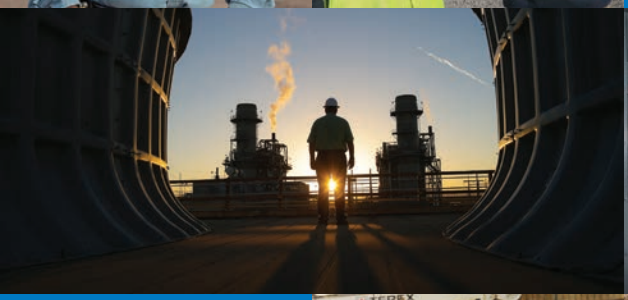
Explore Highly Skilled Trades and Technical Careers at Tucson Electric Power

Fabrication and Welding

Design



Metering Services

Fleet Services

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A Dynamic and Growing Industry

The energy industry is dynamic and growing due to new technologies, the expansion of renewable energy and the modernization of our electric grid. It offers many exciting careers with excellent wages for men and women of all backgrounds, especially for those who are interested in working in the highly skilled trades.

The Highly Skilled Trades

TEP energizes our economy by delivering safe, reliable power to more than 450,000 customers in the Tucson metropolitan area. Areas at TEP with highly skilled trade and technical positions include design and construction, electronic communications, fleet services, fabrication and welding, and relay and system protection, among others.

Highly skilled trades are occupations that require technical skills, knowledge and abilities, particularly in math and science. Technical on-the-job training, apprenticeships or formal education provide the essential skills and knowledge required for these careers. Choosing a career in this field offers an alternative to jobs that require a four-year college degree.

Registered with the State of Arizona, TEP apprenticeships offer paid on-the-job training and classroom training for up to four years and mentoring by experienced employees in the field. In some instances, a pre-apprenticeship is a prerequisite to an apprenticeship.

Employees in all of TEP's skilled trade positions are represented by the International Brotherhood of Electrical Workers, Local 1116. These roles may require 24-hour emergency response, overtime and nonstandard work hours.

Exciting careers with excellent wages

Inclusive workplaces produce bright ideas

Advantages and Benefits of a Skilled Trade Career

Working in the skilled trades offers many benefits, including:

- Excellent job placement and employment opportunities in a high-demand field
- Highly competitive hourly wages and benefits
- Paid on-the-job training
- A clear and direct career path with opportunities for advancement
- Job opportunities nationwide

TEP's Employment Benefits Package

TEP offers a highly competitive wage and benefit package, and in addition:

- Retirement benefits
- On-site fitness center
- On-site health care clinic
- Wellness program and incentives

Minimum Employment Requirements

Applicants for all positions must pass a background check and drug and alcohol tests, possess a valid driver's license and have a high school diploma or General Equivalency Degree. Candidates also may be required to pass written, physical or other tests appropriate for the position and demonstrate their competency during a job interview.

Our Commitment to Equal Opportunity, Inclusion and Diversity

TEP is committed to the principles of equal opportunity in recruiting, hiring, training, transferring, promoting and compensating employees. We recognize the duty to provide equal employment opportunities to all qualified individuals.

We comply with equal opportunity laws, which prohibit discrimination in employment based on gender, race, color, age, pregnancy, sexual orientation, gender identity, national origin, religion, disability, genetic information or any other legally protected characteristic. In accordance with federal law, TEP has affirmative action plans to recruit and advance qualified minorities, women, people with disabilities and veterans.

Inclusive workplaces produce bright ideas. We are stronger together and connected by our shared purpose. As leaders in our workplace and communities, we will lead by example, work to remove barriers, seek out diverse perspectives and champion progress.

For questions about our non-discrimination policies or affirmative action plans, please contact Human Resources.

Highly Skilled Trade and Technical Jobs at TEP

This booklet is designed to help you explore highly skilled trade and technical positions at TEP. It's the first step to beginning a new career in energy. This section lists and describes apprenticeships and skilled trade positions by department and includes a position outline, job prerequisites and requirements, career path and hourly compensation for each. All of these positions receive hourly wages as negotiated between the company and the union.

Design

OVERVIEW

The Design department plans, creates, and oversees electrical designs to meet the needs of customers and internal TEP projects. Projects include residential, commercial, industrial, and TEP's system grid maintenance and expansion

FIELD COORDINATOR

Position Outline

Field Coordinators participate in residential and commercial projects ensuring that service requirements and standards are met. This is a field position, consisting of 95 percent filed work and 5 percent office work. Fieldwork involves the inspection of customer civil and service entrance installations, field assessments and validation of existing company facilities as required. Pre-construction meetings with customer's to review TEP's construction drawings to ensure the customers full understanding of what is required for their project installation. Office work includes coordinating projects with Designers, Field Technicians, and other internal departments. Using various computer software programs for processing work orders, documentation of completed requirements, and communicating with internal and external customers.

Prerequisites & Requirements

Ability to pass a written math test including algebra, trigonometry, a basic knowledge of Ohm's Law, electrical theory, and a written mechanical test. Employees must be able to work in all weather conditions, walk, stoop, bend and twist. Must possess excellent interpersonal and customer service skills, function well in an ever changing fast pace environment while keeping safety as a priority.

Progression Path

This is a 1 year training program that consists of two 6 month steps.

Competitive Compensation

Starting hourly pay: $27+
Hourly pay upon completion: $35+

JOURNEYMAN DESIGNER

Position Outline

Designers are responsible for designing commercial and residential projects that meet the customer's power requirements for their project, and TEP's service requirements and standards. Additional design responsibilities are responding to storm damage, designing the restoration, electric grid maintenance, upgrade and expansion. This is a hybrid position consisting of about 70 percent office work and about 30 percent field work. Office work includes using software programs to create and design projects and researching standards, policies and procedures. This position also coordinates internal work schedules, materials and installations. Knowledge of the TEP transmission and distribution system is required. Fieldwork involves meeting with customers to review/explain options, project process, conducting inspections and monitoring project progress.

Prerequisites & Requirements

Successfully completed the Pre-Apprentice Designer program that has included algebra, trigonometry, Ohm's Law and electrical theory, and mechanical properties. Physical requirements include being able to work in all weather conditions, walk, stoop, bend and twist. Must possess excellent interpersonal and customer service skills.

Progression Path

Employees begin as a Pre-Apprentice Designer for a minimum one year (no greater than 2 years) of training. After the training is completed, employees are eligible to be indentured into the State of Arizona recognized apprenticeship program. Apprentices must complete a four-year training program that includes eight six month long steps After completing the program you are now a Journeyman Designer, and that alone is a rewarding career choice. The Journeymen position must complete 2 years as a Journeyman before exploring other opportunities that TEP has to offer. Employees can pursue other positions within the Design department or other parts of TEP when they become available.

Competitive Compensation

Starting hourly pay (Pre-Apprentice):$35+
Hourly pay upon completion (Journeyman): $56+

Electronics Communications Network

DEPARTMENT OVERVIEW

The Electronics Communications department uses state-of-the-art technology on a statewide network to ensure communications are highly reliable, redundant and secure. Field devices monitor and control systems operations and transmit critical data to the Energy Management System through a network of microwave and fiber optics. Using this information, System Operators monitor and control the operation of our local electrical system. In this department, technicians construct, maintain and troubleshoot equipment using a variety of tools, test equipment, computers and engineered designs to ensure compliance.

ELECTRONICS TECHNICIAN (COMMUNICATIONS)

Position Outline

The demand for skilled Electronics Technicians is very high. Ongoing training in this rapidly evolving field is required. About 70 percent of the work is spent in the field troubleshooting, problem solving and programming software. Other tasks include constructing projects and testing and maintaining equipment using engineering drawings. In-state and out-of-state travel is required.

Prerequisites & Requirements

Ability to pass a written test on trigonometry and basic tool use. No practical test is required. Must be able to work comfortably high above the ground and in all weather conditions.

Progression Path

Employees begin as an Electronics Pre-Apprentice. After completing a minimum of one year of training, employees are eligible for a full apprenticeship. Apprentices must complete a four-year training program that includes eight steps that are each six months long.

Competitive Compensation

Starting hourly pay: $35+
Hourly pay upon completion: $56+

Electric Repair and Test Facility (ERTF)

DEPARTMENT OVERVIEW

The Electric Repair and Test Facility tests and repairs distribution equipment, such as transformers, regulators, reclosers, switchgear and capacitors. This department also tests new equipment prior to its installation in the field to ensure safety and quality, refurbishes and tests equipment so that it can be reused again and evaluates trial equipment and technology prior to installation.

The Protective Goods Lab tests all the protective goods used by field personnel, including rubber gloves, blankets, line hoses, hot sticks, grounds and jumpers. ERTF also is responsible for processing wastes generated by TEP according to environmental regulations.

DISTRIBUTION EQUIPMENT (SHOP) ELECTRICIAN

Position Outline

These employees primarily work in an indoor/outdoor shop environment. The highly mechanical work involves assembling and disassembling equipment and components. Technicians use computers to gather diagnostics information and troubleshoot.

Prerequisites & Requirements

Ability to pass a written test that includes algebra word problems, basic electrical theory and basic OSHA workplace safety. Must pass a practical test that includes proper lifting and body mechanics, following directions, basic mechanical skills and tool use. This job is moderately physically demanding, requiring an ability to stand, lift, bend and work in all weather conditions.

Progression Path

Employees begin as an ERTF Shop Electrician Pre-Apprentice. After completing a minimum of one year of training, employees are eligible for a full apprenticeship. Apprentices must complete a four-year training program that includes eight steps that are each six months long.

Competitive Compensation

Starting hourly pay: $34+
Hourly pay upon completion: $55+

Fabrication and Welding

DEPARTMENT OVERVIEW

The Fabrication and Welding Shop supports all internal departments that may need welding or parts fabrication. The majority of the work involves power pole modifications, substation structural fabrication, fleet vehicle repairs and miscellaneous projects. Most of the work is done in the Fabrication Weld Shop with occasional fieldwork.

WELDING FABRICATORS

Position Outline

Welding Fabricators work primarily in an indoor/outdoor shop environment performing structural fabrication, repairing damaged equipment and fieldwork. Work performed will include mig, tig and stick welding along with oxy-acetylene and plasma cutting.

Prerequisites & Requirements

Ability to pass written and practical tests that include OSHA Safety, welding processes and procedures, basic shop knowledge, personal protective equipment use, basic math (addition, subtraction and division). Must be able to stand, climb and stoop, wear a respirator, and work in all weather conditions.

Progression Path

Welding Fabricators begin as an Equipment Service Worker B and work for a minimum of one year before being eligible to test and qualify for an Equipment Service Worker A position.

Competitive Compensation

Starting hourly pay for Equipment Service Worker B: $36+
Starting hourly pay for Equipment Service Worker A: $42+

Fleet Services

DEPARTMENT OVERVIEW

The Fleet Services department selects, maintains, optimizes and manages all of TEP's fleet vehicles. Employees also perform routine inspections as well as tune-ups and repairs on a variety of vehicles. The Automotive Shop consists of mechanics of all various skill levels who work in a multiple-bay facility with covered outdoor working space. Fleet Services also maintains an inventory of fuel and replacement parts.

AUTOMOTIVE SERVICE WORKER

Position Outline

Automotive Service Workers spend 80 percent of their time completing repairs in the shop with occasional field repairs. Daily tasks include performing preventative maintenance and repairs on vehicles and heavy equipment.

Prerequisites & Requirements

Ability to pass a written test that includes high school math, problem solving and general mechanical automotive knowledge. Must pass a practical test displaying advanced knowledge of vehicle components and mechanics, work safety and communication and listening skills. Must be able to stand, stoop, lift and use appropriate machinery and tools. Computer skills are required. Upon hiring, employees must be able to obtain and maintain a Commercial Driver's License (CDL) with hazmat endorsements.

Progression Path

Employees may begin as either an Automotive Service Worker C or B depending on their skills level. Automotive Service Worker C works towards completion of a task sign off over 12 months they are eligible to become an automotive service worker B.

Competitive Compensation

Automotive Service Worker C hourly pay: $23+
Automotive Service Worker B starting hourly pay: $29+
Automotive Service Worker B hourly pay upon completion: $35+
Automotive Service Worker A hourly pay: $42+

Heavy Equipment and Transportation (HEAT)

DEPARTMENT OVERVIEW

The HEAT department is responsible for operating heavy equipment and transporting large loads within and outside of the state.

HEAVY EQUIPMENT & TRANSPORTATION OPERATORS

Position Outline

Heavy equipment and transportation operators spend most of their time working in crews in the field, operating cranes, bulldozers, loaders and backhoes. They also perform manual labor and transport equipment and rigging. Work entails interfacing with other internal departments.

Prerequisites & Requirements

Ability to pass written and practical tests on OSHA workplace safety, basic math and heavy equipment operation. Must be able to obtain and maintain a CDL and Crane Certification.

Progression Path

Employees may begin as a HEAT Pre-Apprentice or as a HEAT Journeyworker if they meet the qualifications. After completing a minimum of one year of training, employees are eligible for a full apprenticeship. Apprentices must complete a three-year training program that includes eight steps that are each six months long.

Competitive Compensation

Starting hourly pay: $31+
Hourly pay upon completion: $50+

Line Construction, Operation & Maintenance

DEPARTMENT OVERVIEW

Line Construction, Operation and Maintenance is responsible for the construction, maintenance and repair of the overhead and underground transmission, distribution and secondary lines of our electrical system. Crews work with very high voltages ranging from 120 volts to 500 kilovolts.

LINEWORKERS

Position Outline

Line Construction crews work primarily outdoors in all weather conditions and frequently at very high heights. The work is physically demanding. Work crews repair, build and maintain lines and cables that comprise our local electrical grid. This high-risk work involves manual labor, mechanical aptitude, climbing wood poles and working in bucket trucks. Some work is in confined spaces, such as utility access holes, underground vaults and trenches. Excellent customer service and communication skills are required as crews interact with each other, customers, first responders and the general public.

Prerequisites & Requirements

Ability to pass a written test that includes basic electrical theory, Ohm's Law, algebra, geometry, basic trigonometry and OSHA workplace safety. Must pass a practical test that includes mechanical and physical aptitude, proper lifting techniques, problem solving, following directions and recognition and use of basic hand tools.

Progression Path

Employees begin as a Lineworker Pre-Apprentice. After completing a minimum of one year of training, employees are eligible for a full apprenticeship. Apprentices must complete a four-year training program that includes eight steps that are each six months long. After becoming a Journeyworker, employees can pursue a position as a Crew Leader, Foremen or Troubleshooter.

Competitive Compensation

Starting hourly pay: $35+
Hourly pay upon completion: $56+

Metering Services

DEPARTMENT OVERVIEW

The Metering department installs, reads and tests meters, and starts and terminates electric service. Employees also are responsible for responding to customer questions and concerns regarding metering and power supply issues.

SINGLE PHASE METERING TECHNICIAN

Position Outline

Employees working in the Single Phase metering department spend most of their time working alone in the field and interacting with customers. The Single Phase technician will be responsible for installing and exchanging various types of single phase meters. They may conduct service investigation orders such as high bill complaints and may install portable recording test equipment on residential customer services. Employees must be able to work in all weather conditions and be available to work overtime.

Prerequisites & Requirements

Ability to pass written and practical tests to include basic electrical theory, word problems and mechanical skills.

Progression Path

Single Phase Metering Technicians receive 6 months of training as a new hire.

Competitive Compensation

Hourly pay: $41+

THREE PHASE METERING TECHNICIAN

Position Outline

Employees working in the Three Phase metering department spend most of their time working alone in the field and interacting with customers. The technician will be responsible for diverse field work such as installing and maintaining primary metering sites, as well as installing, servicing and maintaining substation metering. Employees may conduct services investigation such as high bill complaints. They may also develop and maintain standards for testing, wiring and installing and transformer rated metering equipment and perform installation of portable recording test equipment on residential and business customer services. Employees may test current and potential transformers and work closely with the billing department to verify accuracy of meters with low or no consumption. Employees must be able to work in all weather conditions and be available to work overtime.

Prerequisites & Requirements

Ability to pass written and practical tests to include basic electrical theory, word problems and mechanical skills.

Progression Path

Employees hired as a Three Phase Metering Pre-Apprentice must complete a minimum of one year of training before becoming eligible for a full apprenticeship. Apprentices must complete a four-year training program that includes eight steps that are each six months long.

Competitive Compensation

Hourly pay: $34+
Hourly pay after completion: $55+

Quality Control Damage Investigation

DEPARTMENT OVERVIEW

Quality Control Damage Investigators (QCDI) are sent into the field to investigate damage to equipment and facilities. Damage investigation is of great importance because it determines financial liability for costly damages and, in some cases, liability for personal injury or even death. The QCDI team is exclusively responsible for locating all TEP substations, SUNDT and Springerville generating stations and all projects on TEP property.

QCDI works closely with many internal departments including: Design/Build, Systems Office, Outside Services, Substation Engineering, Power Plant, Facilities Maintenance, Communication Engineering and Telecommunications, among others.

QUALITY CONTROL DAMAGE INVESTIGATORS

Position Outline

Quality Control Damage Investigators work primarily in the field locating equipment and investigating damage to our utility equipment and facilities. They often work in all weather conditions. This position communicates with systems operations, other utilities and contractors. Investigators handle clearances, coordinate internal and external work, and communicate with the legal team. Employees must be self-driven. Weekly on-call duty assignments are required.

Prerequisites & Requirements

Ability to pass a written test that demonstrates previous line locating experience, ability to draft and compose reports, basic line locating and symbology, algebra, trigonometry, geometry, Ohm's law and Pythagorean Theorem. Must be fluent with Arizona's 811 Laws.

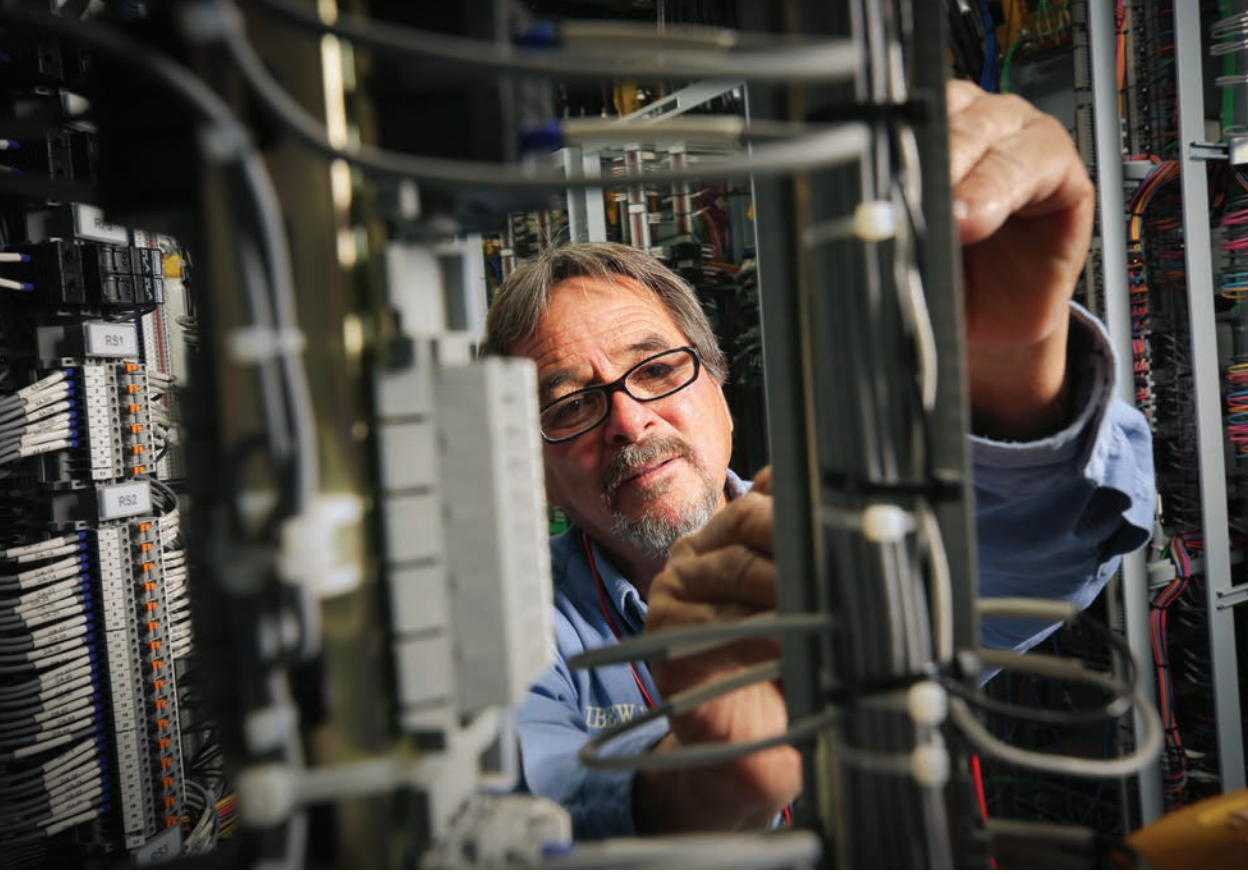
Successful applicants must pass a practical exam demonstrating the ability to accurately locate underground facilities using proper safety techniques.

Progression Path

This position requires a two-year training program.

Competitive Compensation

Starting hourly pay: $33+
Hourly pay upon completion: $41+



Relay and System Protection

DEPARTMENT OVERVIEW

The Relay Construction and Maintenance department is comprised of highly-trained technicians who are continuously learning in this evolving and specialized field. Power system protection is extremely important for providing dependable and reliable service to customers, nearby utilities and the Western Grid. The protection system senses trouble in our system and makes the necessary corrections and adjustments to prevent or avoid damage or hazards.

RELAY TECHNICIANS

Position Outline

Relay Technicians test new and existing electrical and protective relay equipment in all weather conditions. They also troubleshoot and repair substation equipment, switchboard controls, meters, transformers, trip circuits, battery chargers and other electrical equipment. About 90% of the work is in the field troubleshooting, problem solving, constructing, reading engineering drawings and using programming software. A small amount of time is spent in the office completing administrative paperwork. Some local and out-of-state travel is required. Approximately 60% of the fieldwork is performed on new capital construction projects and 40% is performed on maintenance and repair of existing equipment.

Prerequisites & Requirements

Ability to pass a written test that includes trigonometry and basic tool knowledge and use. Must be able to use computers and tablets.

Progression Path

Employees begin as a Relay Pre-Apprentice. After completing a minimum of one year of training, employees are eligible for a full apprenticeship. Apprentices must complete a four-year training program that includes eight steps that are each six months long.

Competitive Compensation

Starting hourly pay: $35+
Hourly pay upon completion: $56+

Substation Construction, Operation & Maintenance

DEPARTMENT OVERVIEW

Electric power flows from a generating station to a substation and then to the consumer. Substations increase voltage for transmission or decrease it for distribution. Substations have devices that protect equipment within the substation, regulate electrical conditions to maintain system efficiency, monitor electrical conditions and communicate information to a control center or to other substations and switchyards. Employees who work in the Substations department are responsible for constructing, monitoring and maintaining all the equipment within the substations and switchyards.

SUBSTATION ELECTRICIAN

Position Outline

Employees in the Substation department spend most of their time working in the substation yards doing electrical and mechanical work, using new technologies and computer programs, testing and troubleshooting, completing diagnostics and repairs and doing routine maintenance and construction. Substation Electricians also must read maps, prints, instruction books and manuals and be able to follow procedures.

Prerequisites & Requirements

Ability to pass a written test to include algebra, geometry and basic Ohm's Law. Ability to pass a practical test demonstrating precise mechanical skills and tool usage, correct body position and safe operation of a task. Ability to follow directions. Must be able to travel out of town, roughly estimated at 10% of the time, and work in all weather conditions. Must be able to work in a team environment and have a high level of communication skills.

Progression Path

Employees begin as a Substations Pre-Apprentice. After completing a minimum of one year of training, employees are eligible for a full apprenticeship. Apprentices must complete a four-year training program that includes eight steps that are each six months long.

Competitive Compensation

Starting hourly pay: $35+
Hourly pay upon completion: $56+

Power Generation, Operation & Maintenance

POWER GENERATION MAINTENANCE AND PLANT OPERATIONS TRADES

Position Outline

Maintenance personnel perform welding, machining and mechanical services to maintain, troubleshoot and perform new installations on traditional steam boilers, internal combustion turbines and reciprocating internal combustion engines at six plants across the state of Arizona. Plant Operators operate the systems that produce electricity 24 hours a day, seven days a week. They are divided between coal yard, outside auxiliary operator and control room operators. These trades are all responsible for safely and reliably operating and maintaining high energy systems including steam systems, lube oil systems, hydraulics, pneumatics, controls, electrical switchgear, instrumentation, regulatory reporting, compressors, pumps, and cooling systems among others. These positions involve 85 percent fieldwork and some office work. Fieldwork involves being on the job site, in one of the maintenance shops or in the control room. Office work includes managing logs, work orders, reading technical drawings or OEM manuals and interacting with other departments. These roles have limited interaction with the general public as they are located on secure campuses due to physical security and the industrial atmosphere.

Prerequisites & Requirements

Ability to pass a written Edison Electrical Institute Mechanical Aptitude Selection System (MASS), Plant Operator Selection System (POSS B) or technical (TECH A) test battery. These tests measure skills including reading, writing, comprehension, mathematics, spatial orientation, physics, mechanical concepts and visualization. A practical physical evaluation of mechanical skills and an interview is required for all trades. Employees must be able to work in all weather conditions and walk, stoop, bend and twist. Must possess excellent interpersonal and customer service skills.

Progression Path

This is a two to four-year training program that consists of up to eight steps. The maintenance trades are state-registered apprenticeships that are four-year programs. The operations programs are self-paced and can take between two and four years to complete on average.

Competitive Compensation

Starting hourly pay: $28+
Hourly pay upon completion: $58+

Take the Next Step

If you have technical skills and experience and would like to work at TEP, please review the positions that are currently available at tep.com/careers.

Or, if you'd just like to learn more about technical careers at TEP, contact us at skilledtrades@tep.com.

Explore More

Get Into Energy
Getintoenergy.com

U.S. Department of Labor
Apprenticeship.gov/become apprentice

Ugly's Electrical References Book, Jones & Bartlett Learning, LLC
uglys.net

International Brotherhood of Electrical Workers, Local 1116
http://ibew1116.com

U.S. Department of Labor, Apprenticeships
apprenticeship.gov/become-apprentice

Arizona Department of Economic Security Apprenticeship Office
https://des.az.gov/services/employment/apprenticeship