2018 WATT-HOUR METERING WORKSHOP

DATES
January 9-12, 2018
Basic Metering Segment - January 9-10
Intermediate/Advanced Metering - January 10-12

LOCATION
KMU Training Center
2090 East Avenue A.
McPherson, KS 67460

CONTACT US
(620) 241-1423
kmu@kmunet.org
www.kmunet.org
Kansas Municipal Utilities’ (KMU) Job Training & Safety (JT&S) staff are pleased to once again offer the Complete Watt-Hour Metering Workshop. The workshop is scheduled for January 9-12, 2018, and will be held at the KMU Training Center in McPherson, KS.

The watt-hour meter is often called “the cash register of the electric utility”. Is your “cash register” losing revenue for your utility? Mistakes, tampering, and improper operation can turn your watt-hour meters into a large source of revenue loss. Participants will gain valuable information on how to keep their utilities’ meters humming by attending this training event. This workshop is being offered to meet member’s technical training needs for electric utility personnel.

With the variety of metering equipment in the field and to ensure an optimal educational experience for participants, the workshop will offer the choice of a Basic or Intermediate/Advanced class. Participants will learn how to keep their utilities’ meters “in the black” with this workshop. A solid review of the basics, combined with in-depth study of installation, troubleshooting, and tampering of meters will be covered. For maximum benefit, register for both segments of the Watt-Hour Meter Workshop classes.
VOICE OF THE MUNICIPALITIES

REGISTRATION

BASIC METERING

Early bird on or before December 27, 2017
$325 per person (members)
$400 per person (Non-Members)

Regular registration
$375 per person (members)
$450 per person (Non-Members)

INTERMEDIATE/ADVANCED METERING

Early bird on or before December 27, 2017
$325 per person (members)
$400 per person (Non-Members)

Regular registration
$375 per person (members)
$450 per person (Non-Members)

COMPLETE WATT-HOUR WORKSHOP

Early bird on or before December 27, 2017
$600 per person (members)
$775 per person (Non-Members)

Regular registration
$650 per person (members)
$825 per person (Non-Members)

Questions: Please contact Rick Aguilar
316-293-6933 or email ragauiilar@kmuet.org

Early-bird discount ends December 27th, 2017

REGISTRATION IS EASY!

ONLINE:
WWW.KMUNET.ORG

MAIL:
Kansas Municipal Utilities
2090 E. Avenue A
McPherson, KS 67460

EMAIL OR FAX:
KMU@KMUNET.ORG
FAX (620) 241-7829
The basic/intermediate metering segment of the watt-hour workshop is designed for electric personnel with little experience with electric meters. Training will use a combination of interactive classroom and hands-on training to present and reinforce the educational experience. This segment will cover such topics as:

- **The electric meter**
  - Construction and major parts
- **Basic meter application theory**
  - Blondel’s Theorem
- **PPE for electric meter safety**
- **Electric meter safety**
- **Tools needed for working with electric meters**
- **Instrument transformers**
- **C.T. & P.T. Rated metering**
- **How and when to use multipliers**
- **Types, methods of bypass and effects of malfunctions of sockets**
- **Self-contained metering and troubleshooting**
- **Definitions of common abbreviations**
- **Hands-on training**
  - **Different stations for attendees to work through**

The Basic/Intermediate segment will provide a good foundation for those interested in continuing with the Intermediate/Advanced class.
ABOUT THE INTERMEDIATE/ADVANCED METERING WORKSHOP

The intermediate/advanced metering segment of the watt-hour workshop will build upon the topics covered in the basic metering sessions and is designed for electric personnel needing advanced training with electric metering selection and troubleshooting. Training will use a combination of self-corrected meter exams, interactive classroom sessions and hands-on training to present and reinforce instruction. This segment will cover such topics as:

- Wiring and application error analysis
- Polyphase metering
- Solid state vs. mechanical demand vs. thermal demand
- Solid state meters
- PPE for electric meter safety
- Electric meter safety
- Tools needed for working with electric meters
- Mounting electric meter sockets
- Hands-on training with different work
- Troubleshooting electric installations
  instructors will create problems or recreate problem scenarios encountered by the utility
- Theft of electric power
- Self-contained metering and troubleshooting

WEDNESDAY, JANUARY 10TH

REGISTRATION
12:30 PM - 1:00 PM

CLASSROOM
1:00 PM - 4:30 PM

THURSDAY, JANUARY 11TH

CLASSROOM & HANDS-ON
8:30 AM - 12:00 PM

LUNCH
12:00 PM - 1:00 PM

CLASSROOM & HANDS-ON
1:00 PM - 4:30 PM

FRIDAY, JANUARY 12TH

REGISTRATION
8:30 AM - 12:00 PM
ABOUT THE INSTRUCTORS

Larry Chapman
Chapman Metering, LLC

He has worked in the metering business his entire career, and is a highly-regarded expert on watt-hour meters. Mr. Chapman has been an instructor at other metering schools and workshops for more than 10 years and is a strong supporter of municipal utilities throughout the Midwest.

Jon Chastain
The Durham Company

Kent Pottorf
City of Garden City

WHAT TO BRING

This workshop will be taught in both the classroom and lab settings. Participants are encouraged to bring a note pad and pen/pencil for taking notes, as well as their laptop computers (optional), wiring diagrams and pocket calculators to take full advantage of this training opportunity. The following items will be required to participate in the hands-on lab sessions:

- ARC FLASH SHIELD
- RUBBER GLOVES W/ LEATHER PROTECTORS
- VOLTAGE METER
- FR CLOTHING
- SAFETY SHOES
- CALCULATOR
- HARD HAT
- SAFETY GLASSES

*KMU has a few shields that can be shared. DO NOT jeopardize your utility’s only arc flash shield.

EARN APPRENTICESHIP HOURS

A student registered in an apprenticeship program may be able to use the hours from this workshop toward a portion of the apprenticeship program completion. A certificate of achievement will be sent to the utility managers of each participant. Hours of attendance acquired will be reflected on the certificate.
2018 WATT-HOUR METERING WORKSHOP REGISTRATION

Basic Metering Segment – January 9-10
Intermediate/Advanced Metering Segment – January 10-12
Location: KMU Training Center, 2090 E. Avenue A, McPherson, KS 67460

Note: This form may be used to register more than one person, provided all are attending the same class(es).

### ATTENDEE INFORMATION

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### CLASS SELECTION

- Basic Metering Segment Only
- Intermediate/Advanced Metering Segment Only
- Both Basic and Intermediate/Advanced Metering

### CALCULATE TOTAL DUE

Early Registration Fees (by Dec. 27 deadline) includes lunches, breaks, and metering handbook.

Note: Early registration discount ends on Dec. 27th and regular registration fees apply. Please add $50 to each registration after Dec. 27th.

### MEMBERS:

- Full workshop - $600
- Basic or Int/Adv - $325
- Intermediate/Advanced - $325

### NON-MEMBERS:

- Full workshop - $775
- Basic or Int/Adv - $400
- Intermediate/Advanced - $400

Registering is Easy!

- WWW.KMUNET.ORG
- Kansas Municipal Utilities
  2090 E. Avenue A, McPherson, KS 67460
- KMU@KMUNET.ORG
  FAX (620) 241-7829

[ ] CHECK ENCLOSED [ ] BILL CITY/UTILITY

### TOTAL DUE: $ _______________