

BPA APPRENTICE PROGRAM INFORMATION SHEET

POWER SYSTEM ELECTRICIAN

- Do you like to work with your hands and see quality results?
- Do you enjoy working outdoors?
- Are you able to get along with a lot of different kinds of people?

If you answered, "yes" to these questions, a career as a Power System Electrician may be exactly what you've been looking for.

The four-year power system electrician apprenticeship program consists of eight 6-month training periods. Your headquarters will be one of the seven regions in the Pacific Northwest for the term of apprenticeship. Training assignments of one to ten weeks away from your home base will afford you the opportunity to work in locations all over the Pacific Northwest.

The power system electricians maintain and replace any and all equipment found in substations. The skills required of a power system electrician are varied and complex. The journeyman must have good mechanical skills to disassemble and repair large equipment such as power transformers (which weigh about 200 tons and are the size of a single-car garage) and power circuit breakers (which are 25 feet tall, 30 feet long and the part where the circuit is broken may weigh two tons). The equipment operates at high voltage -- 13,000 to 500,000 volts. The operation of the circuit breakers is performed by high-pressure air and high-pressure hydraulics (4000psi) and the mechanisms are large and complex. Knowledge of hydraulics/pneumatics is required in addition to chemistry and electrical theory. The journeyman will give the apprentice simple tasks to perform at first, and as the apprentice's skills develop, assign more complex tasks.

You will receive on-the-job training while working as a crew member of several different maintenance and construction crews. In addition, you will receive classroom instruction (while receiving full pay and benefits) during each of your eight training periods. Classroom instruction will develop your knowledge in a variety of subjects, including electrical theory, hydraulics, pneumatics, chemistry, electrical safety and mechanics.

Safety is a primary concern when working around very high voltages so the apprentice will receive extensive instruction in safe work practices. You will be trained to perform any task expected of a power system electrician. Power system electrician apprentices are trained in both construction and maintenance skills. Since BPA's construction crews work anywhere in the Pacific Northwest, you can expect to be in a travel status for approximately 50 percent of your apprenticeship. The region to which you are assigned remains your home base, so you receive a per diem allowance while in a travel status.

The maintenance crews maintain the substation equipment in the region and other substations in the surrounding area. Some districts are spread out over a large area which means the crew may travel out to a substation on Monday, work there each day for a week (an allowance is given for

meals and motels) and then return home on Friday. Occasionally the crew may stay out over a weekend to finish work the next week.

The construction crews build the new substations, install additions to existing substations, and replace old equipment. This may entail installing bus and conduit, assembling and wiring switchboards, pulling and splicing cables, wiring, outdoor equipment, testing high voltage electrical equipment, etc.

Working conditions vary depending on tasks. Most work is performed outside in all weather conditions, but some work is done inside under normal shop conditions. Work is performed around energized equipment, such as switchboards containing critical control circuits where carelessness could cause a serious system disturbance or outage. Work is done in energized substations at various heights in excess of 100 feet, such as on steel framework, platforms, and ladders adjacent to energized high-voltage equipment. Such work may entail being suspended by a body-belt and safety strap from heights above 50 feet. The power system electrician apprentice must frequently work on surfaces that are slippery due to insulating oil or ice. Installing conduit, pulling cable, working in oil circuit breaker (OCB) tanks, etc., involves working in restricted and cramped quarters. At times, work may be physically demanding.

All electricians and apprentices for the BPA must adhere to the following working conditions.

- Work with hazardous materials such as acids, PCBs, asbestos, mercury, solvents, to name a few. Safe working procedures are established and must be followed.
- Work close to energized high voltage equipment. Work safely and efficiently without endangering yourself or others. Each electrician and apprentice receives training to work safely and is periodically tested to insure they have a thorough understanding of safe working procedures.
- Respond to emergency call-outs, which may occur in the middle of the night or on holidays during all weather conditions.
- Each electrician or apprentice must possess a valid state driver's license and a good driving record. This is a condition of employment, and loss of driving privileges may be cause for dismissal.
- Live within one-hour commuting distance from your assigned headquarters.
- Apprentices are expected to progress at a pre-defined rate. To do so requires more than doing eight hours of on-the-job training. Successful apprentices spend approximately eight hours of their own time each week studying apprenticeship materials. Failure to make suitable progress in the apprenticeship program is a cause for dismissal from the program.

Candidates for all BPA apprenticeship programs are selected in accordance with competitive Civil Service procedures. For information regarding the application process, please contact:

Craig Rademacher, Human Resource Specialist, Agency Recruiter at (360) 418-2753 or email cfrademacher@bpa.gov.

Steve Milistefr, Supervisory Technical Training Specialist, at (360) 418-8230 or email sbmilistefr@bpa.gov.