

**MERCED IRRIGATION DISTRICT
LINEWORKER APPRENTICE**

FLSA STATUS – Non-Exempt
Bargaining Unit – IBEW, Local 1245
Classification Level – Per IBEW Wage Schedule

DEFINITION

Under immediate supervision, performs duties under the direction of a Journey Lineworker, receiving increasing instruction and experience in the construction and maintenance of overhead and underground electrical transmission and distribution systems. In order to gain experience for advancement from Apprentice to Lineworker, the incumbent may work alone or under indirect supervision on jobs for which he or she has been trained and instructed. Incumbent may be required to drive heavy trucks and operate associated equipment as assigned. The incumbent's educational and general qualifications must be such that he or she is considered capable of attaining Journeyman Lineworker status, as defined by the District. When working under the guidance and direction of a Journeyman, and after one year's experience as an Apprentice Lineworker, he or she may be required to work on live circuits of 600 volts or more.

Note: This is a training classification. The apprentice is prohibited from working alone until properly instructed and qualified on the work to be performed.

EXAMPLES OF DUTIES

Under immediate supervision, assists Journeyman level Lineworkers in the following:

- Construct and maintain overhead and underground distribution circuits, transmission circuits and substations.
- Climb/set poles, power and work at various heights above the ground installing and replacing electrical lines and associated hardware and equipment.
- Installs and connects equipment to electrical lines (i.e.) transformers, switches, cutouts, capacitors, lightning arrestors, streetlights, etc.
- Install, repairs and maintains overhead and underground electric plant; including poles, anchors, cross-arms, insulators, vaults, transformers, regulators, capacitors, reclosers, switches, wire, etc.
- Regularly operates presses, gas monitoring and ventilating equipment.
- Terminate cable systems on poles, transformers, switching equipment and in vaults.
- Install substation equipment such as transformers, circuit breakers, disconnects buswork, etc.
- Install services from poles, service boxes or transformers at customer facilities.
- Connect and disconnect services.
- Troubleshoot and test individual customer services.
- Reconstruct existing overhead and underground distribution lines.
- Perform testing, phasing and energizing of new and reconstructed circuits.
- Perform maintenance functions such as inspections, pole testing, cleaning of vaults and enclosures and necessary repairs and corrections.
- Trim trees to maintain clearance around wires.
- Diagnose, locate and clear trouble on primary and secondary overhead and underground lines and street lighting systems.
- Maintain good housekeeping on the job, around the yard and on the vehicles.

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- Participate in switching operations of the electric system and obtain loading data for system studies.
- Perform many of the above functions on energized lines, utilizing appropriate hot line tools.
- Maintain tools and equipment in clean and workable condition and assure that all tools are returned to the proper place after each use.

KNOWLEDGE AND ABILITIES

- **Knowledge of:** Basic understanding of electricity and basic methods, materials and equipment used in the construction and maintenance of overhead and underground electric distributions and transmission lines.
- Fundamental safety regulations and first aid.
- Microsoft Office Suite products and other computer programs associated with performing job duties.

Ability to:

- Ability to acquire skill in the use of tools, equipment, safe work habits and techniques of electrical Lineworker trade.
- Learn the principles of electrical theory as applied to electrical circuits and wiring systems.
- Learn to operate electrical line equipment.
- Climb poles, towers and structures up to 120 feet.
- Communicate clearly and concisely both orally and in written form.
- Work cooperatively with public and fellow employees.
- Work proficiently with hot line tools (i.e. sticks, under energized conditions on overhead and underground systems.
- Work in confined spaces with energized high-voltage equipment.
- Follow oral and written instructions.
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MINIMUM QUALIFICATIONS

EDUCATION:

Any combination of training that provides the required knowledge, skills, and abilities is qualifying; typical education would include a high school diploma, or equivalent.

EXPERIENCE:

This is an entry level position. No experience is necessary.

LICENSES AND CERTIFICATES:

- Possession of an appropriate valid California Driver's License.
- A Department of Motor Vehicles "Driver Record Information" print-out will be required at time of hire and throughout employment. Must be enrolled in District's DMV pull-notice program.
- Prior to permanent appointment, the appropriate Class A driver's license (as mandated by the State of California Commercial Vehicle Code) is required.

REQUIRED TRAINING PROGRAM

Scope

The Apprentice Training Program is 36 months in length and designed for the incumbent to receive training and experience in both overhead and underground transmission and distribution line work skills. This arrangement will progressively broaden the incumbent's skills and provide greater opportunities for advancement. Effective January 1, 2002, Apprentices will be trained in rubber glove work procedures in addition to using live line tools.

Six Month Training Schedule (Typical)

Within the first six months of employment as an Apprentice Lineworker, the incumbent will attend a 10-day climbing school where he or she will be required to learn to climb wood, steel poles and lattice towers properly. Instruction in rigging, safety, and District work procedures will also be included. Successful completion in all categories of this training is necessary to continue in the program. Those who are unable to progress will be terminated from the program and may be returned to another classification with the District for which the individual may be qualified provided a vacancy exists.

The Apprentice shall, during the course of apprenticeship, be assigned to a crew. Under the direction of a Lineworker Foreman or Lineworker, the Apprentice's learning duties, for each six month period, will be directed at becoming familiar with the various aspects of overhead and underground line work skills listed below. Upon entering a new 6 month period the complexity of work assignments shall be made progressively as the Apprentice gains in knowledge and capability. To the extent practicable, the Apprentice will be rotated among crews to gain experience.

First Six-Month Period

Working under the direction of the Lineworker Foreman, the Apprentice will be assigned to operate, when practical, field equipment used in the construction and maintenance of overhead and underground lines. Working with or under the direction of a Lineworker, the apprentice will not be restricted to ground work and to all types of work on lines and equipment of any voltage not connected to existing circuits and lines that are de-energized and grounded. After successful completion of the 10-day Climbing School, the Apprentice shall climb poles as much as practical.

Second Six-Month Period

Working with or under the direction of a Lineworker, the Apprentice will continue to perform functions of the prior period and will receive instruction and training to work on energized lines and equipment not to exceed 600 Volts.

Third Six-Month Period

Working with or under the direction of a Lineworker, the Apprentice will continue to perform functions of the prior periods. The Apprentice, without direct supervision may work on energized lines and equipment not to exceed 600 Volts. The apprentice, with the concurrence of the Lineworker Lead Foreman and Energy Resources Supervisor, may receive instruction and training to work on energized lines (to 21 kV) in accordance with District Safety Rules. Such work, if allowed, shall be limited to simple transfers and other uncongested work areas or in areas where the hazard is at a minimum.

Fourth Six-Month Period

Working with or under the direction of a Lineworker, the Apprentice will continue to perform functions of the prior periods and will receive instruction and training to work energized lines and equipment to 21 kV in accordance with District Safety Rules. During this period the apprentice is expected to become proficient in the use of rubber goods and personal protective equipment, and shall be instructed in the use of live line tools.

Fifth Six-Month Period

The Apprentice will be assigned to work all types of line work on energized overhead and underground lines and equipment to 21 kV. The Apprentice will receive instruction and training in rubber glove work procedures to 21 kV, and up to 230 kV line work using live line tools. As a qualified electrical worker, the Apprentice may or may not work under the direction of a Journeyman level Lineworker.

Sixth Six-Month Period

The Apprentice will be assigned to work all types of line work on energized overhead circuits to 230 kV and underground circuits to 21 kV. As a qualified electrical worker, the Apprentice may or may not work under the direction of a Lineworker. Under the direction of a Lineworker Foreman, the Apprentice will be assigned projects to complete from start to finish. This will include the associated paperwork, control and customer coordination, job layout and crew personnel assignments to accomplish the project. The Apprentice will receive all training in this time period that training records indicate are needed to prepare for the Journeyman test. If needed, the Apprentice will be rotated among crews in order to comply with the on-the-job training hour requirements. Upon successfully completing the required training and passing the Journeyman test the Apprentice will be promoted to Lineworker.

Training Material

Typical text books and manuals used in the Apprentice Lineworker Training Program are:

- A basic text on Fundamentals of Electricity
- Training Manual
- Lineworker's and Cableman's Handbook
- Rules for Overhead Electric Line Construction, G.O. #95
- Rules for Underground Electric Supply and Communication Systems, G.O. #128
- Operating Bulletins
- MID Employee Safety Manual
- Basic text on mathematics
- Rigging Standards Manual
- MID Construction Standards

Training Hour Schedule

To insure that uniform and safe work practices are followed, specific assignment of duties and work procedures shall be provided during each six-month interval as outlined above in these guidelines and the following schedules. The amount of classroom time spent on indicated subjects and home study assignments is believed to be sufficient to achieve academic proficiency, but will remain flexible based on demonstrated ability of the individual Apprentice. If some training is not available to the Apprentice during the course of his or her apprenticeship, later training may be necessary to attain proficiency.

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A. Apprentice Training Classes

Each Apprentice is required to attend training classes that are conducted during the regular work shift. Classes are to be scheduled at intervals and lengths necessary to complete the academic training hours allotted. See Schedule I for minimum classroom hours.

Each apprentice will be tested on the academic course material covered at the end of the six-month step.

B. On-The-Job-Training

An extremely important part of the training program is the instruction and experience the Apprentice receives on-the-job during regular working hours. Lineworker Foreman are responsible for the on-the-job training and rotation of the Apprentice's work assignments in order to receive training in all phases of the craft. The responsibility for evaluating the work of the Apprentice rests with the immediate Lineworker Foreman and Energy Resources Supervisor.

C. Home Study Course

Each apprentice is required to participate in a home study course. Home study assignments may require reading technical texts, take home tests and quizzes, preparation of class presentations or reports.

D. On-The-Job Training

During the course of training the Apprentice will receive instructions and experience in various phases of line work. The following schedule establishes the expected on-the-job training hours for each job process.

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| 1. Poles, Guys & Substructures | 1760 hours |
| Frame and set poles | |
| Install anchors and guys | |
| Remove poles and fixtures | |
| Install Underground structures & fixtures | |
| 2. Conductors & Switches | 1760 hours |
| String, sag, and clip in conductors | |
| Install, splice, and terminate U.G. cable | |
| Install O.H. switches and equipment | |
| Install U.G. switches and equipment | |
| Transfer O.H. conductors and devices | |
| 3. Transformers, Capacitors & Regulators | 680 hours |
| Install or remove O.H. transformers | |
| Install or remove U.G. transformers | |
| Install or remove capacitors | |
| Use electrical instruments | |

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4. Service Drops	300 hours
Install O.H. services	
Install U.G. services	
Set Meters	
Install Dusk to Dawn lights	
5. Live Line Work	560 hours
Use rubber goods and line cover-up	
Use hot sticks	
Use rubber gloves	
6. Equipment Operation	172 hours
Operate Digger-Derricks and Crane	
Operate Aerial Lift Equipment	
Operate conductor pulling equipment	
Operate trenching equipment	
7. Miscellaneous	48 hours
Supplementary Training	
Safety Meetings – First Aid	
Vault and Pole Top rescue	
TOTAL	5280 hours

BASIC CLIMBING SCHOOL AND TOOLS

The 10-day Climbing School will instruct the Apprentice in the proper climbing of wood and steel poles, lattice towers and construction standards and methods. The student will be given the opportunity to work on as many phases of overhead line construction as possible. This will include building pole lines, stringing conductors, installing transformers and running services. Training will include an equal amount of classroom time and pole climbing assignments or practice.

A Lineworker Leader and necessary staff, selected by the Energy Resources Supervisor, will be responsible for supervision of the climbing school when it is in session.

The District may elect to send Apprentices to climbing schools operated by other utilities.

Classroom sessions will cover the following:

1. Line construction standards
2. Rope splicing, knots and rigging
3. Use and care of tools
4. Conductors and splicing
5. Transformer connections
6. Safety Rules
7. Pole top rescue and resuscitation

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Apprentices will be graded in the following categories:

1. Climbing techniques
2. Work performance on the pole
3. Utilization of construction standards
4. Mechanical dexterity
5. Interest in line work
6. Safety habits
7. Cooperation with instructors
8. Care of tools and equipment
9. Initiative
10. Workmanship.

The Apprentice will be issued the following climbing equipment for his or her use while in climbing school. These items will be turned in before leaving climbing school.

1. Lineworker's body belt
2. Safety strap
3. Pole Climbers

APPRENTICE FURNISHED TOOLS

The Apprentice will supply, at his or her expense, the following personnel tools for this career path. Items identified by an asterisk (*) are required for the 10-Day Climbing School.

1. * 9" Lineworker pliers
2. * 6" wood or plastic rule
3. * Large, round shank screwdriver
4. * 18 – 24 oz. Hammer
5. * 8" and 12" adjustable wrench
6. * Folding wire skinning knife
7. * Slip Joint Pliers
8. Ratchet box wrenches ½" x 8/16" & 5/8" x 2/4"
9. Leather tool pouch for above tools
10. Material bag
11. Lineworker's body belt Safety strap
12. Pole climbers
13. High top boots (above ankle) with leather sole and heel.

There will be a joint District and Union Apprentice Oversight Committee (OAC) that will regularly meet to oversee the apprentice program. If an Apprentice falls behind or needs additional help the OAC will outline a plan for the apprentice back on track.

TYPICAL PHYSICAL ACTIVITIES:

- Travels frequently by motor vehicle in the conduct of District business.
- Communicates orally with District employees and the public in face-to-face, one-on-one and group settings.
- Working at heights, confined spaces and with live electricity.
- Regularly uses a telephone and radio for communication.
- Uses office equipment such as computer terminal, copiers and FAX.
- May sit or walk for extended periods of time.
- May walk in uneven terrain, in an outdoor environment, in varied weather conditions in the conduct of District business.
- Operates District vehicles and equipment used in construction, maintenance, and repair work.
- Must be able to push, pull, reach, and lift equipment and parts weighing up to 50 pounds.
- Stoops, kneels, crouches, crawls, and climbs during field maintenance and repair work.
- Works in an environment with exposure to dust, dirt, and/or weed abatement chemicals, and significant temperature changes between heat and cold.
- Communicates orally with District staff in face-to-face, one-to-one settings.
- Hearing and vision within normal limits with coordination sufficient to maintain good awareness during maintenance and construction jobs.
- Climbing ladders, bending, stooping or kneeling for extended periods of time.

Sitting: Remains in a seated position for up to eight (8) hours per day.

Standing: Remains in a standing position for up to eight (8) hours per day.

Hands/Arms: Operates vehicles and equipment for up to eight (8) hours per day

Lifting: Raises and lowers supplies and equipment up to twenty-five (25) pounds.

Stooping: Bends body downward and forward by bending at the knees or waist

Talking: Expresses ideas and shares information by means of spoken work in person and by telephone.

Hearing: Hears well enough to receive communications in person and by telephone.

Vision: Operates vehicles and office equipment.

ENVIRONMENTAL FACTORS:

- Exposure to the sun: 90% or less work time spent outside a building and exposed to the sun.
- Most work performed in an outside environment with exposure to dust, dirt and significant temperature changes between heat and cold.

ESSENTIAL MENTAL ABILITIES:

- Exercise independent judgment.
- Self-directing and organized.
- Reason objectively.
- Assess, project and plan work activities on a daily and weekly basis.
- Document concisely, accurately and timely.