



## **INSTRUMENTATION TECHNICIAN**

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

### **DEFINITION**

Under general supervision, performs a wide range of skilled technical duties pertaining to the installation, maintenance and repair of electrical and electronic instrumentation, control, communications and computerized systems used in the collection, transmission and treatment of wastewater and the distribution and treatment of potable and irrigation water; and performs related work as assigned.

### **CLASS CHARACTERISTICS**

This is a full working-level technician class, responsible for installing, testing, calibrating, maintaining and repairing digital, analog, computerized systems, communications and telemetry systems, including state-of-the-art process control and SCADA systems used in the collection, transmission and treatment of wastewater or water. Incumbents do not supervise other employees, but do work alone on routine or regular work assignments, checking with a supervisor on non-routine assignments or when in doubt as to the correct procedure to follow. Although incumbents are expected to independently utilize their technical skills, the work is characterized by the presence of fairly clear guidelines from which to make decisions and the availability of supervision in non-routine circumstances.

### **ESSENTIAL FUNCTIONS**

*The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude the position if the work is similar, related or a logical assignment to the class.*

- Diagnoses, troubleshoots and repairs coaxial, copper telephony and fiber optic cables for high-speed communication systems; installs, relocates, modifies, troubleshoots, adjusts and performs preventive maintenance on a wide variety of electronic communications systems, equipment and components; installs, diagnoses, troubleshoots, repairs and performs preventive maintenance on mobile and stationary radio systems and equipment, including base units.
- Tests, troubleshoots, calibrates, services, repairs and performs preventive maintenance on a wide variety of electronic monitoring, control and communications equipment, components and devices used in the collection, transmission and treatment of wastewater and the distribution and treatment of potable and irrigation water, utilizing operational performance standards and standard and special testing equipment.

- Tests solid state circuitry to locate defective parts in analog and digital equipment; replaces defective parts.
- Isolates and diagnoses equipment and system failures in the field; performs bench repairs on components; corrects defects in instrumentation; makes recommendations for system modifications/
- Installs new instrumentation equipment and devices according to manufacturers' specifications; inspects equipment installation work performed by contractors.
- Designs and fabricates weatherproof conduit assemblies to protect instruments; enters underground vaults to locate, test and repair cables and conduits; maintains, repairs and calibrates various process transmitters.
- Assists in designing, planning and laying out work from instructions and/or work orders, using blueprints, sketches and drawings.
- Requisitions necessary tools, equipment and supplies.
- Utilizes software applications for troubleshooting, diagnostics and record keeping.
- Required to respond 24/7 to emergency situations.
- May assist in training or instructing others in the work.
- Maintains files of calibrations and other works performed.
- Performs other duties and responsibilities as required.

### **QUALIFICATIONS GUIDELINES**

#### Knowledge of

- Practices, methods, techniques, tools and equipment used in the installation, testing, calibration, maintenance and repair of electronic equipment and devices common to a large water works system, including state-of-the-art distributed process control and SCADA systems.
- Electronic shop procedures and practices.
- Safety practices, safe work methods and safety regulations pertaining to electrical work.
- Mathematics skills, to include addition, subtraction, multiplication, division and trigonometry.
- Basic laws and regulations applicable to the work.
- Principles and practices of record keeping.
- Modern office procedures, methods and equipment, including personal computers and standard software applicable to the work.

### Ability to

- Test, diagnose, calibrate and repair a wide variety of electronic communications, computer and instrumentation equipment, components and devices common to the water works field.
- Use modern, state-of-the-art precision and diagnostic electronic and electrical instruments to test, calibrate and repair devices and equipment.
- Identify and implement effective courses of action to complete assigned work.
- Read and interpret electrical diagrams, schematics, specifications and manuals.
- Work safely around electrical and electronic equipment.
- Exercise independent judgment and initiative within established guidelines.
- Prepare a variety of documents, including technical reports.
- Communicate clearly and concisely, both orally and in writing.
- Wear Flash Arc protective clothing.
- Establish and maintain effective working relationships with those contacted in the course of work.

### Education

Completion of 60 semester (or equivalent quarter) units from an accredited college or university with at least 24 units in computer science, physics, mathematics, engineering, or a related field.

### Experience

Two years of skilled experience involving the installation, maintenance and repair of modern, state-of-the-art electronic equipment and devices common to the water and wastewater industry.

### Substitution

Additional qualifying experience may substitute for the above-required education on a year-for-year basis, where one year of experience is equivalent to 30 semester (or equivalent quarter) units.

### Licenses/Certificates

- Possession of a valid California Water Environment Association (CWEA) certificate as an Instrumentation Technician II is required.
- Possession of a valid California driver's license, Class C or higher, is required.
- Possession of, or ability to obtain, certification from District-provided CPR/First Aid training is required.

### Physical Requirements

The following abilities are considered necessary to successfully perform the essential functions of this class; however, applicants who request accommodation will be considered on a case-by-case basis.

Ability to: communicate orally, in person and by telephone, in face-to-face, one-to-one, and group settings; sufficient manual dexterity to use office equipment such as computers, copiers, telephones and FAX machines; sit for extended periods of time; have hearing and vision within normal ranges; frequently lift, carry, push or pull up to 50 pounds; occasional bend, stoop, crawl and kneel; walk on uneven terrain; work in an outdoor environment with possible exposure to harsh weather conditions, heavy equipment, dust, noise and potentially hazardous substances; work with electricity; work in confined spaces; work in pits, trenches, and/or elevated areas.

### Special Requirements

Must be willing to assume responsibility for 24-hour operations in assigned area of responsibility or to respond to emergency situations in off hours as required.

Must be able to wear Respiratory Protection issued by the District.

FLSA: NON-EXEMPT  
Range: 60  
Union: JCSDEA  
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