



ASSOCIATION OF
ENERGY ENGINEERS

Bay Area Chapter

NEWSLETTER

June 2001

No Meeting in June

Next Meeting will be

Tuesday, July 24th

President's Message

WHAT'S HOT IN THE ENERGY WORLD THIS MONTH – CURTAILMENT

There's a lot of buzz in the air right now over curtailment. I've had to look into it on a couple of fronts lately and thought you all might want to know what I've found. The short story is that if you have some peak electrical loads you can knock off you can make some money, or at least avoid a blackout. Here are some of the current options in the state for getting paid for your negawatts (or zerowatts).

Several months ago the CAISO announced the Demand Reduction Program or DRP. To sign up you must aggregate a curtailable load of at least 1 MW. You must curtail within 35 minutes of a control order from the ISO, for four hours at a time, with a maximum of 24 hrs per month. For this they will pay you \$20,000 per month per MW of load for each of the four summer months. Also they pay you \$500 for each MWh that you curtail. The program requires you to demonstrate your load reduction by comparing your load on the curtailed day to a rolling average of the previous five days. The big qualifier on the ISO program is that the funding for additional contracts is uncertain. They are still encouraging applications but have said that "the ISO cannot guarantee that your bid, if submitted, will be accepted. ISO efforts to secure interim financial backing from the state has led to delays in implementation..."

PG&E has four new curtailment programs for which funding is more certain:

1) Voluntary Demand Response

They pay \$0.35 per kWh for voluntary curtailment where the end user gives notice that you are willing to be curtailed a day in advance or on the same day. You can do this in addition to CAISO participation if you are willing to curtail that often. There is no payment for reserved demand.

2) Base Interruptible Program (BIP)

Under BIP you get \$7.00 per kW per month for load reduction (paid for all 12 months) based on having a load available. The maximum curtailments are 4 hrs per day, 10 events per month, and 120 hrs per year.

3) Scheduled Interruption (just approved by PUC - not yet announced)

Under this option you are paid \$0.10 per kWh to reduce load during one of the three peak periods (8AM-12PM, 12PM-4PM or 4PM-8PM). You choose the time period and day of the week and then you shed load during that period every week.

4) Optional Binding Mandatory Curtailment Plan

There's not a direct financial reward for this one but possibly a huge indirect one. The idea is that you can be exempted from rotating outages if you agree to reduce your load. To participate you have to file a plan that describes how you will reduce up to 15% of your peak demand when the ISO calls for rotating outages. You are responsible for any metering required, which may include substation-level metering if you don't have your own. This one sounds like a great idea for industries without sufficient back up power for which a rolling blackout would cause a major financial burden.

The incentives for the PG&E programs are lower than the CAISO rates but they may be a more sure bet. For a given load of 1,000 kW, and max curtailment by each, you would make \$128,000 from the ISO, \$84,000 for BIP, \$42,000 for Voluntary, and \$6,800 for Scheduled. Therefore BIP looks like the best deal after the ISO unless your avoided cost from missing a rolling blackout is greater.

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Interested in involvement?
Contact: Jim Kelsey
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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 Ryan Wood (800) 770-8539.

Secretary's Report

AEE - Bay Chapter Meeting, May 24, 2001, Sinbad's Restaurant, San Francisco

PRESENTATION: USE OF CATALYTIC COMBUSTION IN GAS TURBINE POWER APPLICATIONS.

Our speaker last month was Tom Morjig, Director of Sales and Program Funding for Catalytica Energy Systems, located in Mountain View. Catalytica has designed and developed the Xonon™ catalytic "cool combustion" system. The most important feature (and marketing strength) of this system is its ability to achieve very low NOx emission levels (< 2.5 ppm). This type of performance results from the low combustion temperatures that are characteristic of catalytic combustion.

Gas turbines with uncontrolled emissions have been difficult to site for a number of years due to emissions regulations. An uncontrolled combustion turbine has NOx emission concentrations at approximately 25 ppm. Before 1985, this emission level was acceptable, since the entire country had standards above 25 ppm. After 1985, however, emission standards became increasingly more stringent, forcing the use of NOx reduction techniques. Presently, some states have emission standards below 5 ppm.

There are few technologies available for meeting these standards. The lean premix technique can be used, but is capable of achieving emission concentrations down to only about 15 ppm. NOx reduction using the selective catalytic reduction (SCR) technique has been economic, but only for units above about 10 MW capacity. SCR is capable of yielding emission levels below 3 ppm. However, the system is costly to install and operate, and it requires significant amounts of ammonia, which has pollution problems of its own. The turbine-powered generator in nearby Crockett uses 400 gallons of ammonia per hour.

Catalytic combustion achieves low emissions due to its ability to burn fuel at low temperatures. For a conventional turbine, combustion takes place in the range of 2900 to 3300°F. However, NOx emissions start to become problematic below this temperature range, at approximately 2300°F. Catalytic combustion can typically achieve combustion temperatures in the range of 2300 to 2700°F due to the ability of the catalyst to break the bonds of the combustion components at low temperatures. The Xonon™ system developed by Catalytica can achieve temperatures around 2300°F through the use of a palladium-based catalyst. The system features both inlet and outlet catalytic stages, after which a homogeneous mixture flameless combustion takes place.

Catalytica has a web site at www.CatalyticaEnergy.com.

– Stan Boghosian

President's Message (continued)

We hope to have Mark Bramfitt, from PG&E, as our next speaker to come and elaborate on these options. Also the state just announced that funding has also been approved for a new program under the DWR but I have not yet heard details. If you know more about it, let me know and I'll pass it on to the membership.

Happy load shedding!

– Jim Kelsey, Chapter President

AEE Advertisement Cost

Charges for advertising in the Newsletter and Web Site are as follows:

<u>Advertisement Size</u>	<u>(1) one month</u>	<u>(3) three months</u>
Quarter Page	\$50	\$40/month
Eighth Page	\$30	\$20/month
Business Card	Not Available	\$15/month

?? Advertisement in both documents will be at an additional charge of 50% to the above.

?? Corporate members are permitted to advertise their business card at no charge, otherwise Corporate members will be charged at half of the above cost.

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.

Job Opportunities at Nexant, Inc.

The Energy Management Services group of Nexant, Inc. (formerly Schiller Associates), an energy consulting, engineering, and technology firm providing management and technical services for the energy industry, is seeking to hire qualified individuals.

Nexant's staff is comprised of professionals with backgrounds in engineering (mechanical, electrical, and environmental), strategic planning, finance, and economics. Individuals specialize across a broad range of technologies and market segments. Headquartered in San Francisco, California, we currently have positions available in our Oakland and Long Beach offices for the North American Energy Business Unit.

We are currently seeking to hire Project Engineers and Engineers/Analysts to assist with developing and implementing energy efficiency programs and projects in our Oakland and Long Beach offices. The successful candidate will possess the necessary analytical skills to perform detailed data analysis to evaluate performance of energy efficiency projects.

We offer competitive salaries and benefits including medical, dental and life insurance, as well as a 401(k) plan and bonus compensation. For more information regarding our firm and job opportunities, please visit our web sites at www.schiller.com and www.nexant.com.

Please send cover letter, resume and salary requirements to: Ms. Kerry Meech at hr@schiller.com or fax (510) 444-6502.

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 Ryan Wood
(650)-596-1160

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Bay Area Chapter

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