

ECG Powerline School – Advanced Lineworker Program

The Smart Way to Grow Your UTILITY EMPLOYEES



ECG's Powerline School is the culmination of years of field experience and countless hours of applied classroom training. ECG's comprehensive training courses incorporate **'Safety First'** while challenging and preparing the Electrical Lineworker for advancement.

ECG's 1-year **Advanced Lineworker Program** is the next step in developing your Lineworker.

Module I

- Distribution System Coordination
- Customer and Employee Interaction

Module II

- Metering
- Power Quality/System Grounding

Module III

- Advanced Transformer Connections
- Accident Investigation/Storm Restoration
- Distribution Switching

Module IV

- Underground Trouble Shooting
- Exceptional Followership: The Foundation of Leadership

ECG Powerline School – Advanced Lineworker Program

Module I

ECG Adel Training Center

Distribution System Coordination

This program is designed to acquaint the advanced lineworker with the basics of distribution system coordination from the engineering perspective. Components used to protect a distribution system as well as how they should work together. Fault current and how it relates to distribution system protection is also discussed. A demonstration board used to illustrate how these devices work together when properly coordinated will give the attendees a visual perspective. After the demonstration, the attendees work through sample coordination problems involving a distribution circuit.

- Reclosers, OCR's
- Fuses
- Sectionalizers
- Breaker Relays
- Fault Currents

Customer and Employee Interaction

Customer, employee and co-worker interaction is a key component of the overall success of your municipal enterprise systems. Dealing with a difficult or hostile situation requires analysis of the situation and the ability to manage intense emotions quickly. Participants will explore the dynamics of emotional behavior and learn to determine patterns of aggressive and assertive behavior and how to use techniques to defuse tension or hostility.

Having a diversified customer base can be challenging as each may require a specified strategy of interaction. Differences between industrial and residential customers will be explored as well as the multiple personalities within any organization. Participants will learn to determine the most appropriate strategy required to handle these situations.

Module II

ECG Newnan Training Center

Metering

This class features topics such as safe metering work practices, metering terminology and definitions, as well as an in-depth look at single phase and polyphase meters. Also included is a comprehensive look at instrument transformers, single phase and polyphase meter wiring diagrams and meter installation troubleshooting.

- Power Measurement Definitions
- Basic Formulas for Metering
- How Meters Work
- Single Phase Meters & Wiring Diagrams
- Polyphase Meters & Wiring Diagrams
- Instrument Transformers
- Meter Change Procedures
- Meter Installation Troubleshooting

Power Quality/System Grounding

Power quality has become an important concern within the electric utility industry. An understanding of power quality is an essential component to the overall knowledge of field operations personnel especially with the personal contact they have with your customers.

System grounding is an important aspect of a distribution system since it plays a major role in items such as safety, protective device function, and overvoltage protection. This program will give an overview of system grounding which will include a discussion of ground rods, NESC requirements, pole grounds, lightning protection, and the role grounding plays in underground systems.

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Module III

ECG Adel Training Center

Advanced Transformer Connections

Distribution transformers are worked on daily by field operations personnel and that is why it is critical to have an in-depth knowledge of them and how they are connected for single-phase and three-phase voltages. Single-phase distribution transformers can be interconnected to provide three-phase power in a number of different ways, providing a utility with the flexibility of meeting a variety of customer needs. This program demonstrates and explains how three-phase delta connections and three-phase wye connections are made; also, it will explain certain issues that could arise, what you should look for and trouble-shooting techniques.

Accident Investigation

This course covers how to conduct a proper investigation of a workplace accident. The course stresses proper investigative procedure and conveys an understanding of the basic skills needed by the investigator.

- Investigate “Why, Who, When”
- Secure area, gather facts, collect evidence
- Witnesses – proven interview techniques, written statements
- Identify – pertinent evidence, contributing factors, root cause
- Corrective action
- Solutions – short, long-term
- Complete report – document, review with involved parties & management

Storm Restoration

Whether sending or receiving crews after a major storm it is of utmost importance that the lead/journeyman Lineworker know and understand the ins and outs of the ‘Mutual Aid’ process, along with the most efficient mechanism of fully restoring a system to normalcy.

- System Evaluation – partial & full
- Crew Evaluation – qualified Lineworkers, climbers
- Critical Customers – Hospital, Water/Wastewater
- System Restoration – Estimate time for total / feeders
- Logistics – Motels, food, water/ice, fuel, laundry
- Maps – Roads, system
- Communication – 2-way radios, phones
- Material – Emergency, circuit specific
- Operational briefing – Daily crews, critical customers, media

Distribution Switching

Switching distribution circuits either routinely or in an emergency situation is inevitable while working as a Lineworker. This class will assist you in understanding the proper procedures in tying circuits together originating from the same substation, as well as tying circuits together that originate in different substations. You will learn the purpose of the function switches, relays, breakers, regulators and how they all work together to form a distribution protection scheme.

- Knowing relay settings
- Checking balances
- Deadline a station
- Importance of Mapping
- Tying circuits
- Writing switching order

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Module IV

ECG Newnan Training Center

Underground Trouble Shooting

Classroom discussion on the physics of line locating, secondary and primary fault locating.

- Testing a service for a bad leg and identifying a bad leg on a service
- Proper use of a ServiSavor (Service Restoration Cart)
- How a locator works and what they, (the machines), need to perform their job
- Common problems with line locating and how to overcome them
- How an A-frame fault locator works and what is required
- High Voltage Fault Locating w/Radar, Efficiency and Safety
- Outside hands-on training



Exceptional Followership: The Foundation of Leadership

Leadership is best understood by studying the question of “Why do people follow leaders?” By understanding this concept, individuals are better able to become effective leaders. This seminar deals with the basic concepts of followership – learning why people follow a leader and the importance of a leader providing others a reason to follow. Participants will learn about their own leadership style and personality which relates to their personal followership style. They will discover the impact that positive ethics and values pay in creating effective followership.

- Identify competencies of followership which lead to promotion or advanced leadership positions
- Respond to the role ethics play in organizational behavior
- Understand values and its role in followership/leadership behavior
- Discover the concepts of motivation
- Effective Team Dynamics
- Principles of a Professional Environment

About the Instructors

Don Poole – Don Poole Consulting

Don worked for Cobb EMC for twenty eight and a half years, twenty eight of those in metering. He retired in 2014 as Manager of Metering Services. He also served on the planning committee for the Southeastern Meter School and Conference as a Module Coordinator, and taught several classes at the school. Don was recognized in 1999 as "Meter person of the Year" by the school. Don earned a diploma in Electronics Technology, as well as an Associates degree in Electronic Engineering from Chattahoochee Technical College. He also earned a Bachelor of Science degree in Organizational Management from Covenant College.

Scott Morgan – Morgan Advanced Products

With 48 years in the Electric Utility Industry, Scott worked for Memphis Light, Gas & Water as a Power Transformer Crew Leader for 13 years and he worked as a sales manager for 9 years for Altec Industries. Scott also worked as a tool specialist for Equity Utility Services for 12 years before starting his own business, Morgan Advanced Products, in 2009. Scott earned his Bachelor of Science degree in Business Management from Christian Brothers University.

Bruce Damrow – Continuum, Inc.

With over 35 years as an Air Force member and Chief Master Sergeant including such capstones as the establishment of 18 Airmen Leadership Schools nation wide, Bruce has instructed, lectured, taught and wrote curriculum for four levels of Air Force Leadership schools. He delivers thought provoking and solution based seminars and involves audiences in proactive thinking approaches to all aspects of leadership and management.

Kayla Curry – Organization Impact, LLC

Kayla's industry experience spans 27+ years in both the corporate sector and non-profit market where she has worn hats such as Director of Organizational Strategy, Director of Human Resources and Director of Staff Development. She holds a B.S. and M.S. in Organizational Communication from Murray State University in Kentucky. Kayla is a DiSC trainer and Registered Corporate Coach™. She is the author of "Leadership Shorts: Practical Tips When You Are at Wit's End", Amazon #1 bestseller "The Complete Experience: Unlocking the Secrets of Online Reviews that Drive Customer Loyalty," and Amazon #1 bestseller "Unstuck: 10 Proven Strategies for Breaking Through the Barriers to Small Business Growth."

Kayla is president of Organization Impact, LLC and is a member of the Society of Human Resources Management, Association of Talent Development, Phi Kappa Phi Honor Society, Southeast Business Forum, Donelson/Hermitage Chamber of Commerce, and the Workforce Magazine Business Intelligence Board.

"Having attended ECG training programs myself, as well as the Advanced Lineworker program a few years ago; I am very excited about the program being started up again.

Jon and the guys do a fantastic job of guiding us through these classes with the most relevant information. I am looking forward to sending each of my guys to the training."

*Tim Davis
Electric Superintendent
City of Fairburn*

About the Instructors

Jeff Adams, PE - ECG

Jeff has been practicing Distribution Engineering for the past 38 years and has been teaching linemen for over 11 years. Jeff is a registered Professional Engineer and the Principle Engineer at ECG. Prior to coming to ECG, Jeff was Manager of Engineering and Operations for an electric cooperative. His experience includes system coordination, power quality and all aspects of distribution engineering.

Jon Beasley – ECG

With over 41 years of lineman experience, Jon currently serves as the VP of Training and Safety for ECG. He has actively trained lineworkers in 3 states to more than 65 cities and over 1000 students. Jon coordinates and leads utility crews on disaster response/mutual aid for ice-storms, hurricanes and tornados. Jon provides expert testimony on behalf of Participant cities related to accident investigations. A key player in the creation of the “Georgia Lineman’s Rodeo” and the “APPA Lineworker’s Rodeo Competition” serving as Master Judge. His team took top honors in the “1999 International Lineman’s Rodeo Competition.” APPA honored Jon with the “Kramer-Preston Personal Service Award” in 2006 for his continued work and support. He has served on the APPA E&O Committee as Section Chair and as Chair of the Safety Committee. Jon currently serves on the APPA Safety Manual Review Task Force, and MAWG (Mutual Aid Working Group) as well as previously serving on the APPA RP3 panel.

“Kissimmee Utility Authority already had an in-house safety program and a line worker training program. Initially, we were somewhat reluctant to participate in the ECG program for fear that we would just be duplicating what we were already doing. We decided to try the ECG program out and we are extremely happy that we did. What we found with the ECG safety trainer was someone who had many years of experience; they had ‘been there, done that’. Because of that, we have found that our line operations personnel have a great deal of respect for the ECG instructors.

We have also found the PowerLine School to be a great complement to our in-house program. We can supplement the ECG course work with our own training program. Sending our people to Georgia for the hands-on training portion of the program lets them concentrate on the training. All of our personnel that have participated in the PowerLine School have given nothing but great, positive feedback.”

*Ken Davis
VP, Engineering & Operations
Kissimmee Utility Authority*

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ECG TRAINING CENTERS

Providing meeting space, classroom education and a pole-yard for hands-on instruction, our training centers are strategically located to allow easy, geographical access to our students.

Jeff Cook Training Center **Newnan Training Center**

261 Bozeman Road
Adel, GA 31620

381 Corinth Road
Newnan, GA 30263



PRICING & REGISTRATION

☐ \$2,000 - **ECG Training & Safety Member** | ☐ 4,000 - **Non-Member**

**Please contact Michelle Weekley at mweekley@ecoga.org.*

SCHEDULE

- Each Module is 2 full days from 8:00am to 4:00pm.
- Lunch will be on your own each day.
- Graduation with lunch will be on Day 2 of Module IV.

WHO SHOULD ATTEND

Lead or Journeyman Lineworker with a minimum of 4 years' experience. *Preferred completion of the ECG Groundman, Apprentice and Underground certifications.*

CANCELLATION POLICY

If you are unable to attend, substitutions will be permitted up to **one week** prior to the **first** class date with written notification, there will be **no refunds** given. Attendee must attend each of the modules to receive Certificate of Completion. ECG reserves the right to reschedule or cancel any scheduled training class or to replace personnel.

*While ECG has made reasonable efforts to provide quality training services, it makes no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, or suitability with respect to any training for any particular purpose. Any reliance you place on such training for a particular purpose is therefore strictly at your own risk. All information and material presented herein are subject to copyrights owned by ECG and other individuals or entities. Any reproduction, retransmission, republication, or other use of all or part of any information found herein is prohibited, unless prior written permission has been granted by ECG or the appropriate copyright owner. Copyright 2010. Electric Cities of Georgia, Inc. All rights reserved.

