



## UNION JOB DESCRIPTION

TITLE: **Electrical Constructor**

### DEFINITION:

Responsible for troubleshooting, repairs, installation, and preventative maintenance of all electro-mechanical and electronic equipment related to production of power at the District's hydroelectric projects and other generation facilities.

### DISTINGUISHING CHARACTERISTICS:

This classification is a standalone classification and is a Journey level classification. Incumbents work independently and as part of a team. The Electrical Constructor must be able to perform some of the duties of the Mechanical Constructor for vacation relief and perform duties, Helper classifications, and other similar and incidental duties. Incumbents may elect to participate in the on-the-job training program and then qualify to test for advancement to the Generation Constructor level.

Incumbents in this classification assigned to the Jackson Hydroelectric Project are required to establish their residence so they will be able to report to work within thirty (30) minutes after being called.

This is a bid classification subject to CBA articles 6.2.5 and 6.2.7 where the District will select the successful candidate based on ability and personal qualifications.

### BASIC RESPONSIBILITIES:

1. Installs, maintains, and repair sequencing and protective relays necessary to power production, as well as metering equipment, station batteries, battery chargers, circuit breakers, and switchgear.
2. Maintains commutators, brushes, motors, exciters, voltage regulators, solid state devices, including Programmable Logic Controllers (PLC's), sensors, transformers, and governors.
3. Implements a preventative maintenance program; maintains accurate records of station and switchyard tests, inspections and repairs.
4. Ensures all modifications and changes to station equipment are recorded for updating of blueprints and schematics.
5. Rigs heavy machinery for moving; operates gantry cranes and motor vehicles including Snow Cat, Skid Steer/Forklift and bucket trucks.
6. Provides work direction to District personnel or contracted crews assigned to assist in the installation and maintenance of electrical equipment and allied powerhouse machinery.
7. Fabricates special equipment, e.g., switchboards, new repair parts, brackets, electrical enclosures and steel structures.
8. Starts and stops hydroelectric units when they are in auto or local manual control as directed.
9. Provides assistance in supervising and training of Generation Maintenance Helper, Generation Utility Workers, and Summer Hires.
10. Makes daily log entries, schedules necessary changes and plant inspection as needed for vacation relief.
11. Records information and maintains accurate daily plant operating log including water flow and storage calculations.
12. Observes that operational changes occur: e.g. voltage levels, generation output to maintain generation schedules and to maintain water flows as required.

13. Performs switching and tagging of appropriate equipment following established switching and safe clearance procedures and lockout/tag-out procedures.

OTHER RESPONSIBILITIES:

1. Performs other duties as assigned.

MINIMUM QUALIFICATIONS:

Knowledge of:

- Advanced electrical concepts and theories.
- Electronic theory, standard electrical drawing code numbers, NEC and basic mathematics.
- Theory of operation and use of Programmable Logic Control units and other computer based equipment.
- Safety procedures when working on or near generation equipment.

Ability to:

- Read blueprints and schematics.
- Install, troubleshoot, and repair generation plant equipment.
- Operate multimeter, oscilloscope, oxy-acetylene and welding equipment to fabricate special equipment.
- Operate computer and laptop for troubleshooting digital meters and other equipment, and software programs such as database, spreadsheet, word processing, etc.
- Physically perform duties of job, including ability to climb stairs in excess of 200 feet; bend stoop, work in tight places, walk on varying terrain, work in varying weather environments and varying noise levels.
- Operate cranes and equipment/tools required to perform job duties.
- Work independently and communicate and work effectively with coworkers and contractors and other District departments.
- Climb stairs in excess of 200 feet.
- Lift and carry equipment and materials up to 50 pounds.
- Analyze situations accurately and adapt an effective course of action.
- Learn and apply FERC License and approved NERC/WECC standards of operations (basic knowledge).
- Learn and apply District Accident Prevention Manual and WAC Electrical Safety Rules.
- Learn and apply District safety requirements; First Aid and CPR methods.
- Learn and apply Collective Bargaining Agreement.
- Learn and apply District Policies, Procedures and Directives.

Education/Experience:

- Three (3) years experience as a Journeyman Hydroelectric Plant Electrician or equivalent to include experience in generation plant maintenance, installation and repairs of equipment in a complex manufacturing facility.
- Two (2) years working with and troubleshooting of PLC's or equivalent experience.

License, Certification and/or Testing:

- Successful completion of an interview process.
- Valid Washington State Driver License, with a good driving record (immediately).
- Valid Washington State Class A Commercial Driver License required within six (6) months from start of job with maintenance thereafter.

- First Aid, CPR, and forklift certification required within six (6) months from start of job with maintenance thereafter.
- Be granted unrestricted respirator clearance within six (6) months from start of job with maintenance thereafter.

WORKING CONDITIONS:

- Duties are performed in a variety of environments both indoors and outdoors and in remote and rugged wilderness areas.
- Work is physical in nature.
- Must be able to operate tools and equipment outlined in the description.
- Work may be performed independently and alone, with infrequent face-to-face contact with other employees, and may only have contact with District staff via radio.
- Incumbent is exposed to varying weather conditions, varying noise levels and may be exposed to wild animals.
- Work will frequently occur in and around lakes and rivers. Incumbent must be able to: lift and carry equipment and materials up to 50 pounds; climb stairs in excess of 200 feet; and work in evaluated positions.
- Incumbent may be exposed to hazardous chemicals used in the cleaning and maintenance related hydroelectric components.
- This position may be required to work non-standard hours and respond to call-outs as emergency conditions dictate.
- Required driving to various generation projects, meetings and training sessions.
- Must be willing to work overtime, weekends and holidays.
- Subject to 24 hour call-out for emergency conditions.