



Rocky Mountain Electric Metering Association

THE 41st ANNUAL METER SCHOOL

March 16-19, 2015

Sponsored by Rocky Mountain Electric Metering Association

THE 41st ANNUAL ROCKY MOUNTAIN METER SCHOOL

What is the Meter School?

The Rocky Mountain Electric Metering Association is proud to present the 41st Annual Rocky Mountain Meter School. The school is designed for and by individuals who work with meters and/or metering electricity, or who answer questions about energy usage. The school offers instruction at four separate levels: basic, intermediate, advanced, and hands-on metering. Participants may progress through the school, enter at their current skill level, or return to a specific course in order to refine a particular skill.

Specific Persons Interested in the Program May Include:

- Metering Personnel
- Line Superintendents
- Field Engineers
- Meter Technicians
- Operations Managers
- Meter Complaint Representatives
- Meter Readers
- Foremen
- Repairmen
- Marketing
- Linemen

Which Course Should I Attend?

Basic Course

For meter readers and apprentices, field/customer service reps, linemen, and individuals with no metering experience or less than one year in the meter industry. This course was recently updated and provides an introduction and complete overview of the entire metering industry. Participants will gain a fundamental understanding of the metering field and obtain confidence of equipment used. Topics covered will be:

- Basic Meter Definitions and Mathematics
- Service Problems
- Power Diversion
- Instrument Transformers
- Evolution of Metering
- Socket Connection and Verification
- Safety
- Meter Reading Technologies
- Basic Principles of Electricity

Participants in this course will receive a calculator.

Intermediate Course

For students who have completed the Basic Course, or who have had at least two years of metering experience. Job description should include installation requirement. Instruction goes beyond single phase and provides a firm foundation for polyphase circuitry and CT/VTs. Topics covered will be:

- Instrument Transformers
- Meter Forms and Applications
- Three Phase Theory and Testing
- Time of Use Metering
- Integrated Communications
- Electrical Codes
- Installation and Load Verification
- Demand Metering
- Evolution of Field Testing
- Load Profile Metering
- Field Certification of Revenue Metering Sites

Advanced Course

For students who have completed the Basic and Intermediate Courses, have had extensive experience in the metering industry, or are at the management level. Provides information on advanced installation applications, metering theory, harmonics, and basic metering electronics. This course is suggested as preparation for the Hands-On Course. Topics covered will be:

- Field Problems, Answers, and Solutions
- Net Metering
- KE Values in Metering
- Advanced Meter Reading Technologies
- Advanced Metering Mathematics
- Electricity Reference Standards, Accuracy, and Traceability
- Power Quality
- Test Review

Software sessions. You will have a choice of attending two of the four following sessions: Elster, Landis, Itron, or G.E. Please indicate your choice of software on the registration form. Participants are encouraged to bring a laptop to the software sessions, but not required.

Hands-On Course

For meter personnel who have successfully completed the Advanced Course. The Hands-On Course will consist of three days of wiring and testing of various 1-phase and 3-phase meters. The wiring and verifying of the various meters will include both self-contained and instrument transformer installations. Harmonic analyzers will be installed for Introduction to Harmonic Analysis. Digital recorders will be installed, programmed, pulse rates calculated, and information downloaded via readers and telephone connections. All students will rotate through each class. Other topics covered will be:

- Tour of CSU Solar Panels
- All Forms
- AMI Methods
- Troubleshooting
- Understanding MDM
- Cogeneration and Private Generation Panel
- Self-Contained and Transformed Metering
- Harmonics
- Load and Wiring Verification
- Pulse Values

Class size will be limited to 40 participants. Participants are **required** to bring standard hand tools and multi-meters to this course.

Refresher Course

Prerequisites: Prior participation in the Basic, Intermediate, and Advance Courses. Class size will be limited to 25 participants.

Build your own curriculum by participating in the Refresher Course. In this course, you may attend any of the courses in the Basic, Intermediate, and Advance courses (does not include the Hands-On Course). Written course materials will not be provided on-site; however, documents will be posted on the Rocky Mountain Meter School website 1-2 days prior to the School in order for you to print and bring them with you.

Getting Started in Metering (One-Day Course) ^{New}

A one-day course (Tuesday, March 17, 8:00 a.m.-5:00 p.m.) designed specifically for office, clerical, and customer service personnel. This course provides information and answers to those “metering” questions asked by customers. Participants will gain a good foundational background for the “cash register” of the electric industry as well as some basic history and future projects of where this device fits in the industry. Topics include:

- Metering – Then and Now
- Terminology, Safety, and Related Equipment
- Most Commonly Asked Questions; Example: High Bill-Low Bill Investigation

Overview of Course Schedule

Session times vary slightly from course to course, but this provides a general overview of the time commitment for Basic, Intermediate, Advanced and Hands-On.

Monday, March 16

Registration Check-in: 10:00 a.m.-12:00 p.m.

General Session (All): 12:00 p.m.-1:00 p.m. with lunch provided

In session: 1:15 p.m.-4:45 p.m.

Sponsor and Exhibitor Reception for all participants: 5:00-7:00 p.m. (off-site, Mayor of Old Town)

Tuesday, March 17

In session: 8:00 a.m.-5:30 p.m.

Lunch: 11:30 a.m.-1:00 p.m.

Wednesday, March 18

In session: 8:00 a.m.-5:00 p.m.
Lunch: 12:00 p.m.-1:00 p.m.

Thursday, March 19

In session: 8:00 a.m.-12:00 p.m. – courses adjourn
Proficiency exam participants: 12:30 p.m.-3:30 p.m.

Location

All sessions will be held on the main campus of Colorado State University in Fort Collins, Colorado. Registration is in the Lory Student Center. Sessions will be in the Clark Building and the Lory Student Center. Fort Collins is located 65 miles north of Denver on Interstate 25. The University is easily accessed via all exits from the interstate.

Lodging

A block of rooms has been reserved at the Hilton, 425 West Prospect Road. To reserve lodging, call the Hilton at (970) 482-2626. You must identify yourself as a Meter School participant to receive the special conference rate. The Hilton is within walking distance of the Colorado State University campus. Special conference rates (excluding taxes) and the respective cut-off dates are as follows:

- Reserve your room by February 13, 2015: \$104/night, single/double, \$10 for each additional person

Miscellaneous Information

Calculators. Participants **must** bring a pocket-type calculator capable of performing trigonometry functions. Basic Course students will receive a calculator with their course materials at registration check-in. A limited number of calculators will be available for purchase onsite.

Attendance. Course moderators will be taking daily attendance for each course. To receive a "Certificate of Attendance" on the final day of the course, you must adhere to the attendance policy which will be explained to you at the start of your course. RMEMA reserves the right to not provide a "Certificate of Attendance" if a participant does not comply.

Proficiency Exam

On Thursday afternoon, a proficiency exam will be offered. **This exam is intended for individuals who have completed all three Schools: Basic, Intermediate, and Advanced.** It is an open book exam with the *Electric Meterman's Handbook* being a recommended resource. The handbook is available for purchase at: http://www2.eei.org/products_and_services/descriptions_and_access/handbook_meterng.htm

The format for the exam is multiple-choice and there will be a time limit of three hours. Individuals will be notified of scores by mail. Individuals must receive a score of 70 percent or better to receive a "Certification of Completion" from RMEMA Meter School.

Reception – Meter School Social Event

Monday, March 16: 5:00 p.m.-7:00 p.m.
The Mayor of Old Town, 632 S. Mason Street, Fort Collins, Colo.

Newly added in 2015, all registered participants are encouraged to attend the all new Sponsor and Exhibitor Reception. Light appetizers will be served and each participant will receive two (2) drink tickets.

Located ½ mile from Colorado State University, The Mayor of Old Town has been named one of the top Beer Bars in America. You *must* be registered for Meter School to enter and attend this private party! Don't forget your name badge; we will have a list of Meter School registrants at the door. New registrations or payments will NOT be taken at the door.

Exhibits – Tuesday, March 17 ONLY!

Participants will be able to view exhibits and talk with vendors in the Meter School exhibit hall on Tuesday. Participants and exhibitors will have the opportunity to meet in an informal atmosphere and enjoy refreshments.

Registration Information for Exhibitors: The basic exhibit fee is \$300.00. This fee includes one 8' x 6' exhibit space, one 6' x 30" table with white tablecloth, two chairs, limited access to one 110 outlet, Monday night reception, and lunch Tuesday for up to two company representatives. A company may add representatives at a rate of \$45.00 each that will include the Monday night reception at The Mayor of Old Town and lunch on Tuesday. Additional tables may be purchased at a rate of \$40.00 each. Please bring your own extension cord and power strip.

Reception: Monday 5:00 p.m.-7:00 p.m. at The Mayor of Old Town

Exhibit set up: Tuesday 9:30 a.m.-11:00 a.m.

Lunch: 11:00 a.m.-11:45 a.m.

Exhibits open: Tuesday 11:45 a.m.-5:00 p.m.

Exhibit tear down: 5:00 p.m.

All exhibiting companies will be acknowledged in the participants' course notebooks. You will need to disassemble and package your exhibit right after the exhibit session ends at 5:00 p.m. on Tuesday. Exhibitors are responsible for making their own shipping arrangements. CSU or RMEMA will not be responsible for items left behind by exhibitors.

To exhibit at the Meter School, please complete the enclosed **Exhibitor Registration Form** and return promptly. You will receive a receipt and further information at a later date. No exhibitors will be added after Wednesday, March 11, 2015.

Participant Registration Information

The per person early registration fee of \$325.00 for the four-day courses includes networking reception, three luncheons, refreshment breaks, workshop materials, admission to vendor exhibits, and a "Certificate of Attendance." The early registration fee applies to those registrations post-marked and paid by Friday, February 20, 2015. A \$25.00 late fee will be charged to all registrations postmarked after Friday, February 20, 2015.

To register, please complete the enclosed **Participant Registration Form** and return it with payment to the Office of Conference Services. If the original registrant is unable to attend or find a substitute, a refund of the fee, less \$65.00 for handling, will be made if the Conference Services Registration Office is notified in writing by 5:00 p.m., Friday, February 27, 2015. Payment must accompany each registration. The University honors Visa and MasterCard for payment of conference fees. Checks should be made payable to Colorado State University. A **\$17.00** fee will be assessed on all returned checks.

Online Registration. You may register with MasterCard or Visa online at: www.etouches.com/RMEMA

Send the Appropriate Completed Registration Form with Payments to:

Meter School Registration
Conference & Event Services
Colorado State University
8037 Campus Delivery
Fort Collins, CO 80523-8037
FAX: (970) 491-3568

For Registration Information Contact:

The CSU Conference & Event Services registration staff at
(970) 491-6222; FAX: (970) 491-3568
Email: conferences@colostate.edu

For Technical Information Contact:

Norm Kohama, President
(303) 905-6388 or norm.kohama@gmail.com

EXHIBITOR REGISTRATION FORM
41st Annual Rocky Mountain Meter School • March 16-19, 2015
Exhibits are Tuesday, March 17.

You may register online at: www.etchouches.com/RMEMA

Please PRINT legibly.

Company Name _____

Company Address _____

City _____ State _____ Zip _____

Contact Person _____

Business Phone (_____) _____ FAX (_____) _____

Email Address: _____

Exhibitor Registration Fees

Includes one 8' x 6' exhibit space, one 6' x 30" table with white tablecloth, two chairs, limited access to one 110 outlet, Monday reception, and lunch Tuesday for up to two company representatives.

Early Registration (postmarked and received by 2/20/15)\$300.00 per company \$ _____

Late Registration (received 2/21/15 – 3/11/15).....\$325.00 per company \$ _____

Additional Representative Pass @ \$45.00 each = \$ _____

Additional Tables @ \$40.00 each = \$ _____

TOTAL ENCLOSED \$ _____

NO EXHIBITORS WILL BE ADDED AFTER WEDNESDAY, MARCH 11, 2015!

Name(s) of person(s) who will be at the exhibit booth (two included with registration fee, additional fee required for more):

1. _____ 3. _____

2. _____ 4. _____

Special needs: (please bring your own extension cords and power strips) _____

Please indicate any competing companies you would not like to be placed next to:

Please indicate any companies you would prefer to be placed next to:

PLEASE INDICATE METHOD OF PAYMENT:

☐ MasterCard ☐ Visa ☐ Check (Please make checks payable to **Colorado State University**.)

Card # _____ Expiration Date _____ / _____

Verification Code _____

Mail or FAX this form and full payment to: Meter School Registration
 Conference & Event Services
 Colorado State University
 8037 Campus Delivery
 Fort Collins, CO 80523-8037
 Phone (970) 491-6222; FAX (970) 491-3568

Cancellations/Changes and Refunds: Fees for missed meals, late arrivals, and early departures will not be refunded. Fees will be refunded, less a \$65.00 processing fee, if *cancellation or change resulting in a refund* is received in writing no later than February 27, 2015. After that date, fees are non-refundable. All refunds will be processed after the conference. A \$17.00 charge is assessed the participant for any returned check. Colorado State University reserves the right to cancel this program due to insufficient enrollment or acts of God, and limits its liability to registration refunds only.

Colorado State University is an equal opportunity/affirmative action institution and complies with all Federal and Colorado State laws, regulations, and executive orders regarding affirmative action requirements. The Office of Equal Opportunity is located in Room 101 Student Services. In order to assist Colorado State University in meeting its affirmative action responsibilities, ethnic minorities, women, and other protected class members are encouraged to apply and to so identify themselves.

PARTICIPANT REGISTRATION FORM

41st Annual Rocky Mountain Meter School • March 16-19, 2015

You may register on-line at: www.etches.com/RMEMA

(Please photocopy as needed for additional registrations. PRINT legibly.)

Participant Name _____

Company Name _____

Company Address _____

City _____ State _____ Zip _____

Business Phone (_____) _____ FAX (_____) _____

Email Address _____

REGISTRATION FEES

Early Registration (postmarked and received by 2/20/15).....\$325.00 \$ _____

Late Registration (received 2/21/15 or later)\$350.00 \$ _____

Check the **one** course you will attend (see brochure for details on courses):

☐ Basic Course ☐ Refresher Course (Class is limited to 25 participants.)

☐ Intermediate Course

☐ Advanced Course

Please indicate **first** software choice: ☐ Elster ☐ Landis ☐ Itron ☐ G.E.

Please indicate **second** software choice: ☐ Elster ☐ Landis ☐ Itron ☐ G.E.

☐ Hands-on Metering Course (Class is limited to 40 participants.)

Early Registration "Getting Started" one-day (postmarked and received by 2/20/15)\$100.00 \$ _____

Late Registration "Getting Started" one-day (received 2/21/15 or later)\$115.00 \$ _____

RMEMA Proficiency Exam (see brochure for prerequisite and time)\$25.00 \$ _____

Ugly Book\$20.00 \$ _____

Calculator\$15.00 \$ _____

Guest Meal Ticket (☐ Monday Lunch ☐ Monday Reception ☐ Tuesday ☐ Wednesday) X \$25.00 \$ _____

TOTAL ENCLOSED \$ _____

Special ADA Needs _____

PLEASE INDICATE METHOD OF PAYMENT:

☐ MasterCard ☐ Visa ☐ Check (Please make checks payable to **Colorado State University**.)

Card # _____ Expiration Date _____ / _____

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Fort Collins, CO 80523-8037
Phone (970) 491-6222; FAX (970) 491-3568

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Office of Conference Services
8037 Campus Delivery
Fort Collins, Colorado 80523-8037

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U.S. POSTAGE
PAID
Fort Collins, Colorado 80523
Permit Number 19

If addressee has moved, please give this to
another person. Thank you.

What is New and Improved for 2015 RMEMA Meter School?

- **Meter School courses** have been reviewed! The basic course content has been completely updated and many other changes have been made to ensure all courses are current and relevant!
- Don't miss the new **Social Event Reception** on Monday, March 16. All registered meter school participants are encouraged to join us as we visit with our generous Sponsors and Exhibitors.
- **New Course – Getting Started!** This one-day course is geared to assist office, clerical, or customer service personnel with gaining a good foundation and background into the electric industry to enhance their job performance.
- In partnership with the Mesa Hotline School, we are pleased to offer an addition to the Advanced Course. Check out Merging Meters, Substations, and Distribution Automation!

Sponsored by:

