiant floor and natural ventilation systems meet all of these design goals. Both are practically invisible and are therefore in keeping with the historical and architectural requirements. These systems also provide space comfort with low energy requirements.

As with any building, Pier 1 must reject heat removed from the space conditioning process. Due to historical stipulations, there was a strong resistance to the placement of any equipment on the roof, on the apron or inside the building. A bay water heat rejection system became the logical alternative. In addition to compliance with historical requirements, added benefits are reduced energy consumption and lower maintenance costs. Energy use is reduced with the elimination of the cooling tower fan and maintenance costs are lowered with the elimination of the water treatment system. A water-cooled chiller is necessary to meet the space loads, however.

The bay water heat rejection system consists of polyethylene tube bundles acting as the heat exchange medium. The bundles were organized in parallel closed loops and attached to a support cage. The cage was then anchored to the piles located under the pier. Several cages were required to accommodate the entire cooling load. The building condenser water is pumped directly through the tube bundles in a primary/secondary piping system arrangement. The tube bundles are slightly oversized to accommodate fouling from various marine organisms.

The closed loop bay water heat exchange system meets the original design goals by minimizing the historical and architectural impacts, utilizing the bay as a natural resource, reducing maintenance costs and lowering energy usage.

Raj Daswani, P.E.
Co-Secretary, AEE Bay Area Chapter

Job Posting

FACILITIES MANAGEMENT ENGINEER II

LBNL's Environmental Energy Technologies Division seeks an individual to develop and implement building retro-commissioning and tune-up strategies and techniques in commercial buildings to reduce energy use. You will design, implement and evaluate control tune-up interventions, provide leadership on advanced control technologies and operational improvements in buildings, and develop control tune-up and retro-commissioning deployment programs helping both private and government agencies utilize such strategies. Requires extensive experience with programming and commissioning of building HVAC control systems produced by the major vendors, experience designing and engineering large, complex control projects, knowledge of advanced energy-efficiency technologies and a professional engineering license.

For immediate consideration, please complete our online application at <http://cjo.lbl.gov>. Alternatively, e-mail one copy of your resume to AVPJobs@lbl.gov (no attachments please), mail to LBNL Staffing, One Cyclotron Road, Bldg. 937R0600, Berkeley, CA, 94720-8076, or fax to (510) 486-5870. Reference job number EE/015078/WAEE. Berkeley Lab is an AA/EEO.

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 Leslie Kramer
(415) 434-0900 ext. 146

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Bay Area Chapter

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