

Professional Development Seminar Emergency Power Systems



Earn up to 9 Professional Development Hours and 0.8 Continuing Education Units

A \$595 value, complimentary and paid for by Pro Power Solutions



Atlanta - September 14
Macon - September 15
Savannah - September 16



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THE POWER OF EXPERTISE

Tour Generac's New "Experience the Power" Demo Trailer

Generac Power Systems MPS Technical Support Vehicle

The Demo Trailer is a 53-foot tractor-trailer that profiles Generac's Modular Power System technology. It was designed and built to travel around the country to do live demonstrations and educational seminars for engineers, project managers and contractors that work with standby power generation. The Demo Trailer has been completely remodeled with new products for 2010. During the seminar we will demonstrate Generac's unique paralleling solution.

The new truck features:

- Two Paralleled Diesel Engines
- Enclosure Cut-away
- Three Dimensional generator display showing the bi-fuel, MPS switch and other features
- Classroom will feature GENlink and Power Design Pro™ software



A seminar for the Engineering Community based upon "real-world" experiences...

Standby power systems are increasingly in demand for a variety of applications. For many of these projects, the reliability of the standby power system is crucial to facility operations. Too often, emergency power systems are applied to a project without a thorough understanding of generator system capability, functionality, reliability and site specific load requirements. This seminar will focus on key factors necessary to ensure the highest degree of reliability in your emergency power system design. The seminar was designed by engineers who are experts in the power generation field. Their goal is to provide you with a thorough understanding of the applications and advances associated with standby power.

Each seminar was designed specifically for practicing engineers who wish to expand their understanding of current technologies, sizing, codes & standards, switching technologies and reliable design characteristics surrounding emergency power systems. If you are a design, sales or consulting engineer, this series is for you. It's a joint effort of the Milwaukee School of Engineering (MSOE) and Generac Power Systems.

Your Speaker, *Michael Kirchner*



After graduating from the University of Wisconsin with an Electrical Engineering degree, Michael did a short stint as a field engineer in the oil fields of Saudi Arabia. Michael began his career in the electric power industry as a system engineer and project manager

for Woodward Governor Company, a major manufacturer of prime mover controls. At Woodward, Michael designed hydro-turbine and plant control systems for the electric power industry. After leaving Woodward, Michael earned his Masters degree in Business Administration from the University of Wisconsin before joining Marathon Electric, an independent manufacturer of electrical power generators. At Marathon Electric, Michael performed marketing and application engineering duties. In 1999, Michael joined Generac Power Systems. Michael's current role is Technical Support Manager and he is responsible for providing technical training to Generac's distribution network.

Who Should Attend?

This seminar was developed for Design, Sales and Consulting Engineers involved in specifying and supplying standby power to commercial, industrial, municipal and healthcare facilities. Design/build firms, contractors and interested end users would also benefit greatly from the course content.

All Attendees Will Be Entered Into Our Give-Away!

Attendees will be entered into a raffle to win a 1600W Inverter Generator. We will be giving away a generator each day!



Features:

- Inverter technology - clean, stable power
- Lightweight, compact design
- Electronic overload protection
- Flexpower fuel management system
- LED status indicator lights
- Low-oil shut down
- Durable, fully enclosed case
- Rated 120/240 VAC Amperage 13.0A

*Attendee must be present during the drawing.

Professional Development Seminar Curriculum Abstracts

GPS – 100 Generator Sizing Pitfalls

Presents methods and calculations for proper sizing of engine-generators. Explores the alternator and engine responses to different types of loads. Presents different techniques to optimize engine-generator performance.

Load types covered include:

- Limitations of traditional generator sizing programs
- Dealing with load uncertainty in new construction
- Recognizing leading power factor pitfalls

GPS – 120 Paralleling Concepts & Implementation

Introduces generator paralleling and basic concepts of paralleling engine-generators to form larger power systems. Emphasizes paralleling controls for load sharing (real and reactive power), synchronization and protection of paralleled systems.

Discusses control integration, elimination of serial reliability paths and the advantages of parallel power systems over traditional single engine-generator solutions.

GPS – 140 National Electrical® Code (NEC®)

Presents reasons for standby power generation from the Electrical Code perspective. Explains the various articles and requirements covering standby power generation.

Articles covered:

- 225 – Outside Branch Circuits and Feeders
- 240 – Overcurrent Protection
- 250 – Grounding and Bonding
- 445 – Generators
- 517 – Health care Facilities
- 695 – Fire Pumps
- 700 – Emergency Systems
- 701 – Legally Required Standby Systems
- 702 – Optional Standby Systems
- 705 – Interconnected Electrical Power Production Systems

GPS – 160 Generator Provisioning & Installation

Examines engine-generator configurations and the selection of optional items such as block heaters, base tanks, enclosures, etc. Explores standard configurations versus custom options that may be required based on site-specific criteria.

Introduces good design practice guidelines for the installation of engine-generator sets based on site and application specific details. Emphasizes cooling system selection, unit placement, piping requirements, etc.

NFPA-110 – Lunch Session

Presentation prepared by Pro Power Solutions on the Scope of NFPA-110, Classification of Emergency Power Systems, Installation Acceptance, and Routine Maintenances & Testing. PDH will be provided by Pro Power Solutions.

Register Today, Space is Limited!

To register, send your completed form to Pro Power Solutions: fax: 770-381-2438, email: info@propowersolutions.com OR register online at www.propowersolutions.com Questions? Contact Pete Torres: 770-381-2424 or toll free at 877-Pro-Power (776-7693)



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CLASS INFORMATION

Registration: 7:00am - 8:00am, Seminar 8:00am - 5:00pm

Morning Session:

PDSS-100 - Generator Sizing Pitfalls

Power Design Pro - Demonstration of Generac's New Sizing Software

PDSS-120 - Paralleling Concepts & Implementation

Lunch Session I:

Visit Generac's "Experience the Power" newly redesigned

53 foot demonstration tractor trailer

Lunch Session II:

NFPA-110 by Pro Power Solutions

Afternoon Session:

PDSS-140 National Electric Code

PDSS-160 Generator Provisioning and Installation

SELECT YOUR DATE & LOCATION

Tuesday - September 14, 2010

Atlanta Marriott Century Center

2000 Century Blvd. NE

Atlanta, GA 30345

Wednesday - September 15, 2010

Macon Marriott City Center

240 Coliseum Drive

Macon, GA 31217

Thursday - September 16, 2010

The Westin Savannah Harbor

One Resort Drive

Savannah, GA 31421

FIRM INFORMATION

Firm Name _____

Address _____

City _____ State _____ Zip _____

Website _____

PERSONAL INFORMATION

Name _____

Title _____

Phone _____ Fax _____

If there are any associates that you would like us to invite, please list their names below:

Name _____ Firm _____ Phone _____

Name _____ Firm _____ Phone _____

THE PROFESSIONAL DEVELOPMENT SEMINAR SERIES IS PRESENTED BY...



Founded in 1959, Generac Power Systems is a leading manufacturer of diesel and gaseous-fueled, engine-driven power generation equipment,

transfer switches, paralleling switchgear, and small engines for industrial, commercial, residential, communication, and recreational applications. Generac is headquartered in Waukesha, Wisconsin and has additional manufacturing facilities in Eagle and Whitewater, Wisconsin.



Founded in 1903, MSOE is a private, coeducational university located in downtown Milwaukee. The university offers undergraduate and graduate degrees in areas related to engineering, business, nursing, and construction management. Theory is brought to life for students through extensive integration of laboratory experimentation.