

PUBLIC UTILITY DISTRICT NO. 1 OF
GRAYS HARBOR COUNTY, WASHINGTON

POSITION TITLE: Substation Engineer Level I
REPORTS TO: Substation/Automation/Planning Supervisor
SUPERVISES: None
UNION AFFILIATION: I.B.E.W. System Engineers
PURPOSE OF POSITION: Performs entry-level electrical engineering work required for the planning, design, construction, oversight, and support of the substations, SCADA, and substation automation systems. This position requires entry-level knowledge of the principals, practices and procedures, including materials, equipment and techniques, used in professional level work in the field of electrical engineering.

The employee will be assigned either Substation or SCADA and substation automation as their "area of emphasis". The employee is expected to satisfactorily perform all duties and responsibilities in their area of emphasis as defined in the "Design and Maintenance" portion of the job description. The supervisor and employee will work together to provide opportunities for the employee to gain knowledge and proficiency in the non-emphasis area.

DUTIES AND RESPONSIBILITIES

A) DESIGN AND MAINTENANCE

SUBSTATION

- 1) Provide entry-level engineering support for substation and protective relaying projects.
- 2) Perform routine electrical engineering design and analysis for projects.
- 3) Participate in preparation of specifications for contractor bids on substation construction projects.
- 4) Participate in preparation of substation equipment specifications for circuit breakers, protective relaying, transformers, switchgear, communications, steel, switches, etc.
- 5) Participate in coordinating projects and other activities and work with contractors and consulting engineers on design, construction and specifications of substation projects.
- 6) Participate in the evaluation of transmission and distribution system protection coordination schemes.
- 7) Participate in fault studies for proper application of fuses, reclosers and substation relay settings.
- 8) Participate in economic evaluations and cost estimating for substation projects and operation.
- 9) Provide instruction and answers to questions concerning substation and protective relaying design issues.

SCADA and Substation Automation

- 1) Provide entry-level engineering support for SCADA and substation automation projects.
- 2) Perform routine electrical engineering design, construction oversight, software implementation and maintenance and analysis for SCADA and substation automation.
- 3) Cooperate with other departments to design, implement, and maintain communication protocols (software) for data interfaces to intelligent devices for use with SCADA and substation automation systems.
- 4) Participate in preparation of specifications for contractor bids and equipment and software purchases for SCADA and substation automation system projects.
- 5) Participate in coordinating SCADA and substation automation projects and other activities and work with District crews, contractors and consulting engineers on design, construction and specifications of SCADA and substation automation system projects.
- 6) Participate in research and development of solutions for integrating devices into the SCADA and substation automation systems.
- 7) Participate in economic evaluations and cost estimating for SCADA and substation automation system projects and operations.
- 8) Provide training, documentation, and technical support during the installation, maintenance, and operation of SCADA and substation automation equipment.

B) GENERAL ENGINEERING

- 1) Provide basic electrical engineering support to other departments.
- 2) Develop and update computer analysis programs or tracking systems for appropriate projects.

C) OTHER

- 1) Participate in presentations, special projects, and assignments as directed.
- 2) Perform other duties as assigned.

QUALIFICATIONS

KNOWLEDGE, SKILLS AND ABILITIES

Ability to read, interpret, and apply applicable laws, codes, standards, and accepted safety practices relating to electrical utility work.

Ability to read and interpret one-line diagrams, three-line diagrams, schematics, and wiring diagrams.

Ability to apply engineering theory to system studies and basic electrical power system design.

Ability to work under direct and indirect supervision.

Thorough knowledge of basic fundamentals of electricity.

Knowledge of engineering fundamentals, drawing, designing and mathematics.

Knowledge in the operation of personal computers and office equipment.

Ability to communicate effectively orally and in writing with all levels of the organization, contractors, and customers.

Demonstrated ability to complete assignments in a timely and accurate manner.

EDUCATION AND EXPERIENCE

Bachelor of Science Degree in Electrical Engineering from an accredited college or university; or other combinations of education and/or experience which provides the necessary skills to perform professional engineering work on electrical power systems.

0 – 3 years of relevant experience

OTHER REQUIREMENTS

Must possess a valid Washington State driver's license (out of state residents have 30 days from date of hire to obtain a valid Washington State driver's license) and qualify for the District's auto liability insurance.

WORKING CONDITIONS

Work is performed in an office and in the field. Individual may be exposed to conditions and hazards from brush, obstacles, debris, holes, fences, and open trenches associated with construction sites and/or rural areas of service; and to conditions and hazards associated with decrepit buildings. Individual is exposed to electrical high voltage lines. Individual may be exposed to aggressive animals. This position may necessitate working beyond normal business hours. Overnight travel may be required.

PHYSICAL ACTIVITIES

This position requires periods of frequent sitting, standing, walking, lifting (50 pounds or less), crouching, bending, and travel to perform construction site inspection and reconnaissance activities in all types of weather conditions. These responsibilities could not be fulfilled by individuals with severe restrictions in mobility, sight, hearing, or speech.