*(The specific statements shown in each section of this description are not intended to be all inclusive.
They represent typical elements and criteria considered necessary to successfully perform the job.)*

**Purpose:**

Performs a wide variety of skilled tasks including installation, troubleshooting, repairs, modification, design, and calibration of instrumentation and metering equipment, SCADA, telemetry and electrical systems for water and wastewater facilities.

**Essential Functions:**

* Maintains and repairs a variety of water and wastewater appurtenances including electronic controls, electric equipment and monitoring and metering equipment;
* Installs new PLCs and write programs for replacement of older, outdated models;
* Installs, configures and commissions variable frequency drives.
* Use laptop computer to trouble shoot, document, modify or correct settings and parameters for logic, relays and motors.
* Installs, maintain and repair all components of SCADA and telemetry system.
* Test, calibrate and maintain records of electronic equipment.
* Modify and implement computer software programs for data logging and control.
* Performs troubleshooting duties identifies and diagnoses operational problems and/or malfunctioning of equipment throughout the water and wastewater systems;
* Tests, locates and repairs electrical circuits and equipment.
* Diagnose and repair equipment failures utilizing schematic diagrams and test equipment Assists in all aspects of new facility planning including renovations and new construction;
* Participates in variety of meetings to review, discuss, and address concerns, issues, and resolve problems.
* Works closely with water or wastewater plant superintendents on maximizing plant efficiencies and operations;
* Performs other duties as assigned.

**Qualifications:**

* Knowledge of PLC logic and programming with any of the following PLCs: Allen Bradley, Siemens, GE Fanuc, Schneider and Toshiba.
* Knowledge of VFD’s, PLC’s and their programming and troubleshooting; HMI programming and scripting;
* Knowledge of radio’s and antenna systems;
* Knowledge of LAN operation and troubleshooting;
* Knowledge of materials, practices, and equipment used in water/wastewater transmission system operation, construction, maintenance , and repair activities;
* Knowledge of the uses and capabilities of various water/wastewater transmission system maintenance related equipment;
* Knowledge of the safe and proper use of all equipment, tools, and machines;
* Skill in communicating orally and in writing;
* Skill in establishing and maintaining effective working relationships with City staff and the public.
* Knowledge of water plant and/or wastewater plant operations and processes;
* Ability to read and comprehend diagnostic material;
* Knowledge and understanding of OSHA, TOSHA, AWWA, NFPA, and Building codes.

**Education and Experience:**

Associate’s Degree in Electrical, Electronics or related field minimum. 3 to 5 years’ experience as a journey level electrician. 1 to 3 years’ experience in the instrumentation field involving maintenance, calibration, installation and repair of electronics solid state controls, instrumentation, data communications and related equipment. Valid TN/VA Drivers License.

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| --- | --- |
| **Physical Requirements** | **Amount of time** |
| **None** | **Occasionally** (Up to 33% of the time) | **Frequently** (33%-66% of the time) | **Constantly** (More than 66% of the time) |
| Standing |   | X |  |  |
| Walking (including rough/uneven surfaces) |   |  | X |  |
| Sitting |   | X |  |  |
| Fingering or manual dexterity |   | X |  |  |
| Repetitive finger motion |   | X |  |  |
| Lifting or exerting force |   | X |  |  |
|     Up to 10 pounds |   |  |  |  |
|     Up to 25 pounds |   | X |  |  |
|     Up to 50 pounds |   |  |  |  |
|     Up to 100 pounds |   |  |  |  |
|     Over 100 pounds |   |  |  |  |
| Reaching and stretching |   | X |  |  |
| Climbing and balancing |   | X |  |  |
| Squatting and bending |   | X |  |  |
| Kneeling and crawling |   | X |  |  |
| Speaking |   |  | X |  |
| Hearing |   |  |  | X |
| Tasting | X  |  |  |  |
| Smelling | X |  |  |  |
| Seeing (with correction) |   |  |  |  |
|     Close vision |    | X |  |  |
|     Distance vision |  | X |  |  |
|     Color discrimination |  | X |  |  |
|     Peripheral vision |   | X |  |  |
|     Depth perception |   | X |  |  |
|     Focusing ability |  | X |  |  |
| **Work Environment** | **Amount of time** |
| **None** | **Occasionally** (Up to 33% of the time) | **Frequently** (33%-66% of the time) | **Constantly** (More than 66% of the time) |
| Outdoor weather conditions |  |  | X |  |
| Wet or humid conditions (weather) |  |  | X |  |
| Extreme cold (weather) |  |  | X |  |
| Extreme heat (weather) |  |  | X |  |
| Fumes or air-borne particles |  | X |  |  |
| Toxic or caustic chemicals |  | X |  |  |
| Blood-borne pathogens | X |  |  |  |
| Risk of fire or explosion |  | X |  |  |
| Risk of electric shock |  |  | X |  |
| Risk of radiation | X |  |  |  |
| Risk of drowning |  | X |  |  |
| Prolonged exposure to vibration |  | X |  |  |
| Loud noise level |  | X |  |  |
| Special/Unusual Working Conditions |   |  X |   |   |