

# CITY OF SIMI VALLEY

## SENIOR 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.*

### **SUMMARY DESCRIPTION**

Under direction, leads, oversees, and participates in performing a wide variety of skilled tasks including installation, repairs, troubleshooting, planning, modification, design, installation and calibration of instrumentation, SCADA control and electrical systems for wastewater treatment facilities; oversees and maintains a spare parts inventory; and trains staff in the operation and maintenance of electrical and electronic instrumentation equipment.

### **DISTINGUISHING CHARACTERISTICS**

This is the advanced journey-level class in the Instrumentation Technician series. Positions at this level are distinguished from Instrumentation Technician by having primary accountability for all instrumentation program leadership and technology evaluation, as well as implementation and project coordination responsibilities. Employees in this class perform the most difficult and responsible instrumentation duties, including the performance of lead supervisory duties. Employees at this level are required to be fully trained in all procedures related to the assigned area of responsibility

### **REPRESENTATIVE DUTIES**

*The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.*

1. Provide lead supervision and training to assigned staff responsible for performing a wide variety of skilled tasks including installation, repairs, troubleshooting, planning, modification, design, installation and calibration of instrumentation, SCADA control and electrical systems for wastewater treatment facilities; oversee and train staff in the operation and maintenance of electrical and electronic instrumentation equipment including programmable logic controllers, variable frequency drives, remote terminal units, supervisory control data acquisition (SCADA) systems, and software controlled units and equipment.
2. Prioritize, plan and oversee projects and workload for the assigned unit; coordinate with internal and external customers regarding project requirements and timelines; delegate work to subordinate staff; assess and plan for future needs.
3. Verify the work of assigned staff for accuracy, proper work methods, techniques and compliance with applicable standards and specifications; ensure adherence to established guidelines, rules and regulations; assist in hiring and evaluating the performance of staff.
4. Provide lead supervision to assigned staff on proper safety procedures related to all work performed; oversee and participate in safety and training sessions and seminars; train assigned staff in the methods and techniques of assigned unit.
5. Oversee the use, care, and operation of process control instrumentation, electrical, and related equipment; research, recommend and implement new and revised procedures, systems and equipment for assigned unit.

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6. Oversee and participate in the repair of instrumentation systems, equipment and components, both in the field and in the shop.
7. Oversee and participate in installing and maintaining electrical control systems and instrumentation systems including electronics, programmable controllers, telemetry, telecommunications, meters, generators, transmitters, hydraulics, pneumatics and a variety of other systems; inspect installed systems to ensure proper operation.
8. Oversee and participate in repairing, troubleshooting, installing, and maintaining high and low voltage electrical equipment and related devices including transformers, power panels, wireways, light fixtures, receptacles, and disconnect switches.
9. Provide technical advice and support to operators, supervisors, City engineering staff, and agency personnel; work closely with private control system design and engineering teams.
10. Modify, design and change control circuits; install temporary systems to sustain operations.
11. Ensure safe and reliable power to all plant processes.
12. Modify and implement computer software programs for data logging and control.
13. Maintain efficient records on operations and activities; coordinate and prepare a variety of reports.
14. Interpret and modify drawings, blueprints, schematics and diagrams for a variety of wastewater systems.
15. Estimate time, materials, and equipment required for projects; coordinate purchase of required materials.
16. Respond to emergency call-outs on nights, weekends and holidays.
17. Work with management in establishing and overseeing goals and objectives for assigned unit.
18. Perform related duties as required.

**QUALIFICATIONS**

*The following generally describes the knowledge and ability required to enter the job and/or be learned within a short period of time in order to successfully perform the assigned duties.*

**Knowledge of:**

Operational characteristics of instrumentation and electrical equipment and components.

Principles of lead supervision and training.

Advanced methods, techniques, materials, equipment, and tools used in installing electrical wiring, control devices, and equipment.

Advanced operational characteristics of fiber-optic, Local Area Network, and SCADA systems.

Standard terms, practices, procedures, methods, and mathematics used in the instrumentation and electrical trades.

National Electrical Code and the Electrical Safety Orders of Cal OSHA.

Advanced principles of pneumatic controls and devices, telemetry and electronic installation, maintenance, operation, testing and repair.

Preventive maintenance applicable to electrical and instrumentation systems.

Effects of hazardous chemical conditions encountered in a wastewater treatment plant.

Occupational hazards and standard safety practices.

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Office procedures, methods, and equipment including computers and applicable software applications.  
Principles and practices of project management.  
Telecommunications operating systems and equipment.

**Ability to:**

Lead, organize, train, assign and review the work of staff.  
Independently perform the most difficult installation, repair, troubleshooting, and maintenance of instrumentation and electrical equipment.  
Understand the organization and operation of the City and of outside agencies as necessary to assume assigned responsibilities.  
Interpret, explain, and enforce department policies and procedures.  
Understand, interpret, explain, and apply applicable federal, state, and local policies, laws, and regulations.  
Operate programmers, calibrators, measuring, and testing devices, hand tools, and equipment of the trade.  
Calibrate, align, and test a variety of systems designed to monitor treatment plant processes and activities.  
Plan and execute repair, maintenance, and installation of controls and equipment.  
Estimate costs, time and labor requirements.  
Troubleshoot and diagnose problems.  
Read and interpret technical illustrations, blueprints, maps, plans, specifications, wiring and pneumatic diagrams.  
Work in confined spaces and safely use self-contained breathing apparatus.  
Keep records and schedule maintenance work.  
Operate office equipment including computers and supporting software applications.  
Assist management in the preparation of operations budgets and capital equipment plans.  
Repair and maintain telecommunications operating systems and equipment.  
Work under steady pressure with frequent interruptions.  
Learn and apply new information or new skills.  
Work independently in the absence of supervision.  
Communicate clearly and concisely, both orally and in writing.  
Establish and maintain effective working relationships with those contacted in the course of work.  
Respond to emergency call-outs on nights, weekends and holidays and perform assigned duties in the event of a City-declared emergency.

**Education and Experience Guidelines** - *Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:*

**Education/Training:**

Equivalent to the completion of the twelfth grade supplemented by college-level course work in electronics or a related field.

**Experience:**

Four years experience performing duties equivalent to Instrumentation Technician with the City of Simi Valley, including design, repair, installation and maintenance of electrical equipment such as instrumentation systems, transformers, switches, control panels, electronic components of telemetry systems and components utilized in a wastewater treatment plant.

**License or Certificate:**

Possession of a California Water Environment Association (CWEA) Electrical/Instrumentation Grade III certification is desirable.

**PHYSICAL DEMANDS AND WORKING ENVIRONMENT**

*The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.*

**Environment:** Wastewater treatment plant environment; exposure to noise, grease, fumes, gases, electrical energy, toxic materials, and inclement weather conditions.

**Physical:** Sufficient physical ability to perform moderate lifting, bending, stooping, kneeling; climbing ladders; diagnosing equipment maintenance needs through listening and feeling machine surfaces; working in confined spaces.

**Vision:** See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents and to operate equipment.

**Hearing:** Hear in the normal audio range with or without correction.

Established: August 2008