

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.

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

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

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

Solar Turbines
 A Caterpillar Company

Overview of Applications
 3-80 MW

- CHP**
 Typical CHP Configuration
 Typical System Efficiency: 40-50% (Maximum) 50-60% (High Water Based) 70-80%
 ~3-20 MW and 15,000-415,000 lb/hr steam
- CCHP**
 Typical CCHP Configuration
 Typical System Efficiency: 70-80%
 blocks of 4-6 MW and 1,500-3,000 RT
- Peaking**
 14 Simple Cycle & 20-3000
 ~3-65 MW; Mobile in 6 and 15 MW Units
- Combined Cycle**
 2 x Combined Cycle
 ~26-80 MW (Titan 250-based)

