## BASLER ELECTRIC DISTRIBUTED GENERATION SCHOOL





#### March 24-26, 2009

Fairview Heights, Illinois (near St. Louis, Missouri)

### Learn about Control and Protection required to parallel generators to utility distribution.

PLUS "Basler Product Solutions" including live demos

- DGC-2020 Digital Genset Controller with new available expansion modules
- New BE1-11 family of protective relays featuring intertie and generator protection
- 8th Annual School with updated topics
- 3 days of intense learning
- Tuition includes free Basler software
- 10% Early Bird discount; sign up before February 16!



www.basler.com

#### Participants should learn:

- → What is Distributed Generation? Why is it unique?
- → How to control a generator operating in parallel with a distribution network
- → How to control the prime mover of a generator operating in parallel with a distribution network
- → What causes loss of synchronism and what effect does it have on the synchronous generator?
- → How to apply engine control systems intended for standby and portable equipment to Distributed Generation systems
- → What IEEE Std 1547<sup>™</sup>-2003 does and does not say about intertie protection
- → How to apply generator control to excitation for islanded or parallel operation
- → Protective relay requirements for the DG system, focusing on generator, intertie, and transformer protection

#### **Introduction to Distributed Generation**

- Requirements of the electric utility
- Designing the DG system
- Standards applicable to DG
- Evaluating results vs. model

#### Operation of Generators in Parallel with Large Networks

- Theory of operation
- Real power and reactive power
- Loss of generator synchronism
- Loss of excitation
- Loss of network interconnection

#### Synchronizing and Load Sharing for Network-Connected Generators

- Engine control and protection systems
- Synchronizing
- Load sharing for DG operation

#### **Generator Control – Excitation**

- Voltage regulator operation
- Parallel operation with a network
- Small excitation brushless generators
- Medium excitation brush-type or brushless rotary exciters

#### **Protection of DG Systems**

- Generator protection
- Intertie protection
- Transformer protection
- Review of IEEE Std 1547-2003 on interconnection

#### Who should attend?

Technical persons and engineers with job responsibilities and backgrounds related to distributed generation/cogeneration applications or projects. However, this is not a troubleshooting or hands-on class. Individuals can benefit from the knowledge gained at this school if they are involved in switchgear design, consulting engineering, utility intertie protection, industrial power and engine generator set control and protection.

#### **Basler Product Solutions**

By popular demand, we have expanded the product training. Each day, Basler Application Engineers and instructors will present information on the features and advantages of Basler products as they relate to DG applications discussed in each talk. Sessions include product overviews, review of settings and configurations, and implementation of distributed generation schemes using Basler products. Each student will receive free Basler's BESTCOMS software for applicable products.

#### **Live Demos**

There's more to the Basler Distributed Generation School than lectures. You'll see for yourself how to use what you've learned in the "classroom" in real-life applications by watching real-time demonstrations of some of the latest products. Demonstrations scheduled include:

- Generator paralleled to network
- Intertie and generator protection
- Digital Genset Controller and new expansion modules
- Synchronizing and PID tuning

#### Tuesday, March 24, 2009

8:00 a.m.

Welcome and Introductions Lectures, Product Solutions

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6:00 p.m.-8:00 p.m. Ice Breaker Reception

#### Wednesday, March 25, 2009

8:00 a.m.

Lectures and Product Solutions

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Plant tour and product demos 5:30 p.m. Return to hotel

#### Thursday, March 26, 2009

8:00 a.m.

Lectures and Product Solutions

\*

4:30 p.m.

Course review and Graduation

\* Lunch - Compliments of Basler Electric

# Instructors

Basler Electric's in-house experts combine for more than 90 years of experience in the fields of electric power system control and protection. Their backgrounds include Product and System Design Engineering, Product Training, Technical Support, Sales, Field Service, and Application Engineering. Each instructor has individual expertise in Voltage Regulators, Excitation Systems, Genset Controllers, or Protective Relays, as it pertains to Distributed Generation applications. In this course, they share their experience and knowledge through lectures, examples and demonstrations. They will be available for one-on-one discussions.

#### Scheduled instructors include:

#### **Terry Gaines**

Technical Sales Support and Product Training Manager

#### Mike Basle

Power Systems Electrical Engineering Manager

#### **Larry Perez**

Product Line/Key Account Manager, Genset/Generator OEM

#### **Jerry Johnson**

Principal Application Engineer

#### Registration

Register on-line at www.basler.com or fax or mail your completed Registration Form(s). Due to limited seating, enrollment is based on receipt of payment. The tuition for the 3-day school is \$1,250.00, payable by check, MasterCard, VISA, or American Express. (Please make checks payable to Basler Electric.) Be an "early bird" and get a 10% discount off the tuition fee if your credit card payment is made or your check is received by February 16! Upon receipt of payment, an enrollment acknowledgment will be sent to you. All cancellations received on or before February 13, 2009, will be subject to a \$100 processing fee. Cancellations received after this date will create a credit of the tuition, less processing fee, good toward any other Basler Electric conference or school for one year.

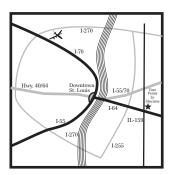
#### **Transportation**

The Four Points by Sheraton is approximately 26 miles (approx. 35 minutes) from St. Louis' Lambert International Airport and 10 minutes from downtown St. Louis. It is located just off Interstate 64 (Exit 12) and IL Route 159, near a major shopping mall and close to The Gateway Arch, Casino Queen gaming, and other attractions.

#### Lodging/Expenses

A room block (at the group rate of \$88.00 plus tax, single or double occupancy) has been reserved for our students, and your reservation will be made by Basler Electric. It is **not** necessary to contact the Four Points by Sheraton to make or to confirm sleeping room arrangements. The tuition fee includes a course reference binder and supplementary CD-ROM. Continental breakfast and lunch are provided each day and a Tuesday evening icebreaker reception is included. All other expenses such as travel, lodging, and dinners are your responsibility.

Guests can enjoy free parking, indoor pool, hot tub, exercise room, and high speed Internet access.



Four Points by Sheraton, 319 Fountains Parkway Fairview Heights, IL 62208

## Registration Form Distributed Generation School (March 24-26, 2009)

Please photocopy completed form and fax to: Carol Ingram, Corporate Marketing Communications (CMC Dept.) 618 654-2351 (Phone: 618 654-2341 extension 122) or e-mail: info@basler.com.

From	om: Phone:	FAX:
Student Information	Company: Mailing Address: (No P.O. Box, please)  City: State: State:	Country: Zip/Postal Code:
Hotel Rm Request	Basler Flectric will make your reserva	ation. You are responsible for payment.
	Single Double	Non-Smoking
	Arrival Date:	Departure Date:
	If double, will you be sharing with another attendee? Yes \( \subseteq \text{No } \subseteq \) If yes, name:	
Early Bird Discount! On or before Feb. 16, 2009: \$1,125.00. (See Registration Section, page 3)		
Payment Information	Check       ☐         After February 16, 2009:       \$1,250.00         \$1,250.00       MasterCard ☐       American Express ☐         Card Number	





-- Please review cancellation policy, Registration Section, page 3. --



