



# Association of Energy Engineers Western PA Chapter



January 2015

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## From the Desk of the President

Hello Energy Enthusiasts,

I would like to personally wish everyone a Happy New Year and welcome 2015! As you saw in the December newsletter, we are laying out 2015 with some great events, a spring golf outing and a June social. I am very excited about the lineup, specifically January's event which will showcase "**Combined Heat and Power (CHP)**" Plants and "**Balance of Plant (BOP)**" System integration, which will be co-hosted by my firm Thermo Systems.

**If you would like to register for this event, please do so as soon as possible. Penn Brewery needs an accurate headcount one (1) week prior to the event!**

Call for nominations for the leadership board are open. If you are interested in nominating a candidate or being nominated yourself, please contact me .

**Current Nominations (Deadline for nominations is January 16th, 2015):**  
**President: Curtis Dixon**

**Vice President: Chuck Watson**

**Treasurer: Denny Kronz**

**Secretary: Stephen Chausse**

As always, please free to call or email me with any questions about the chapter. I look forward to hearing from you.

Thank you!  
Curtis Dixon, CEM

## Current Chapter Officers

*President:*  
**Curtis Dixon**  
Thermo Systems, Inc  
curtis.dixon@thermosystems.com

*Treasurer:*  
**Denny Kronz**  
W.G. Tomko, Inc.  
dkronz@wgtomko.com

*Vice President:*  
**Chuck Watson**  
EnergyChaser, LLC  
chuck@energychaser.com

*Secretary:*  
**Stephen Chausse**  
Johnson Controls  
Steve.chausse@jci.com

# AEE January Event

Register today:

**AEE Evening Event - CHP Gas Turbine Selection and Balance of Plant Controls Integration**  
 January 22nd, 2015 5:00PM to 8:00PM (Evening Event - Member \$30.00 - Non-Member \$40.00)

**Penn Brewery**  
 800 Vinal Street

Pittsburgh, PA 15212 USA

## Presenters:

### Thermo Systems

**Kevin Porter** - is a Pittsburgh native and graduated from Grove City College with a Bachelor's Degree in Electrical Engineering. He spent his early career as a Project Engineer for an underground storage facility in NW PA, surveying, estimating, designing electrical systems, and environmental testing. Kevin moved above ground to become an Application Engineer for a Digital Controls Company focusing on critical HVAC. He progressed into Account Management and then Sales where he now serves as Business Development Manager for Thermo Systems. With 14 years in the controls industry, his primary focus has shifted from HVAC to central utilities, CHP, and plant optimization.

### Agenda

#### Thermo Systems - CHP Overview

- What is CHP and why is it beneficial
- Main Equipment
  - Turbine, Reciprocating Engine
- Feasibility evaluation

#### Solar - Turbine Role in CHP

- Explain the different types of turbines
- Capacity (MW), Type (CTG, STG), Fuels
- Turbine Output
  - Electrical generation
  - Waste Heat for boiler, steam turbine, steam chiller
- What's in the box?
  - Turbine, OIT, PLC
- Need for Integration

### Solar Turbine

**Bernie Pfeifer** - graduated from the University of Saskatchewan with a Bachelor's degree in Mechanical engineering. Spent the early part of his career working for a heavy industrial consulting engineering firm based in Toronto Canada. In 1990 he joined Solar Turbines in Melbourne Australia. Solar Turbines is a leading manufacturer of industrial gas turbines and Bernie was responsible for their Construction Services division that designed and constructed gas turbine driven compressor and power generating stations in Australasia. In 2003 Bernie relocated his family to Solar's corporate head office in San Diego where he held various positions in their complex project management group, balance of plant engineering and construction estimating division and in marketing. Bernie with over 25 years of experience in Power Generation, is now responsible for Solar's gas turbines generation sales and business development here in the Northeast

### Thermo Systems - Balance of Plant system

- What is BOP?
  - Automation considerations
    - Redundancy, PLC, DCS, SCADA Systems,
    - Network Architecture
  - Mechanical/electrical System integration
    - CEMS, SCR (Ammonia System)
    - Feedwater, Condensate Systems
    - Duct Burner
    - Air conditioning
    - HRSG
    - CTG/STG/Recip Engine
    - EMS/PMS
    - Load Shed, Synchronization to grid
  - Instrumentation
    - Gas Metering
    - Industrial Grade Devices
  - Case studies

The image is a composite of two parts. On the left, there are four brochures from Solar Turbines, a Caterpillar Company, titled "Overview of Applications 3-80 MW". The brochures are:
 

- CHP**: Typical CHP Configuration, Typical System Efficiency: 40-50% (Microturbine based) to 70-80% (HRSG Water based).
- CCHP**: Typical CCHP Configuration, Typical System Efficiency: 70-80%.
- Peaking**: 34 Simple Cycle & 30-8000.
- Combined Cycle**: 2 x Combined Cycle, Titan 250-based.

 On the right is a screenshot of a control room interface for a gas turbine system. It features a large central diagram of the turbine and its associated piping, including components like the combustion air inlet, HRSG, and various pumps and valves. The interface includes multiple control panels with buttons for "CLOSE", "OPEN", and "STOP". At the top right, there is a user login area for "ADMIN ADMINISTRATOR" and a "CURRENT NODE NAME: 77000". A status bar at the bottom shows various system parameters and a "TOTAL SPIN RESERVE" of 3 MW.

## **AEE Western, Pa Chapter 2015 Event Postings**

Please feel free to email any suggestions you may have for an event or if you would like to present on a topic.

### **2015 Events**

January - CHP Gas Turbine Selection and Balance of Plant Controls Integration - Solar/Thermo Systems  
February - Variable Refrigerant Flow Units - Mitsubishi  
March - High Efficient Pumping - V-Systems  
April - TBD  
May - Golf Outing  
June - Social - Hofbrauhaus

### **2015 Event Suggestions**

Steam Boiler Systems  
Renewables  
Lighting  
Water/Waste Water  
Transportation  
Smart grids  
Data Centers - High Efficiency PUE's

We will start to solicit speakers and get a good schedule in place for the upcoming year.

## AEE Western, Pa Chapter - Corporate Sponsors



<http://cascousa.com/>

# CLEARResult

<http://www.clearesult.com/>



# Association of Energy Engineers Western PA Chapter



January 2015

## Corporate Sponsorship Program

### Dear Prospective Corporate Sponsor:

The Western PA Chapter of the Association of Energy Engineers invites your company to participate in its Corporate Sponsor Program, which offers opportunities for corporate sponsors to become active players in promoting the Association's goals of energy and environmental conservation and cost savings.

As a Corporate Sponsor, you will have enhanced opportunities to converse with energy professionals who recommend, specify, and/or purchase energy products and services. Your participating staff will benefit from staying current with technology and market developments in our regional industry through the topical presentations at our nine chapter events each year. Through Corporate Sponsorship your company can enjoy the following additional benefits:

#### **Standard Sponsor**

- Two individual memberships in the Chapter at no additional cost, entitling the named individuals to the discounted door charge at monthly chapter Events
- Free banner advertisements in each monthly issue of our Newsletter and additional advertising at a preferred rate
- Named acknowledgment in a Corporate Sponsor listing in each issue of the Newsletter,
- Listing on our website (<http://www.aeecenter.org>), with hotlinks available at no additional charge
- Opportunity to briefly describe your company and services at an upcoming chapter event.
- Perhaps the most valuable benefit of all is the recognition and respect that your firm will earn by assisting our local chapter to continue its critical role in the changing energy environment of Pittsburgh, PA

Firms wishing to join the sponsorships can opt to include annual pre-paid meeting dues for employees who wish to attend our monthly events. Accordingly, firms now have the option to prepay a full year's attendance for as many as 3 employees:

#### **Annual Corporate Sponsorship starts at \$150.**

\$150 – Standard Sponsor

\$375 – Supporting Sponsor (includes one year of AEEPA meeting admission for 1 employee)

\$600 – Leading Sponsor (includes one year of AEEPA meeting admission for 2 employees)

\$725 – Champion Sponsor (includes one year of AEEPA meeting admission for 3 employees)

We look forward to having you as a Corporate Sponsor. If you accept our sponsorship invitation, please return attached initiation form along with your firm's check, payable to Western, Pa Chapter, Association of Energy Engineers. We will also have links on our website for payment.

Mail to:

Dennis Kronz  
90 Springmeadow Ct.  
Pittsburgh, PA 15236



# Association of Energy Engineers Western PA Chapter

<http://www.aee.memberlodge.com>

## Corporate Sponsorship

### Corporate Sponsorship Form & Invoice

Company
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#### Main Contact

Last name		First name		MI
Title		Address #1		
Address #2		Address #3		
City		State	Zip	
Telephone	Fax		Email	

#### Invoice

Sponsorship Level ( <i>check appropriate box</i> )	Annual Rate
<input type="checkbox"/> <b>Standard Sponsor</b> (includes all standard Sponsorship benefits described above)	\$150
<input type="checkbox"/> <b>Supporting Sponsor</b> (includes one year of pre-paid meetings for 1 employee)	\$375
<input type="checkbox"/> <b>Leading Sponsor</b> (includes one year of pre-paid meetings for 2 employees)	\$600
<input type="checkbox"/> <b>Champion Sponsor</b> (includes one year of pre-paid meetings for 3 employees)	\$725
<i>Amount Due (make check payable to: Western Pa Chapter, Association of Energy Engineers):</i>	

MAIL TO:  
**PENNSYLVANIA/Western Pennsylvania Chapter**  
 Dennis Kronz  
 90 Springmeadow Ct.  
 Pittsburgh, PA 15236

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Curtis Dixon  
Thermo Systems LLC

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E-mail:  
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If you have any comments, have any ideas or would like to contribute a news article to our newsletter, please contact me

*We are on the web at  
aeecenter.org  
Under Western PA Chapter*



## Who Are We?

The Association of Energy Engineers (AEE) is a non profit professional society of 8,500 members in 77 countries. The mission of AEE is "to promote the scientific and educational interests of those engaged in the energy industry and to foster action for sustainable development." The Western Pennsylvania Chapter of AEE consists of members from the Pittsburgh and surrounding areas. Our mission follows that of AEE National.

AEE offers a full array of informational outreach programs including seminars, conferences, journals, books, and certification programs.

To become an AEE National Member, please go to <http://www.aeecenter.org/membership/>.

## LOCAL MEMBERSHIP

### Western PA Chapter of the Association of Energy Engineers

\_\_\_\_\_

Date

**Local Chapter Dues for 2015**                      **\$ 25.00**

New Member \_\_\_\_\_                      Renewal \_\_\_\_\_

Please fill out the following information.

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Business Phone: \_\_\_\_\_

FAX: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Suggested Speaker Topic or Tour: \_\_\_\_\_

***Look forward to informative, professional, and educational presentations in the energy field, plus field trips to various locations in Pittsburgh***

Sign up online at <http://aee.memberlodge.com>.

or

**Email** [dkronz@wgtomko.com](mailto:dkronz@wgtomko.com) if you have any questions

**Amount Paid** \_\_\_\_\_

**Method of payment** \_\_\_\_\_

**Check Number** \_\_\_\_\_

**Payment received by** \_\_\_\_\_