



Southeastern Meter School & Conference

The Hotel at Auburn
University and Dixon
Conference Center
Auburn, Alabama

March 22nd - 25th, 2010

*Register by February 22nd
and be entered in
a chance to win a
46" LCD HD Television!!!*

Sponsored by the

Southeastern Meter Technical Association

In Cooperation with

Utility Technology Association

General Information

The **2010 Southeastern Meter School and Conference** will be held **March 22nd - 25th** at the Hotel at Auburn University in Auburn, Alabama. The school is sponsored by the **Southeastern Meter Technical Association**. It is held in cooperation with **Utility Technology Association**.

The school provides a forum for electric utility meter personnel to **discuss metering practices, procedures, new technologies, and common problems with peers and representatives from industry**. The school is open to anyone interested and involved in these areas. This year's school will be another outstanding educational event. **Great training and hands on learning opportunities are provided in each of five modules**. The modules are tailored to instruct utility professionals at all levels of experience. **Attend any class from any module**. You pick the class of interest.

Day Participant Program

This provides an opportunity for management (general managers, purchasing agents, operation managers, engineers, etc.) to **attend one day for a reduced fee**. Come on any day and attend a few classes, then enjoy an evening of hospitality in the Exhibit Hall.

Location

The **Hotel at Auburn University and Dixon Conference Center** is centrally located three miles from Interstate 85. The Hotel at Auburn University is situated in a charming university campus environment within easy walking distance to many shops and restaurants in the quaint, historical downtown **Auburn, Alabama**. Find out more about the hotel and location at www.auhcc.com.

Hotel Accommodations

A block of rooms has been reserved for attendees at the **Hotel at Auburn University**. Reservations can be made through the hotel by phone at **(800) 228-2876**.

Please make your reservations by March 6th, 2010 to insure availability. **The special room rate is \$119.00 plus tax**. Be sure to **identify yourself as being with the Southeastern Meter School & Conference to get the group rate**. **Room rate will increase after March 6th**.

Directions

Atlanta to Auburn (110 miles)

Take I-85 South towards Montgomery. Take the Auburn exit (exit 51.) The Auburn University Hotel and Dixon Conference Center is located approximately 3.5 miles on US 29, directly across from Draughon Library.

Birmingham to Auburn (120 miles)

From Birmingham, take US Highway 280 East approximately 110 miles. Take a right onto Highway 147 and follow it 5 miles to Auburn.

The Auburn University Hotel and Dixon Conference Center is located on the left directly across from the Draughon Library, at 241 South College Street.

Exhibit Hall

The Exhibit Hall will be open **Monday, March 22nd through Wednesday, March 24th**. All the suppliers you need to meet will be in one place to answer your questions and demonstrate their products. **Exhibitor Registration Information available on school website**.

Registration

The registration to the 2010 Southeastern Meter School & Conference can be sent by mail, fax or on-line. **Payment can be made with check, purchase order, or credit card**. Invoicing available upon request. **Credit Card payment is only accepted with on-line registration**.

Participants Registration: \$295

Participant Fee includes Conference Notebook, Lunch on Tuesday and Wednesday, Dinner on Wednesday, Networking / Hospitality Breaks, and Admission to the Exhibit Hall.

One-Day Registration: \$130

One-Day Registration Fee includes conference notebook, one lunch, and Admission to the Exhibit Hall.

Presenters: No Charge

Exhibitor Registration Information available on school website.

Pre-Registration Deadline is February 22nd, 2010. Late and OnSite Registration are subject to an Additional Charge of \$30.

Mail

Southeastern Meter Technical Association
P.O. Box 695 Clermont, GA 30527

Fax

(770) 662-0277

On-Line

www.semeterschool.com

Cancellation Policy

Refunds, less a \$25 administrative fee, will be made for all cancellations received in writing before March 8th, 2010. No refunds will be made after that date, but a substitution of attendees may be made by notifying the Southeastern Meter Technical Association prior to the conference.

Professional Development Hours

Participants attending the entire school will be awarded 18 Professional Development hours.

Five Modules to Choose From

Module 100: Introductory Metering

Coordinators: Freddy Morgan, Marietta Power; Mike Chirico, South Alabama Electric Cooperative
Module providing instruction in basic metering theory and application. This session should be attended by new metering employees or other operating personnel with little or no metering experience.

Module 200: Advanced Metering

Coordinators: David Ramsey, Cobb Energy; Ken Waddleton, Snapping Shoals EMC
Module on intermediate metering theory and polyphase meter installation. It is recommended that students have attended Module 100 or have some experience in those areas.

Module 300: Hands On Meter Testing & Safety

Coordinators: Mark Wellden, Ricky Askew, David Philpott, Georgia Power Company
Module providing both lecture and laboratory experiences on all aspects of meter testing. Session will include hands on experience in testing everything from simple single phase, polyphase and demand to multifunction meters.

Module 400: Advanced Metering Infrastructure (AMI) Technology & Applications

Coordinators: Jeremy Morgan, Fairhope Utilities; Ellery Queen, Q-Tech Professional; Todd Hubbard, Jackson EMC; Randall Black, Habersham EMC
Module to learn about the technologies, benefits, implementation and operation of Advance Metering Infrastructure (AMI). Includes informational AMI Round Table with utilities. Also session on metering data translations.

Module 500: Meter Programming

Coordinators: Tom Ellis, City of Vero Beach; Robert Bates, City of Covington; Nathan Madison, Jr., South Alabama Electric Cooperative
Module providing hands on of programming meters from the metering manufacturers. Classes to gain a better understanding of the personal computer and using it for your metering applications.

Exhibit Hall:

Coordinators: Suzanne Powell, Electric Cities of Georgia; Chip Kanour, Utility Specialists, Inc.; Geri Turner, Tri-State Utility Products, Inc.

Contact Information

**Southeastern Meter
Technical Association**

**Suzanne Powell
(770) 519-1676**

semsc@semeterschool.com

Opening Session

The Smart Grid: Industry Activities and Standards Update

The Smart Grid: Industry Activities and Standards Update

Instructor: Larry Barto, *Georgia Power*

This session will focus on the latest developments in key industry activities relating to the development of the Smart Grid in America since the enactment of the Energy Independence And Security Act (EISA) of 2007, much activity has been seen around the country relating to the development of the Smart Grid. The 2008 American Recovery and Reinvestment Act (ARRA) further clarified this “national priority” as funding for Smart Grid projects and technology investments were awarded totaling over \$3.6B.

As a member of the newly formed Smart Grid Interoperability Standards Panel, attendee to all of the 2009 NIST workshops and active participant on several Priority Action Plans, the speaker will share his own comprehensive account of what’s going on and explain how everyone can get plugged in. This session will bring together a wealth of information about Smart Grid activities with a particular emphasis on new standards that could affect metering, including the recently published NEMA SG-AMI 1, Requirements for Smart Meter Upgradeability as well as the SmartGrid / AEIC AMI Interoperability Standard Guidelines for ANSI C12.9 End Device Communications document.

Module 100

Introductory Metering

Electrical Fundamentals

Instructor: Mike Chirico, *South Alabama Electric Cooperative*

Learn the principles of electricity, AC and DC circuit theory including ohms law and circuit components, along with current and voltage laws. Review of basic meter math skills.

Single Phase Meter Theory

Instructor: Bryan Seal, *SmartSynch, Inc.*

Explanation of the mechanics and electrical theory of single phase meters. Discussion of internal meter components, and how they interact to make the disk turn and register properly. Calculate watt-hour constants and register ratios of selected meters, along with dial multipliers and basic transformer factors.

Polyphase Metering Theory

Instructor: Randy Riley, *Landis + Gyr*

This class will introduce the student to the principles of polyphase metering. Explanations of different configurations and the uses for polyphase meters.

Single Phase Meter Testing/Maintenance Hands On

Instructor: *Georgia Power*

What does it mean to “test” a meter? This class includes discussion on testing methods and equipment along with ANSI requirements. Proper repair and maintenance of single phase meters are addressed.

Instrument Transformers

Instructor: *ABB*

Course is designed to teach the fundamental characteristics of Current and Potential Transformers as they are applied to electric metering. Topics include ratio, rating factor, BIL, burden, polarity and ANSI accuracy class.

Setting & Removing Meters Safely

Instructor: *Georgia Power*

Lecture on voltmeter use and methods to properly check voltage at the meter socket. This class focuses on aspects of safety related to setting and removing single phase meters.

Service Voltages / Types & Form Numbers

Instructor: Ken Waddleton, *Snapping Shoals EMC*

Focuses on service voltages and how they relate to meter selection. What is a meter “Form” and how does it relate to the type of service? Learn what does the nameplate information tell you. Overview of how meters, sockets and transformers are wired together? Although concentrating on single phase services, polyphase meter forms are also discussed.

Instrument Transformer Testing

Instructor: Bill Hardy, *Powermetrix*

A how to look at the benefits analyzing metering circuits and the instrument rated equipment to provide the most accurate metering possible.

Meter Socket Applications

Instructors: Robbie Staats, *The Durham Company*; David Benes, *Brooks Utility Products Group*

A discussion on the importance of proper torque in electrical connections. Study of various standards and testing procedures on meter sockets. Types of electrical services, polyphase meter forms are also discussed.

Demand / Time of Use Metering & Utility Billing Rates

Instructor: Jack Pyburn, *Elster Electricity*

Lecture on what “demand” is and why do utilities use demand metering. It will cover different types of demand metering and technologies. This class will also cover “Time of Use” (TOU) metering and related technologies. It will address questions on why we use TOU metering and its benefits. Included in this class is an overview of applying rates to the customers bill.

Module 200

Advanced Metering

Power Theory

Instructor: Ed Hamby, *Kenneth E. Hamby Consulting*

An expansion of the popular course on the basics of electricity – volts, amps, power factor and all kinds of good stuff. Definition and applications of KW, KVA, power factor, reactive power, and demand. Introduction to complex math and phasors.

Principles of Polyphase Metering

Instructor: Randy Riley, *Landis + Gyr*

Lecture on “What is polyphase metering.” Why does the customer need this type of metering? Evolution of polyphase metering. Polyphase meter wiring connections are discussed.

Polyphase Metering Application

Instructor: Larry Waters, *General Electric*

A review of delta and wye metering applications, 2,2-1/2 and 3 element meter selection, “multi-form” meters and Blondel’s Theorem. The participant will have the opportunity to work on several meter application problems in order to assess his/her own skill level.

Reactive, KVA and 4 Quadrant Metering

Instructor: Dick Martin, *Sensus*

Explore reactive metering concepts and terminology. Look at why reactive measurements are important, their impact on system losses, equipment sizing, and cost of service. Review the mathematical derivation of reactive quantities. Explanation of 4 Quadrant metering.

Instrument Transformers

Instructor: *ABB*

Combined with Module 100 Instrument Transformer class.

Installation Troubleshooting Using Phasors

Instructor: Larry Waters, *General Electric*

An introduction to the concept of phasor diagrams – what they represent, how they are developed, and how they may be used as effective diagnostic tools. Working with phasor information provided by new solid state electricity meters to troubleshoot new and existing metering installations. Includes some interactive exercises diagnosing miswired meters.

Distribution Transformer Connections

Instructor: Jeff Adams, *Electric Cities of Georgia*

Lecture on the understanding of distribution transformer connections and how to make them. A necessity to a well rounded meter person.

Pulse / Load Profile Metering

Instructor: Chris Tripp, *Georgia Transmission Corporation*

What is pulse metering? When, why, and how you would use it in a modern day metering

system. Explanations of pulse initiators, isolation relays, and pulse weight calculations.

Communication Technologies

Instructor: Dan Smith, DataComm for Business, Inc.

Learn about the variety of communication methods and mediums that are used in the utility industry.

Module 300

Meter Testing & Safety

Meter Safety

Instructor: Jim Kimberly, Georgia Power

The check out procedures for self-contained meter sockets and the results of a fault in a self-contained meter socket. Demonstrations of the proper use of protective equipment and fire retardant clothing while working in reach of an energized circuit. Discussions on various accidents experienced by meterman. Safety precautions while working inside a substation.

Intro to Single Phase and Three Phase Field Meter Testing / Fundamentals / Philosophy

Instructor: David Philpott, Georgia Power

Discussion on the Basic Theory, Philosophy, and ANSI Standards necessary to complete single phase and three phase meter testing. Includes details of phantom load testing and customer load testing.

Hands On Self-Contained Single Phase and Three Phase Meter Testing

Instructors: Ricky Askew, Tony Moore, Georgia Power

Hands on lab allowing students to test mechanical and electronic self-contained watt-hour meters using phantom load and portable watt-hour standard.

Hands On Transformer Rated Solid State Three Phase Meter Testing

Instructors: Ricky Askew, Tony Moore, Georgia Power

Hands on lab allowing students to test electronic transformer rated watt-hour meters. Using phantom load and portable watt-hour standard, three portable watt-hour standards, and newer technology test equipment. Testing from infrared test LED.

Meter Testing Program

Instructor: Cliff Hand, Georgia Power

Discussion on the benefits of a Meter Testing Program. Discussion will include ANSI Standards, Maintaining Compliance, Revenue Optimization and Trending Data. In addition, discussion will include how AMI meters have changed shop testing requirements.

Testing and Verification of Meter Installation Using Customer Load

Instructor: Ricky Askew, Georgia Power

Demonstration on how to properly check your overall meter installation and be assured

of accurate billing. Class will include vector analysis, voltage measurement, CT burden verification and verifying CT ratios using latest test equipment and classroom discussion.

Alternative Energy Metering

Instructor: David Philpott, Georgia Power

Learn about installing meters when the source is from alternative energy. Discussion on Alternative Energy, Solar, Wind, Renewable and NonRenewable Resources, metering applications and customer requirements in order to tie these systems to the grid. This course will also include a brief presentation on how a Solar system works.

Residential Theft

Instructor: Georgia Power

The loss of revenue through unsecured meters, the use of tap detectors, the use of check meters and other methods of theft detection, the meterman's role in revenue protection, and how investigations are completed after a theft case is discovered.

Commercial Theft

Instructor: Georgia Power

Detection of loss of revenue due to theft on Commercial accounts. Ways to prevent loss of revenue due to theft of services on Self Contained Three Phase and IT Rated accounts.

Module 400

Advanced Metering Infrastructure (AMI) Technology and Applications

AMI - Smart Metering

Instructor: Ellery Queen, Qtech Professional Services

An Advanced Metering Infrastructure (AMI) project is complex, expensive, and very visible to those inside and outside the utilities organization. This course offers an overview of AMI history, technology, benefits, implementation and operation. It will overview the decision processes generally used by some of the largest utilities in the country to move forward with their projects. Participants will gain insight into the AMI benefits for remote meter reading, storm restoration, outage management, and disconnect/reconnects and other utility operations. In addition, students will learn about how AMI might assist with creating energy efficiency, demand response and other customer value additions. The course discusses best practices used by successful utilities in planning and enterprise wide deployment of Smart Meter Technologies. The instructor will present an overview of the past, present, and future of AMR/AMI and its impact on the utility industry.

Pre-Paid Metering Application

Instructor: James Layton, Carroll EMC

Discussion on utilizing pre-paid metering as

a benefit of Smart Metering implementation. Learn about the interactions of the technology, utility and customer.

Special Topics - Round Table Discussion

Instructor: Variety of Utility Professionals

This will be an open forum for metering technicians, engineers and managers to discuss the status of the electric metering industry. Be ready to share your issues with peers of the utility industry. This session will be open to only utility personnel.

Energy Audit

Instructor: Craig Franks, Apogee Interactive

Discussion on the tools and programs available for conducting consumer energy audits. Overview of the checklist to help examine a home and identify potential problems.

How Secure is Your Data?

Instructor: Mary Hester, LAN Systems

How reliable is the data, and how secure is the computer you are using to obtain the data? Learn how to keep the utility computer secure from hackers, crackers, virus, spyware and malware.

Meter Translation & Load Profile

Instructor: John Gasstrom, Georgia System Operations

Discussion on the many uses of meter interval data and utilizing a metering translations system. Explanations of data retrieval, validation, editing, transferring, security and maintenance.

Home Area Networks - HAN

Instructor: Trey Millwood, SmartSynch, Inc.

Home-area networks (HANs) and the sense of empowerment they can give individuals over their electricity consumption will help drive consumer Smart Grid acceptance. The HAN products allow utility customers to implement time of use rating structures, manage demand response by shedding load during peak demand events, and send common custom informational messages to the customer.

Module 500

Meter Programming

Overview and hands on programming of manufacturers metering software. You will be creating and editing meter programs.

Laptop computers are provided but students can bring their own.

Meter Programming – Elster

Meter Programming – General Electric

Meter Programming – Itron

Meter Programming – Landis + Gyr

Meter Programming – Sensus

Southeastern Meter School & Conference Class Schedule

Monday, March 22nd

Time	Module 100	Module 200	Module 300	Module 400	Module 500
10:00 - 1:00	Registration				
1:00 - 1:30	General Session				
1:30 - 3:00	The Smart Grid: Industry Activities and Standards Update - Combined Class				Meter Programming Sensus
3:00 - 3:30	Networking and Refreshment Break				
3:30 - 5:00	Meter Safety - Combined Class				Meter Programming- Continued Sensus
5:00 - 6:30	Hospitality / Exhibit Hall				

Tuesday, March 23rd

Time	Module 100	Module 200	Module 300	Module 400	Module 500
8:00 - 9:30	Electrical Fundamentals	Power Theory	Intro to Single & Three Phase Field Meter Testing/ Fundamentals/ Philosophy	AMI - Smart Metering	Meter Programming Itron
9:30 - 10:00	Networking and Refreshment Break in Exhibit Hall				
10:00 - 11:00	Single Phase Metering Theory	Principles of Polyphase Metering	Hands On Self- Contained Single & Three Phase Meter Testing	AMI - Smart Metering Continued	Meter Programming - Continued Itron
11:00 - 12:00					
12:00 - 1:00	Lunch Provided				
1:00 - 2:00	Polyphase Metering Theory	Polyphase Metering Applications	Hands On Transformer Rated Solid State Three Phase Meter Testing	AMI - Smart Metering Continued	Meter Programming Elster
2:00 - 3:00					
3:00 - 3:30	Networking and Refreshment Break in Exhibit Hall				
3:30 - 4:30	Single Phase Meter Testing	Reactive, KVA, and 4 Quadrant Metering	Meter Testing Program	Pre-Paid Metering Application	Meter Programming - Continued Elster
4:30 - 6:00	Hospitality / Exhibit Hall				

Attend Any Class You Want

Southeastern Meter School & Conference Class Schedule

Wednesday, March 24th

Time	Module 100	Module 200	Module 300	Module 400	Module 500
8:00 - 9:30	Instrument Transformers Combined Class		Testing & Verification of Meter Installation Using Customer Load	Special Topics - Round Table Discussion	Meter Programming Landis + Gyr
9:30 - 10:00	Networking and Refreshment Break in Exhibit Hall				
10:00 - 11:00	Setting & Removing Meters Safely	Troubleshooting with Phasors	Testing & Verification of Meter Installation Using Customer Load - Continued	Energy Audits	Meter Programming Landis + Gyr - Continued
11:00 - 12:00	Service Voltages/ Types & Form Numbers		Alternative Energy Metering	How Secure is Your Data?	
12:00 - 1:00	Lunch Provided				
1:00 - 2:00	Instrument Transformer Testing	Distribution Transformer Connections		Meter Translation & Load Profile	Meter Programming General Electric
2:00 - 3:00	Meter Socket Applications	Pulse Metering			
3:00 - 3:30	Networking and Refreshment Break				
3:30 - 4:30	Demand / Time of Use Metering & Utility Billing Rates	Communication Technologies		Home Area Networks - HAN	Meter Programming - Continued General Electric
5:00 - 6:30	Annual Dinner - BBQ Ribs & Chicken from SouthPit BBQ				

Thursday, March 25th

Time	Module 100	Module 200	Module 300	Module 400	Module 500
8:30 - 9:30	Residential Theft - Combined Class				
9:30 - 10:00	Networking and Refreshment Break				
10:00 - 11:00	Commercial Theft - Combined Class				
11:00 - 12:00	Closing Session				

Attend Any Class You Want

Participant & Presenter Registration Form

Southeastern Meter Technical Association

The Southeastern Meter Technical Association subscribes to the art of metering electric energy and power, and to the purpose of keeping abreast of new developments and techniques in the practice of this technology, and the sponsorship of educational programs and training for electric meter personnel.

The purpose is to organize an annual electric Meter School for the benefit of the attending employees in the electric utility industry.

Day Participant Program

This provides an opportunity for management (general managers, purchasing agents, operation managers, engineers, etc.) to **attend one day for a reduced fee.** Come on any day and attend a few classes, then enjoy an evening of hospitality in the Exhibit Hall. Lunch is provided for Day Participants.

Cancellation Policy

Notification of cancellation must be submitted in writing to:

Southeastern Meter Technical Association
P.O. Box 695
Clermont, Georgia 30527

Refunds, less a \$25 administrative fee, will be made for all cancellations received in writing before March 8th, 2010. No refunds will be made after that date, but a substitution of attendees may be made by notifying the Southeastern Meter Technical Association prior to the conference.

Southeastern Meter School & Conference
March 22nd - 25th, 2010
The Hotel at Auburn University, Auburn, Alabama

First Name _____ Last Name _____

Badge Name (if different from above) _____

Title _____

Company _____

Address _____

City _____ State _____ Postal / Zip _____

Work Phone _____ Mobile Phone _____

Email _____

T-Shirt Size _____

Registration Fees

_____ \$ 295	Participant Fee includes Conference Notebook, Lunch on Tuesday and Wednesday, Dinner on Wednesday, Networking / Hospitality Breaks, and Admission to the Exhibit Hall.
_____ \$ 130	One-Day Registration Fee includes conference notebook, one lunch, and admission to the Exhibit Hall.
_____ \$ NC	Presenter - No Charge - All Presenters Must Register
_____ Total Payment	

Pre-Registration By February 22nd, 2010

Late and OnSite Registration are subject to an additional charge of \$30.

Payment Methods

Check Payable to **Southeastern Meter Technical Association** enclosed for \$ _____

Please Invoice _____ Purchase Order Number _____

Credit Card Payments accepted only with On-Line Registration

Return Registration Form To

Southeastern Meter Technical Association

P.O. Box 695
Clermont, Georgia 30527

Please email questions to
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Fax Registration Form To

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at (770) 519-1676

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