

2015 Substation School

Mark Your
Calendar

April 21-23, 2015

**City of Shakopee Fire Station 1
2700 Vierling Drive East
Shakopee, Minnesota**

MMUA, APPA, MREA and Shakopee Public Utilities are pleased to be partners in presenting and hosting the 2015 Substation School. This class will offer a wide variety of training with five different presenters.



Please take time to review all of the information provided. It contains everything you need to register with MMUA and make lodging accommodations in the Shakopee area.

Who Should Attend

This school is designed to be beneficial to the substation technician as well as the lineworker that is learning more about substations.

What to Bring

Most of the session will be taught in a classroom setting, however, the following items will be needed for the station tour on Tuesday:

- Hard Hat
- Safety Glasses
- Safety Shoes (not required)
- Appropriate Work Clothes
- Appropriate Outerwear for the Weather



**Minnesota Municipal
Utilities Association**

3025 Harbor Lane North,
Suite 400
Plymouth, MN 55447
www.mmua.org

To register contact Rita Kelly
Direct: 763-746-0707
Fax: 763-551-0459
E-mail: rkelly@mmua.org

2015 Substation School

What You Will Learn

Tuesday

Substation Inspections and Maintenance

by Jeff Kranz, Rochester Public Utilities

Proper operations and maintenance of your substation is the heartbeat of your power distribution system and reliability to your customer base. Jeff will cover the industry's best practice with a variety of operational concepts and maintenance issues.

Jordan Transformer Tour

by John Leemhuis, Jordan Transformer

Safety glasses will be required for this tour so bring a pair along. We will have some available if you don't have a pair. It is also recommended, but not required, that you wear steel-toed shoes.

Wednesday

Substation Equipment Symbols, IEEE Numbers, Substation Design and Switching

by Paul Schlies, Energis High Voltage Resources

This class will cover substation equipment symbols, IEEE numbers for relays and switches, and build a simple substation to a more complex substation. Paul will explain differential zone of protection, simple form and work with the group to develop a switching procedure. He will also explain fuse protection and breaker protection differences and speed of removing fault current from circuit.

Substation Design Concepts and Equipment Selection

by Gary Roskos, Sebesta Inc.

This class is meant to give a good foundation on the knowledge of substation design considerations. Gary will include discussion of site layout, equipment selection, operability/maintainability, etc. The class will cover as much ground as possible and will be geared toward specific participant needs.

Safety Considerations

- Specific Hazards of the Substation Environment

Design and Equipment Selection

- Site Layout, Grounding and Foundations
- Bus Configuration
- Switching Equipment
- Transformation
- Protection and Automation
- Voltage Control

(continued)

Wednesday *(continued)*

Operation and Maintenance Considerations

- Substation Switching
- Equipment Maintenance Practices
- Observation and Patrols
- Preventive Maintenance Practices
- Transformers
- Circuit Breakers

Thursday

Substation Demo and Replacement

by Joe Adams, Shakopee Public Utilities

The group will go through a very challenging and interesting project Shakopee Public Utilities has undertaken. The project relates to the demolition of a combination Xcel Energy/SPU substation and the construction of a new, modern, high-tech, solely owned by SPU substation.

Topics to be covered:

- Substation Planning & Design
- Old Substation Demolition Challenges
- Design Considerations
- Equipment Considerations
- Arc Flash Considerations

AGENDA

TUESDAY, APRIL 21

- 11:00-12:00 Registration
- 12:00-2:00 Substation Inspections & Maintenance
- 2:30-4:30 Jordan Transformer Tour

WEDNESDAY, APRIL 22

- 8:30-12:00 Substation Equipment Symbols, IEEE Numbers, Substation Design and Switching
- 12:00-1:00 Lunch (provided)
- 1:00-4:00 Substation Design Concepts & Equipment Selection

THURSDAY, APRIL 23

- 8:30-11:30 Substation Demo and Replacement
- 11:30 Closing Comments & Adjournment

2015 Substation School

MMUA Registration Information

Registration Fee

Members: \$440 per student on or before April 7, 2015

Non-Members: \$690 per student on or before April 7, 2015

All fees will increase \$50 on or after April 8, 2015.

Fee includes: Tuition, materials and supplies, noon lunch on Wednesday, refreshment breaks and certificate of achievement.

Refunds

A refund will be given on advance registrations if the MMUA office is notified by 4:30 pm on April 7. A cancellation fee of \$25 per person will be charged. No refunds after that time.

Class Location

The location for the Substation School will be in Shakopee, Minnesota at the city's Fire Station 1. Address is 2700 Vierling Drive East off of 169 and Eagle Creek Blvd.

For map, click [here](#).



Lodging Information

Available accommodations in the Shakopee area near class include:

Holiday Inn Express Hotel & Suites
4550 12th Avenue East, Shakopee
952-445-2244 or [website here](#)
Ask for MMUA's discounted room rate of \$99 per night.

AmericInn Lodge & Suites
4100 12th Avenue East
Shakopee, MN
952-445-6775 or [website here](#)

America's Best Value Inn & Suites
1244 Canterbury Road
Shakopee, MN
952-445-3644 or [website here](#)

Hampton Inn Minneapolis/Shakopee
4175 Dean Lakes Boulevard
Shakopee, MN
952-641-3600 or [website here](#)

Super 8 of Shakopee
581 South Marschall Road
Shakopee, MN
952-445-4221 or [website here](#)

Best Western Plus Shakopee Inn
511 South Marschall Road
Shakopee, MN
952-445-9779 or [website here](#)

Country Inn & Suites
1204 Ramsey Street
Shakopee, MN
952-445-0200 or [website here](#)

Sandalwood Studios & Suites
3910 12th Avenue East
Shakopee, MN
952-277-0100 or [website here](#)

Questions?

If you have questions about the workshop, please contact Pete Wyffels. He can be reached at 507-380-9578 or email pwvffels@mmua.org.

If you have any questions or problems with your registration or reservations, please contact Rita Kelly at MMUA for assistance. You can reach her by phone at 763-746-0707 or email rkelly@mmua.org.

Date: April 21-23, 2015
Location: City of Shakopee Fire Station 1
2700 Vierling Drive East
Shakopee, Minnesota



Minnesota Municipal Utilities Association
3025 Harbor Lane North, Suite 400
Plymouth, MN 55447
Phone 763-551-1230
Fax 763-551-0459
www.mmua.org

Attendee Information

1. Name: _____
Email: _____

2. Name: _____
Email: _____

3. Name: _____
Email: _____

Utility: _____

Address: _____

City/State/Zip: _____

Main Contact: _____

Email: _____

Phone: _____

Registration Fees

Members:
\$440 on or before **April 7, 2015**
\$490 on or after **April 8, 2015**

Non-Members:
\$690 on or before **April 7, 2015**
\$740 on or after **April 8, 2015**

of Attendees _____

x Registration Fee \$ _____

Total Due: \$ _____

Payment

- Check Payable to MMUA
- Bill Utility/Company
- Purchase order # _____

REFUND: A full refund (minus \$25 per person processing fee) will be given on advance registrations if the MMUA office is notified by 4:30 pm on **April 7, 2015**.

PHOTOGRAPHS: By registering for this conference, I authorize Minnesota Municipal Utilities Association (MMUA) to photograph me at this event and use such photographs in MMUA marketing pieces (both electronic and print). I understand that I will not be paid for giving this consent.

QUESTIONS: Please contact Rita Kelly by email rkelly@mmua.org or phone 763-746-0707.

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