



UNION JOB DESCRIPTION

TITLE: Generation Constructor

DEFINITION:

Works with hydroelectric plant personnel in the operation, maintenance, and storeroom functions of hydroelectric and other generation projects, including power plants, dams, reservoirs, roadways, bridges, grounds, tunnels, pipelines, spill-gates, and control gates in accordance with safety standards and Federal, State, and local regulations. This position reports to the Generation Superintendent or his/her designee.

DISTINGUISHING CHARACTERISTICS:

The Generation Constructor works with District personnel ensuring safety rules and regulations are followed. The Generation Constructor must be able to perform the duties of the Electrical, Mechanical, or Helper, and other similar and incidental duties. The Generation Constructor assists the Superintendent or his/her designee in investigating special projects for workability, safety and equipment needs.

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.

Progression to Generation Constructor from other Generation Unit classifications does not require a bid and is based on meeting the experience requirements, completing the required training, and passing the practical testing.

BASIC RESPONSIBILITIES:

1. Performs equipment fabrication, troubleshooting, installation, inspection and preventive maintenance of all electrical, mechanical and hydraulic equipment related to the production of power.
2. Performs installation, maintenance, and repair of sequencing and protective relays, as well as metering equipment, station batteries, battery chargers, circuit breakers, and switchgear. Performs the installation and maintenance of electrical equipment commutators, brushes, motors, exciters, voltage regulators, solid state devices including Programmable Logic Controllers (PLC's), sensors, transformers, and governors.
3. Performs installation, maintenance, and repair of mechanical and electrical equipment and machinery, such as turbines, generators, governors, pumps, compressors, valves, cranes and hoists. Installs and maintains air, water, oil, heating, and air conditioning systems.
4. Tests or researches new equipment. Determines repairs or improvements to obsolete or defective equipment.
5. Ensures that all electrical and mechanical modifications to station equipment are recorded for updating of blueprints and schematics. Maintains accurate records of all Project tests, inspections and repairs.
6. Rigs heavy machinery for moving; operates gantry cranes, hoists, winches, and motor vehicles, including bucket trucks, Snow Cat and Skid Steer/Forklift.
7. Performs painting, welding, grinding, pipefitting, gauge testing, lathe work, carpentry, concrete work, and similar activities.
8. Works with contracted and District crews assigned to assist in the installation and maintenance of electrical and mechanical equipment and allied powerhouse machinery.
9. Utilizes and maintains portable equipment and tools, such as drills, oil purification equipment, welders, grinders, and special tools, gauges, and instruments.
10. When the Project or systems are on "local" or "manual" control operates the main units, ensuring their work is in compliance with current FERC license and approved NERC/WECC standards, operates

switchyard, pumps, auxiliary equipment, and water release equipment, including starting, stopping, monitoring and recording required information.

11. Maintains accurate daily plant operating log, including water flow interruptions, storage calculations, and equipment condition. Diagnoses cause, takes corrective action, and prepares "trouble" report.
12. Performs routine inspections and maintenance of plant structures, dam, spillways, fishways, and service installations. Performs operational changes e.g. voltage levels, generation output and water valve settings as required.
13. Inspects power plant, dam, switchyard facilities and all associated equipment on a regular basis; performs housekeeping and adjustments to equipment as required. This requires travel throughout various generation projects and project sites.
14. May serve as the lock out/tag out coordinator and performs switching and tagging of appropriate equipment following established-switching, and lockout/tag-out procedures. Observes that operational changes occur; e.g. voltage levels, generation output to maintain generation schedules and to maintain water flows as required.

OTHER RESPONSIBILITIES:

1. The Generation Constructor may act as the District's representative to the public, conducting public tours of the power plant and switchyard as scheduled by the District.
2. Performs associated duties as assigned.

MINIMUM QUALIFICATIONS:

Knowledge of:

- Actual and theoretical operation of generation project operations, features, and equipment.
- Standard mechanical and electrical concepts and theories.
- Standard mechanical drawing code numbers.
- Safety rules and procedures when working near energized equipment, all Federal, State, and local regulations governing operation of an electrical facility.
- Related computer equipment and software.

Ability to:

- Perform basic math computations on a calculator or computer.
- Operate power-generating units, control panels, computer terminals, related software and auxiliary equipment.
- Recognize and analyze equipment malfunctions and take appropriate action during emergency situations.
- Work independently.
- Communicate and work effectively with plant personnel, dispatchers, the public, and outside agencies.
- Read blueprints and schematics, and work from equipment instruction books, mechanical or electrical drawings and/or sketches as guides for equipment maintenance, modification, or installation.
- Communicate effectively both orally and in writing.
- Maintain compliance with administrative and safety rules and procedures, and government regulations.
- Climb stairs in excess of 200 feet.
- Lift and carry equipment and materials up to 50 pounds.
- Work in elevated positions.
- Operate cranes and equipment/tools required to perform job duties.

Ability to:

- Learn and apply 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.
- 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:

- High School diploma or equivalent, and
- Four (4) years Journeyman experience in a hydroelectric plant as a hydroelectric plant mechanic, hydroelectric plant electrician, hydroelectric plant operator, or equivalent experience in plant maintenance.

or

- Five (5) years experience in a Journeyman position in hydroelectric plant operation and maintenance, including planning and preparation of hydroelectric project maintenance.

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, 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.
- Successful completion of 2-year training program including passing scores on the Generation Constructor tests. This requirement is waived if candidate meets minimum qualifications as stated above.

WORKING CONDITIONS:

- Work is performed in an indoor and outdoor environment in varying weather conditions.
- 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.
- Employees risk physical hazard from energized equipment and circuits.
- Incumbent may be exposed to loud noises from turbines and machinery.
- 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 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.