



REAP RURAL ELECTRIC APPRENTICESHIP PROGRAM

REAP professionally trains electric linemen working for electric cooperatives throughout Indiana. The four-year program requires apprentices to attend 612 hours of classroom instruction, with at least 8,000 hours of on-the-job training. REAP is open to Indiana electric cooperative employees or contractors enrolled with IEC.

JOB TRAINING AND SAFETY INSTRUCTORS WORK WITH APPRENTICES THROUGH VARIOUS PHASES OF TRAINING AND CLASSROOM INSTRUCTION, INCLUDING:

- Basic and Advanced Climbing
- Bucket and Pole Material Loading
- Regulator
- Staking
- Underground
- Substation
- Meter
- Rubber Glove School
- Correspondence Study Program

ASSOCIATE OF APPLIED SCIENCE IN APPRENTICESHIP TECHNOLOGY

Graduates of REAP receive an Associate of Applied Science in Apprenticeship Technology — an electrical line technician degree — from Ivy Tech Community College. Through this partnership, REAP apprentices also take four Ivy Tech classes online. These classes can be completed throughout the four-year REAP program. Graduates also receive a journeyman’s certificate from the Department of Labor.

YEAR ONE

- Orientation and Certification
- Safety: Your Responsibility
- Communication
- Trenching: Guy Types and Installations

- Transportation and Flags
- Gloves, Sleeves and Other Protective Cover-Up
- Proper Grounding Techniques
- Introduction to Fault Currents
- Protective Grounds
- Unloading and Framing Poles
- Wood Poles

- Guy Types and Installations
- Crossarms and Attachments
- Construction Standards and Conventions
- Care, Use and Maintenance of Rope
- Tree Trimming Clearances**
- Worksite Traffic Control**

- Bucket Truck Rescue**
- Pole-top Rescue**
- Basic Climbing**
- Advanced Climbing**
- Basic Life Support**
- Regulator**

YEAR TWO

- Specification/Classification System
- Cover Up and Grounding
- Stringing Conductors
- Phasing/Phase Sequence

- Electricity
- Magnetism and Electromagnetism
- Electrical Standards and Conventions
- Ohm’s Law and Kirchoff’s Law
- DC Series Circuits

- DC Parallel
- Fundamentals of AC
- Y and Delta
- Single-Phase Circuits
- Inductance and Inductive Reactance

- Capacitance and Capacitive Reactance
- Second-Year Practical**
- Underground Residential Distribution**
- Material Bucket**

YEAR THREE

- Essentials Review
- Transformer Basics
- Primary Systems

- Single-Phase Transformer Connections
- Three-Phase Transformer Connections
- Delta Secondary Connections
- Wye Secondary Connections

- Delta-Wye Connections
- Wye-Delta Connections
- Alternative Connections
- Open Banks
- Additional Three-Phase Connections

- Rubber Gloving**
- Transformer Bank Practical**
- Basic Staking**
- Regulator**

YEAR FOUR

- Primary Fusing
- Ground Resistance

- Overload Capabilities
- Fusing Coordination
- Switching and Hold Card Procedures

- Demand Metering
- Comprehensive Final**
- Fourth-Year Practical**
- Meter School**

- Substation Safety and Operations**

REAP School Learning Objectives

ADVANCED CLIMBING SCHOOL

- Block and pole gin use
- Linework without a bucket truck
- Sag wire with a dynamometer
- Remove and install wire
- Change insulators
- Install and uninstall transformers
- Properly ground out and install mechanical line jumpers
- Tie knots

BASIC CLIMBING SCHOOL

- Climbing equipment mechanics
- Proper climbing and adjustment
- Pole positioning
- Pole agility
- Trusting equipment
- Wood pole climbing
- Maneuver around equipment on the pole
- Tie knots

MATERIAL BUCKET SCHOOL

- Replace bells and insulators
- Dos and Don'ts of using a jib
- Install and uninstall transformers with a jib
- Install and uninstall oil circuit reclosers
- Build transformer banks
- Layout wire with a jib
- Install and uninstall wire on the pole
- Proper working position while in the bucket
- Proper truck set up
- Tie knots

METER SCHOOL

- Differences between mechanical and solid-state meters
- Correct use of metering formulas
- Obtain a meter multiplier
- Differences between transformer-rated and self-contained meters
- View nameplate information on current transformer and potential transformer and use where appropriate
- Meter form selection
- Meter wiring
- AMI system advantages

REGULATOR SCHOOL

- Read regulator nameplates
- Use different controls
- Put settings in control
- See how internal parts of regulator work
- Troubleshoot problems
- Bypass an out-of-service regulator
- Proper use of neutral detector tools

RUBBER GLOVE SCHOOL

- Proper care and use of rubber gloves and sleeves
- Install rubber and plastic cover-up and rubber blankets
- Lay out and move energized primary wire
- Proper truck setup
- Move phases from vertical to horizontal while energized
- Isolate and install grounds
- Properly use mechanical jumpers
- Achieve a visual open when grounding
- Change out suspension and pole-top insulators while energized
- Use phasing sticks
- Use digital voltage indicators
- Personal protective equipment
- Install and uninstall crossarms
- Tie knots

STAKING SCHOOL

- RUS construction standards and specifications
- Staking practices and procedures
- National Electric Safety Code (NESC) introduction
- Conductors
- Wood poles
- Pole top assemblies
- Guys and anchors
- Classroom line design
- Field use of line design tools

SUBSTATION SCHOOL

- Safely enter a substation
- Substation switching
- Tie circuits
- Substation equipment
- Lock-out, tag-out procedures
- Oil reclosers
- Three-phase recloser buttons and operations

UNDERGROUND RESIDENTIAL DISTRIBUTION SCHOOL

- Make an elbow to maximum load ratings of 200 amp and 600 amp
- Splice
- Single- and three-phase transformer hook up
- Transformer grounding
- Personal protective equipment
- Padmount transformer grounding
- Proper depth of secondary and primary cable
- Tie knots