

UNION JOB DESCRIPTION

TITLE: Water Industrial Electrician

DEFINITION:

This position provides technical electronic, electrical, and mechanical work involving installation, design, programming, wiring, trouble shooting, testing, maintaining, replacing, and predictive, preventative, and corrective maintenance of the District's water utility facilities including electrical, process instrumentation, telemetry control panels, telemetry control logic, variable frequency drives, generators, transfer switches, primary switch gear, transformers, motor control centers, and SCADA systems. Position may be called out to work on water system piping. This position receives work direction from the Water Crew Coordinator or Water Foreman.

DISTINGUISHING CHARACTERISTICS:

The Water Industrial Electrician classification is distinguished from the Water Electrician classification by increased responsibility, complexity of work, and extensive specialized knowledge and skills. This is a Journey Level classification within the Water Unit. Incumbents work independently and as part of a team. The Water Industrial Electrician may be required to work on water piping, hydraulic controls, and pumps. The Water Department Electrician must be available for regular duties and cannot take overtime callouts from other District workgroups if the callouts interfere with those regular duties.

Incumbents in this classification assigned to the Lake Stevens Water Operations headquarters are required to establish their residence so they will be able to report to work within thirty (30) minutes after being called.

BASIC RESPONSIBILITIES:

1. Oversees water utility personnel who are performing or assisting with electrical work to ensure that all work is done in accordance with plans, specifications, National Electric Code (NEC), Washington Administrative Code (WAC), and applicable regulations
2. Lays out, assembles, wires, and tests telemetry and control panels
3. Programs variable frequency drives, level transmitters, pressure transmitters, and process instrumentation
4. Installs, inspects, maintains, and repairs electrical equipment necessary to power and control Water Department facilities such as treatment plants, booster/supply pump stations, reservoirs, wells, control valves, large meters, and other District water utility facilities
5. Establishes, prioritizes, and schedules maintenance to the electrical systems of treatment plants, booster pump stations, reservoirs, wells, control valves, large meters, and other District water utility facilities
6. Plans, coordinates, and implements electrical upgrades to District water utility facilities
7. Works directly with District staff, consultants, and vendors to plan, and maintain the District's water utility SCADA and telemetry systems
8. Performs routine inspection of District water utility electrical, SCADA, process instrumentation, and telemetry systems
9. Prepares electrical calculations, reports, cost estimates, and project budgets
10. Coordinates with District electric utility for electric service disconnect and reconnect
11. Verifies and updates standard operating procedures for electrical equipment and safety practices

12. Ensures work site safety compliance during field operations including, but not limited to, traffic zones, confined space entry, safety equipment usage, excavation planning and execution, and equipment usage in compliance with Federal and State regulations
13. Responds to emergency call outs and provides after hours support to on-call Standby duty staff
14. Maintains accurate and updated as-builts and schematics
15. Reviews plans, submittals, and warranties and provides comment to District water utility engineers, consultants, vendors, and other stakeholders
16. Applies for and obtains all necessary electrical permits
17. Monitors project spending and adheres to project budget

OTHER RESPONSIBILITIES:

1. Performs associated duties as assigned
2. Depending on experience may be eligible for on-call/standby duties
3. Attends various training related to job duties; trains and provides information to Water Electrician and other Water Department staff as needed

MINIMUM QUALIFICATIONS:

Knowledge of:

- Advanced electrical concepts, electrical theory and practices
- 12/24 VDC and 120/240 VAC control wiring
- UL508A control panel wiring practices
- ISA codes for process instrumentation
- Load calculations and basic mathematics
- Electronic theory, concept of wiring standard electrical drawing code numbers, and basic mathematics
- Safety procedures when working near energized equipment
- Arc flash hazards
- Lockout Tagout procedures
- Concepts, principles and operations of electrical protection and control equipment including starters, relays and circuits, layout of electrical power generations plants
- Computer and associated SCADA software
- 4-20ma signals and calibration
- Programmable Logic Controllers (PLC), Human-Machine Interfaces (HMI) on many different devices
- Electronic Theory and Proportional Integral Derivative (PID) circuits
- Theories and concepts of panel layout, assembly, wiring, and testing
- Operation and programming of variable frequency drives
- Maintenance schedules for electrical, telemetry, and SCADA systems

Ability to:

- Read and interpret electrical drawings, blueprints, schematics, and one-line diagrams
- Assemble and label cables and wires to ensure a neat and functional panel layout
- Test all District water utility electrical and electronic equipment to confirm proper function and quality assurance

- Program variable frequency drives
- Install, troubleshoot, and repair generators and transfer switches
- Operate multimeter, analog loop calibrator, infrared meter, and vibration meter
- Use computer and associated software, including data recording hardware and software
- Work independently, communicate and work effectively with coworkers, contractors and other District departments and personnel
- Analyze and resolve situations accurately and adopt an effective course of action
- Analyze and document single and three-phase motors and winding resistance measurements
- Physically perform duties of job, walk on varying terrain, work in varying weather environments and varying noise levels
- Lift and carry equipment and materials up to 50 pounds
- Learn and apply District Accident Prevention Manual
- Learn and apply NEC and WAC electrical safety rules
- Learn and apply District Policies, Procedures and Directives

Education/Experience:

- High School diploma or equivalent

License or Certification:

- Licensed Electrician EL01 Electrical Journeyman
- Eight (8) years experience as a licensed electrician, with preference to experience with the electrical systems in water operations, telemetry systems, or other like infrastructure
- Two (2) years' experience in telemetry panel layout, assembly, wiring, and testing per UL508A standards
- One (1) year experience programming variable frequency drives
- WA State Department of Health certification as a Water Distribution Manager I (within twelve months of hire)
- Certified Work Zone Traffic Control (Flagging Card) (within twelve months of hire)
- CPR First Aid Certification (within twelve months of hire)
- Forklift Certified (within twelve months of hire)

WORKING CONDITIONS:

- Duties are performed in a variety of environments both indoors and outdoors
- Work is physical in nature
- Must be able to operate tools and equipment of the electrical trade
- Incumbent must be able to lift and carry equipment and materials up to 50 pounds; climb ladders up to 120 ft in height
- Incumbent may be exposed to hazardous chemicals used in potable water treatment
- This position may be required to work non-standard hours and respond to callouts as emergency conditions dictate
- Required driving to various District facilities or meetings and training sessions
- Subject to 24-hour call-out for emergency conditions