



## UNION JOB DESCRIPTION

**TITLE: Electrical Technician Constructor**

### DEFINITION:

Responsible for troubleshooting, repairs, installation, calibration, testing and preventative maintenance of all electro-mechanical, electronic and protection equipment related to production of power at the Jackson Hydroelectric Project 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 Technician Constructor must be able to perform some of the duties of the Generation Constructor as needed.

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, inspects, maintains, and repairs sequencing and protective relays necessary to power production, as well as metering equipment, station batteries, battery chargers, circuit breakers, and switchgear. Maintains commutators, brushes, motors, exciters, voltage regulators, solid state devices, sensors, transformers, and governors.
2. Implements a preventative maintenance program for protective relays; maintains accurate records of protective relay tests inspections and repairs. Performs testing and acceptance testing on new equipment or changes to equipment, installations and protective relays and other equipment associated with the generation of power.
3. Installs and maintains Programmable Logic Controllers (PLC's) and control networks by updating parameters. Works with District Engineering and Information Technology staff and consultants in the installation of updates to PLCs.
4. Ensures all modifications and changes to station equipment and protective relays are recorded for updating of blueprints and schematics. Verifies implementation with blueprints, schematics and manuals.
5. Provides work direction to District personnel or contracted crews assigned to assist in the installation and maintenance of electrical equipment and allied powerhouse machinery.
6. Starts and stops hydroelectric units when they are in local or manual control as directed. Performs duties of Generation Constructor, including ensuring their work is in compliance with current FERC license and approved NERC/WECC standards.
7. During the absence of the Generation Superintendent, acts as technical lead responding to technical questions from bargaining unit personnel.
8. Learns and keeps abreast of technology used by District to maintain software and hardware needed to operate generation facilities, including, but not limited, to HMI's alarm systems, PLC's control networks, and plant historian.
9. Rigs heavy machinery for moving; operates motor vehicles including Snow Cat.

### OTHER RESPONSIBILITIES:

1. Performs associated duties as assigned.
2. Attends various training related to job duties; trains and provides information to other generation staff as needed.

#### MINIMUM QUALIFICATIONS:

##### Knowledge of:

- Advanced electrical concepts, theories, and relay protection schemes.
- Electronic theory, standard electrical drawing code numbers, and basic mathematics.
- Safety procedures when working near energized equipment.
- Arc hazards.
- Concepts, principles and operations of electrical protection and control equipment in including relays and circuits, layout of electrical power generations plants.
- Computer and associated software such as HMI, PLC, etc.

##### Ability to:

- Read and interpret electrical drawings, blueprints and schematics.
- Install, troubleshoot, and repair generation equipment.
- Operate multimeter, oscilloscope, and three phase relay test equipment.
- Use computer and associated software, including data recording hardware and software.
- Work independently and communicate and work effectively with coworkers and contractors and other District departments.
- Analyze and resolve situations accurately and adapt an effective course of action.
- To learn FERC License and approved NERC/WECC standards of operations (basic knowledge).
- Physically perform duties of job, walk on varying terrain, work in varying weather environments and varying noise levels.
- Climb stairs in excess of 200 feet.
- Lift and carry equipment and materials up to 50 pounds.
- 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 plant maintenance, installation and repairs of equipment in a complex manufacturing facility, plus
- One (1) year experience as a Journeyman Electrical Technician or equivalent.
- Two (2) years working with and troubleshooting of PLC's, HMI and communication networks.

##### License, Certification and/or Testing:

- 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 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.
- Successful completion of an interview process.

### 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 conditions 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 elevated positions.
- Incumbent may be exposed to hazardous chemicals used in the cleaning and maintenance of 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.