



Transformer School for Electric Line Workers

December 18 - 20, 2018

IAMU Training & Office Complex

Iowa Association of Municipal Utilities is pleased to offer our Transformer School for line workers. The Transformer School will focus on single-phase and three-phase transformer connections and theory.

Participants will be challenged by the course instruction and hands-on station work that can benefit any utility! The various stations are designed to simulate "real world" scenarios, without the real-world dangers. Working individually and in small groups, participants will benefit by understanding, building, examining, and collaborating to further develop troubleshooting methods that can help maintain your utility's reliability. *A certificate of achievement will be provided showing the hours of attendance acquired. Certificates will be emailed after the course.*

Course Overview:

The course will start with the basics of transformers, including turns ratios, polarities, calculations, connections, and troubleshooting. Additionally, participants will learn about three-phase systems with phasor diagrams and the relationship of the phasor to the transformer itself.

In the hands-on portion of the course, participants will work with miniature transformers that are energized and will blow fuses, in order to experience what happens when something is wired incorrectly.

The class will continue to build on the miniature transformer banks and work on troubleshooting. Additionally, they will discuss motor rotation as it relates to three-phase systems. Upon completion of the Three-Phase Transformer Connections class, participants have a competent understanding of the following topics related to transformers:

- Transformer parts and operation
- Windings, ratios, and polarity
- Parallel and Banked Transformer
- Basic Three-Phase Connections
- Delta Connection
- Wye Connection
- Open Delta Connection
- Three-Phase Troubleshooting



Instructor:

Dan Llewellyn, Electric Services Coordinator, with Iowa Association of Municipal Utilities, will be the main instructor for this course. Additional speakers will be brought in to elaborate on specific issues.

Course Schedule:

Tuesday, December 18

12:30 - 1:00 p.m. Registration
 1:00 - 4:00 p.m. Classroom Training: Theory and Basics of Transformers

Wednesday, December 19

8:30 - Noon Classroom & Hands-On Training: Connecting & Parallel Operation
 Noon - 1:00 p.m. Lunch (provided)
 1:00 - 4:00 p.m. Classroom & Hands-On Training: Connecting & Banking

Thursday, December 20

8:30 - Noon Classroom & Hands-On Training: Troubleshooting
 Noon Evaluations & Adjourn

This course is LIMITED to the first 24 registrations.



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What to Bring:

Class attendees will be required to bring their own personal protective equipment, including:

- Safety Glasses
- Appropriate Footwear
- Secondary Rubber Gloves
- Volt / Amp Meter
- FR Clothing

Registration Info:

Attendee Name: _____

Attendee Name: _____

Name of City/Utility/
Company: _____

Address: _____

City/State/Zip: _____

Phone: _____

Email Address: _____

This course is LIMITED to the first 24 registrations.

Cost:

\$425 per IAMU Member participant

\$495 per Non-Member participant

Registration fee includes:

Course tuition, materials, a copy of the 6th edition Distribution Transformer Handbook, lunch and breaks

Training Location:

Iowa Association of Municipal Utilities
Shop Building
1735 NE 70th Avenue
Ankeny, IA 50021

IAMU Cancellation Policy will be in effect

Questions?

Contact Dan Llewellyn at dllewellyn@iamu.org
or 515-289-1999.

IAMU Map and Hotel Information

Exit 92-1st Avenue Area Hotels	
*Ramada Ankeny	515-964-1717
Days Inn	515-965-1109
Fairfield Inn	515-965-8400
Heartland Inn	515-964-8202

Exit 90-Oralabor Road Area Hotels	
*AmericInn	515-964-2004
Comfort Inn	515-963-1100
Country Inn	515-965-2646
Courtyard by Marriott	515-422-5555
Holiday Inn Express	515-965-2400
Homewood Suites	515-963-0006

Exit 89-Corporate Woods Area Hotels	
Hampton Inn & Suites	515-261-4400
Value Place	515-289-1701

**Inquire about IAMU rates*