

Distribution Volt/VAr Management in Reverse Power Flow Applications

Friday April 17, 2019 – 8:00AM to noon

San Antonio, TX

What is this course about?

The Power Quality issues, including poor power factor and low voltage problems, are common throughout electric distribution systems. Power Capacitors and Voltage Regulators installed on a radial system are effective in correcting these issues. Reverse power scenarios, including Self Healing systems and Distributed Generation, complicate the application of this equipment.

Who Should Attend?

Electric Engineering professionals, technicians and managers responsible for efficiency and power quality of the distribution system will find this information invaluable. Those associated with the integration of distributed generation have a need for understanding the operation of this equipment under reverse power conditions.

Learn and Understand:

- The basic electrical formulas associated with system losses and voltage drop.
- The common Volt/VAr strategy used by many utilities.
- The optimal placement strategies employed by most analytical software programs.
- Problems associated with coordinating Volt/VAr equipment
- Voltage Regulator operation
 - Control options
 - Features.
- Issues associated with Distributed Generation

Instructors

David Farmer, PE, is the Director of System Planning & Grid Technologies for Pike Engineering. He holds a BS in Electrical Engineering from West Virginia University Institute of Technology and is a registered professional engineer in multiple states. Since 1983, Mr. Farmer has worked with electric utilities in power delivery planning, load forecasting, reliability analysis, engineering and operations, construction and design, training, and project management. David has worked for both investor owned utilities and electric cooperatives.

Jerry Josken is a Senior Consultant for Pike Engineering. Jerry holds a BS in Electrical Engineering Technology from the Milwaukee School of Engineering and a MBA from North Central College. During his 30+ year career with Eaton's Cooper Power Systems Jerry served in a variety of engineering capacities. Past leadership positions include Chair of IEEE Rural Electric Power Conference (2012) and GLEMS Distribution Equipment /Controls (2013-2014). Presently, Jerry coordinates Pike Engineering Professional Development Programs.

This course is offered as a tag-along to the 2020 Rural Electric Power Conference, to be held April 14 – 16, 2016 at the Marriott River Center. This brochure and conference information can be found on the conference web site at www.ieeerepc.org. The course is open to anyone. Attendance at the conference is not mandatory, but encouraged.

Those attending this course will earn a certificate of 4.0 Professional Development Hours.

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Course Overview and Introductions

Engineering Formulas

- System Losses
- Voltage Drop

Power Capacitors

- Benefits
- Application Factors
- Switch Banks
 - Controls
- Placement

Step Voltage Regulators

- Controls & Settings
- Placement of Voltage Regulators

Volt/VAr Equipment

Coordination

- Capacitor to Capacitor
- Voltage Reg to Volt Reg
- Voltage Reg to Capacitor Bank

Reverse Power Scenarios

- Automatic Reconfiguration (Self Healing Systems)
- Distributed Generation Types
 - Dispatchable vs non-Dispatchable
 - Voltage Rise Calculation

Voltage Regulator Control Modes

- Bi-Directional
- Co-Generation

Logistics:

Location:

Date: Friday April 17, 2020

Time: 8AM to 3:30PM

Fee: \$125.00

Includes a course text and continental breakfast.

Register at: <https://conta.cc/2qLsp4p>