

# CITY OF SIMI VALLEY

## 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 general supervision, maintains, repairs, inspects, plans, modifies, designs, installs and calibrates instrumentation and SCADA control systems for wastewater treatment facilities; maintains a spare parts inventory; and trains operations staff in the operation and maintenance of instrumentation and control systems.

### **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. Install and mount instrumentation systems including electronics, instrumentation control, telemetry, telecommunications, hydraulics, pneumatics and a variety of other systems; inspect installed systems to assure proper operation.
2. Support the Supervisory Control and Data Acquisition (SCADA) system and associated sub systems.
3. Record and verify accuracy of flow, temperature, pressure and other measuring, recording and transmitting devices used in wastewater treatment and laboratory equipment; perform physical and chemical testing to calibrate systems.
4. Participate in the fabrication, installation, mounting and wiring of systems and devices along with associated supports, brackets, bases, and hardware.
5. Maintain calibration, configuration control, preventive maintenance, and system integrity records required by internal and external directives; recommend calibration intervals; perform routine alignment and calibration on electronic equipment.
6. Design and repair instrumentation systems, equipment and components, both in the field and in the shop.
7. Diagnose, troubleshoot, update and repair malfunctioning systems and equipment, calibration problems and other measuring, recording and transmitting device failures.
8. Modify, design and change control circuits; install temporary systems to sustain operations.
9. Clean, lubricate and change component parts.
10. Ensure safe and reliable power to all plant processes.
11. Modify and implement computer software programs for data logging and control.
12. Maintain efficient records on operations and activities; coordinate and prepare a variety of reports.

13. Interpret and modify drawings, blueprints, schematics and diagrams for a variety of wastewater systems; estimate time and materials for assigned projects.
14. Requisition materials and supplies for system requirements; provide direction to outside contractors, engineers, and vendors.
15. Research new operation control systems.
16. Perform lockout/tagout duties as assigned.
17. Respond to requests for information regarding plant data.
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:**

Technical operation and maintenance of modern electronic devices.  
Operating characteristics of electronic components.  
Electronic theory and circuit design, current loops, ultrasonic level sensors, and pressure transducers.  
Principles and practices of instrumentation calibration, alignment, and configuration procedures.  
Occupational hazards, standard safety practices and applicable electrical codes.  
Operational characteristics of fiber-optic and SCADA systems.  
The National Electrical Code.  
Local area networks.  
Mechanical machine design and hardware systems.  
Office procedures, methods and equipment including computers and applicable software applications.  
Treatment plant requirements and permits.

#### **Ability to:**

Install, modify, design and repair equipment related to electronics, instrumentation control, telemetry, telecommunications, hydraulics, and pneumatics.  
Calibrate, align and test a variety of systems designed to monitor treatment plant processes and activities.  
Read, interpret and understand technical manuals, electronic schematics, blueprints, drawings, and diagrams.  
Design, update and fabricate new equipment, control systems and software.  
Plan and execute repair, maintenance, and installation of controls and equipment.  
Maintain detailed records and prepare clear and concise reports.  
Manage the work of contractors and inspect work performed.  
Operate office equipment including computers and supporting software applications.  
Adapt to changing technologies and learn functionality of new equipment and systems.  
Communicate clearly and concisely, both orally and in writing.  
Establish and maintain effective working relationships with those contacted in the course of work.

**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:**

Two years of increasingly responsible experience in the maintenance, repair, fabrication and installation of instrumentation systems in a wastewater treatment system, water distribution, water processing, or other industrial process control environment.

**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.

**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.

Adopted: September 2003  
*Johnson & Associates*

Revised: July 2016; October 2019