### Monday, March 18th

<table>
<thead>
<tr>
<th>Time</th>
<th>Module 100</th>
<th>Module 200</th>
<th>Module 300</th>
<th>Module 400-A</th>
<th>Module 400-B</th>
<th>Module 500</th>
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<tbody>
<tr>
<td>10:00 - 1:00</td>
<td>Registration</td>
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<tr>
<td>1:00 - 1:30</td>
<td>General Session</td>
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</table>
| 1:30 - 2:30     | Keynote Speaker - Ed Berozet, EPRI  
“Metering Communication Interoperability” |                             |                                     |                       |                       |                             |
| 2:30 - 3:00     | Networking and Refreshment Break |                             |                                     |                       |                       |                             |
| 3:00 - 4:30     | Meter Safety                |                             |                                     |                       |                       |                             |
| 4:30 - 6:00     | Exhibit Hall / Hospitality  |                             |                                     |                       |                       |                             |

### Tuesday, March 19th

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<thead>
<tr>
<th>Time</th>
<th>Module 100</th>
<th>Module 200</th>
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<th>Module 400-A</th>
<th>Module 400-B</th>
<th>Module 500</th>
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<tbody>
<tr>
<td>8:30 - 10:00</td>
<td>Electrical Fundamentals</td>
<td>Power Theory</td>
<td>Grounding &amp; Bonding Meter Sockets</td>
<td>Meter Failure Case Study</td>
<td>Product &amp; Solutions - Schweitzer Engineering</td>
<td>Meter Programming Landis + Gyr</td>
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<tr>
<td>10:00 - 10:30</td>
<td>Networking and Refreshment Break in Exhibit Hall</td>
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<tr>
<td>12:00 - 1:00</td>
<td>Lunch Provided</td>
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<tr>
<td>1:00 - 2:00</td>
<td>Service Types &amp; Meter Forms</td>
<td>Applications &amp; Sizing of Instrument Transformers</td>
<td>Hands On Self-Contained Single &amp; PolyPhase Meter Testing</td>
<td>Utility Roundtable Session</td>
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<td>Meter Programming Aclara</td>
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<tr>
<td>2:00 - 2:30</td>
<td>Networking and Refreshment Break in Exhibit Hall</td>
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<tr>
<td>2:30 - 4:00</td>
<td>Intro to Meter Sockets</td>
<td>Applications &amp; Sizing of Instrument Transformers Continued</td>
<td>Hands On Transformer Rated Solid State PolyPhase Meter Testing</td>
<td>Protecting Your Smart Grid Investment - Inner-Tite</td>
<td>Advanced Metering &amp; Solar Applications - Ametek</td>
<td>Meter Programming Aclara Continued</td>
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<tr>
<td>4:00 - 5:30</td>
<td>Exhibit Hall / Hospitality</td>
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### Wednesday, March 20th

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<th>Time</th>
<th>Module 100</th>
<th>Module 200</th>
<th>Module 300</th>
<th>Module 400-A</th>
<th>Module 400-B</th>
<th>Module 500</th>
<th>Meter Programming Honeywell Elster</th>
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</thead>
<tbody>
<tr>
<td>8:30 - 10:00</td>
<td>Instrument Transformer Fundamentals</td>
<td>Pulse Metering</td>
<td>Testing &amp; Verification of Meter Installation Using Customer Load</td>
<td>Advantages of Distribution Automation on the AMI Grid - Landis+Gyr</td>
<td>Tech Enables Meter Testing- Field Servcies Software - HBNext</td>
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<td>Applications of Multifunction Metering</td>
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<td>Product &amp; Solutions - TBD</td>
<td>New Era of AMI - Hosted Cellular Solutions - Verizon</td>
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<tr>
<td>10:00 - 10:30</td>
<td>Networking and Refreshment Break in Exhibit Hall</td>
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<tr>
<td>10:30 - 12:00</td>
<td>Single Phase Metering Testing Overview</td>
<td>Hot Socket Issues &amp; Solutions</td>
<td>Testing &amp; Verification of Meter Installation Using Customer Load Continued</td>
<td>ION Metering - Schneider Electric</td>
<td>A Sweet Suite of GIS Solutions on UtiliSuite - Central Services Assn</td>
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<td></td>
<td>Troubleshooting with Phasors</td>
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<td>How Transockets Help with Efficiency in Metering - The Durham Company</td>
<td>Selecting an AMI Meter Exchange Services Contractor - Texas Meter + Device Company</td>
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<tr>
<td>12:00 - 1:00</td>
<td>Lunch Provided</td>
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<tr>
<td>1:00 - 2:30</td>
<td>Distribution Transformer Connections</td>
<td>Metering Renewable Energy</td>
<td>Meter &amp; AMI Solutions Update - Honeywell Elster</td>
<td>AMI Mesh Networks - Importance of Network Capacity - NRTC</td>
<td>Product &amp; Solutions</td>
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<td>AMI System Operational with Data Analytics - WESCO</td>
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<td>2:30 - 3:00</td>
<td>Networking and Refreshment Break</td>
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<tr>
<td>3:00 - 4:30</td>
<td>Demand / Time of Use Metering &amp; Utility Billing Rates</td>
<td>Reactive, KVA and 4 Quadrant Metering</td>
<td>Three Phase Meter Tester with Built-In WiFi - Probewell Lan</td>
<td>Nothing is Out of Reach - Sensus</td>
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<td>High Accuracy Extended Range &amp; Superbutt Products - GE Instrument Transformers</td>
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<td>5:30 - 6:30</td>
<td>Annual Dinner in Grand Ballrom</td>
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### Thursday, March 21st

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<thead>
<tr>
<th>Time</th>
<th>Module 100</th>
<th>Module 200</th>
<th>Module 300</th>
<th>Module 400</th>
<th>Module 500</th>
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<tbody>
<tr>
<td>8:30 - 9:45</td>
<td>Residential Theft Combined Class</td>
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<tr>
<td>9:45 - 10:15</td>
<td>Networking and Refreshment Break</td>
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<tr>
<td>10:15 - 11:30</td>
<td>Commercial Theft Combined Class</td>
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<tr>
<td>11:30 - 12:00</td>
<td>Closing Session</td>
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Knowledge is Power
Opening Session

Metering Communication Interoperability
Ed Beroset, EPRI

Metering communication interoperability has been a goal of some in the industry for over two decades. What is the current state of interoperability in the industry and what does the future hold? This session will address those questions and also describe actions that EPRI, utility and vendor personnel have done and continue to do to assure a more interoperable future.

Meter Safety
Instructor: Demetrius Hampton, Alabama 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.

Module 100
Fundamental Metering

Metering Math & Electrical Fundamentals
Instructor: Mike Chirico, South Alabama EC

Review of basic meter math skills. This would include fractions, percentages, multipliers, ratios, algebra and how they apply to metering applications. Learn the principles of electricity, AC and DC circuit theory including ohms law and circuit components, along with current and voltage laws.

Single Phase Meter Theory
Instructor: Bryan Seal, Itron

Explanation of the mechanics and electrical theory of single phase meters. Discussion of internal meter components, and how they interact to make the meter register properly. Session will include how a solid state meter works along with the application of the meter in the electric service.

Service / Types & Form Numbers
Instructor: Jeremy Morgan, Fairhope Utilities

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.

Introduction to Meter Sockets
Instructors: Kevin Johansen, The Durham Company

Course is designed to teach the fundamental characteristics of meter sockets. A variety of sockets will be used to demonstrate construction, features, types, and application in electric service.

Meter Test Switches & Security Devices
Instructor: Mike King, Brooks UPG

This session will cover a variety of types of test switches used in meter sockets along with their application. Also a discussion on the security devices used with meter sockets.

Instrument Transformers Fundamentals
Instructor: Rudolf Ogajanov, 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.

Single Phase Meter Testing Overview
Instructor: David Thompson, TESCO

This session will provide an overview of testing single phase metering. Discussion will include the application and safety of testing single phase meters.

Hot Socket Issues & Solutions
Instructor: Tom Lawton, TESCO

This presentation discusses the causes of hot sockets, what to look for when inspecting an existing meter installation for a hot socket, and what the best practices are for handling potential hot sockets.

Distribution Transformer Connections
Instructors: Mike McHan, Jason Waters, Georgia Power

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

Demand / Time of Use Metering
Instructor: Paul Millan, Southern California Edison

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.

Module 200
Advanced Metering

Power Theory
Instructor: Lee Allen, Lanier Technical College

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 power triangle, KW, KVA, power factor, reactive power, and demand.

Principles & Applications of Polyphase Metering
Instructor: Jack Pyburn, Honeywell Elster

Lecture on “What is polyphase metering.” Why does the customer need this type of metering? Evolution of polyphase metering. A review of delta and wye metering applications, 2,2-1/2 and 3 element meter selection, “multi-form” meters and Blondel’s Theorem. Polyphase meter wiring connections are discussed.

Applications & Sizing of Current Transformers
Instructor: Frank Lopez, GE Digital Energy

Learn the procedure to determine the proper current transformer size for an installation. Review the application of rating factors. Multirange current transformers will be covered in this session.

Pulse / Load Profile Metering
Instructor: Bill Mulkey, Georgia Power

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.

Applications of Multi-Function Metering
Instructor: Mike Bearden, Landis + Gyr

This session will cover the proper selection and application of the multi-function meter. A review of the considerations for the type of utility service.

Installation Troubleshooting Using Phasors
Instructor: Christopher Prince, Aclara

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.

Metering Renewable Energy
Instructor: Keith Hardt, Pungo Engineering

Learn about installing meters when the source is from alternative energy. This session covers the metering and protection requirements for the interconnection of utility scale renewable generation to utility electric distribution systems. Discussion topics will include the utility interconnection process, metering, protection and safety considerations and components used.

Reactive, KVA and 4 Quadrant Metering
Instructor: Christopher Prince, Aclara

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.
Module 300
Meter Testing & Safety

Grounding and Bonding of Meter Enclosures
Instructor: Art Lowery, Georgia Power
Lecture of the proper and safe way to ground and bond a meter enclosure. National Electric Code requirements will be discussed.

Fundamentals of Single & Polyphase Field Meter Testing
Instructor: George Johnson, 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 PolyPhase Meter Testing
Instructors: George Johnson, Art Lowery, David Thompson, Brennan Wood, 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 PolyPhase Meter Testing
Instructors: George Johnson, Art Lowery, David Thompson, Brennan Wood, Georgia Power
Hands on lab allowing students to test 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.

Testing and Verification of Meter Installation Using Customer Load
Instructors: Art Lowery, David Thompson, Brennan Wood, 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.

Residential Theft
Instructor: Paul Pulliam, 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: Paul Pulliam, 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 Polyphase and Instrument Transformer Rated accounts.

Module 400
Smart Grid, AMI and Emerging Technology

Meter Failure Case Study
Instructor: Brennan Wood, Georgia Power
This class will be a case study about an issue at a Georgia Power metering installation. The discussion will include the troubleshooting and engineering application of a radio station metering installation that was mysteriously heating up and failing shortly after being energized. Learn about the steps taken to resolve a unique situation.

Utility Roundtable Session
Instructors: Various Utility Meter Professionals
This session is for utility personnel only. Various discussions about challenges and benefits to working in the field of metering.

Product & Solutions
Learn about applications, trends and utilizing elements of Smart Grid, AMI and emerging technologies. This year you will be able to learn from metering industry manufacturers about their products and solutions.

Product & Solutions:
- Victor Love, Schweitzer Engineering Labs
- Grid Monitoring Sensor Solution:
  - David Brooks, Aclara
- Testing Solutions for AMI, Smart Grid & Emerging Technologies:
  - Bob Whitmore, Radian Research
- Metering Related Products:
  - Mike King, Brooks Utility Products Group
- Metering & Lighting Control:
  - Jack Hackathorn, Milbanks
- Protecting Your Smart Grid Investment:
  - Lee Holovnia, Inner-Tie Corporation
- Advanced Metering & Solar Applications:
  - Joe Ostrowsky, Ametek
- AMI Solution Overview:
  - Ashley Kelly, Itron
- Case Study: Near Real-Time Data Collection for Large C&I Customers:
  - Andy Schechter, Primestone
- Current & Future Advantages of Distribution Automation on the AMI Grid:
  - Stevven Timm, Landis + Gyr
- Tech-Enables Meter Testing - Incorporating Software with Field Services:
  - Tony Cann, HBNext

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
- Aclara
- Honeywell Elster
- Itron
- Landis + Gyr

Attend Any Class From Any Module