CITY OF
SIMI VALLEY

WATERWORKS SYSTEMS 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, provides technical support for all electronic and electrical instrumentation and computer systems controlling the water distribution system; designs new instrumentation, electronic and control systems as necessary; assists other employees in the operation and maintenance of instrumentation and control systems as necessary; and provides responsible and complex technical support to the Assistant Waterworks Services Manager.

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. Participate in maintaining the Supervisory Control & Data Acquisition (SCADA) system including installing, troubleshooting, and repairing SCADA software and electrical and instrumentation devices and controls; design and update database and graphic computer systems as necessary.

3. Research upgraded and updated control apparatuses; inform management of findings.

4. Design, fabricate and install new instrumentation, electrical and control systems as they become necessary.

5. Record and verify accuracy of flow, temperature, pressure and other measuring, recording and transmitting devices used in the water distribution system.

6. Participate in the fabrication, mounting and wiring of systems and devices.

7. Reverse engineer existing systems to develop working schematics.

8. 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.

9. Design and repair instrumentation systems, equipment and components, both in the field and in the shop in accordance with modern safety practices and principles.

10. Diagnose, troubleshoot, update and repair malfunctioning systems and equipment, calibration problems and other measuring, recording and transmitting device failures.

11. Modify, design, and change control circuits; install temporary systems to sustain operations.

12. Clean, lubricate, change component parts, maintain systems.

13. Modify and implement computer software programs for data logging and control.

14. Maintain efficient records on operations and activities; coordinate and prepare a variety of reports on data.

15. Interpret and modify drawings, blueprints, schematics and diagrams for a variety of water distribution systems; estimate time and materials for assigned projects.

16. Assist utility companies with scheduled outages and start-ups.

17. Supervise outside contractors and vendors on job specific projects.

18. Requisition materials and supplies for system requirements; review vendor specifications for new and upgraded equipment.

19. Assist Service Workers in emergency repairs.

20. 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.
Troubleshooting of electrical and electronic control circuits.
Electromechanical theory.
Water distribution systems, hydraulic controls and valves.
Relay switching logic and transistor theory.
D.C. power systems, solar panels, batteries and charging equipment.
Computer hardware and system control software.
Computer data control systems.
Electronic maintenance programs.
Programmable Logic Circuits ladder logic.
Operating characteristics of electronic components.
Principles and practices of instrumentation calibration and alignment procedures.
Occupational hazards and standard safety practices.
Understand, interpret and apply national electric codes.
Modern office procedures, methods and computer equipment.

Ability to:

Install, modify, design and repair equipment including electronics, instrumentation control, telemetry, telecommunication, hydraulic, and pneumatic systems.
Calibrate, align and test a variety of processes.
Read, interpret and understand technical manuals, electronic schematics, blueprints, drawings, and diagrams.
Calculate water pressure, volume and flow.
Diagnose computers and computer based equipment and perform necessary repairs.
Design, update and fabricate new equipment, control systems and software.
Perform electrical and electronic calculations.
Perform heavy manual labor.
Work in inclement weather conditions.
Plan and execute repair, maintenance, and installation of controls and equipment.
Maintain detailed records and prepare clear and concise reports.

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 specialized training 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 water distribution system.

License or Certificate:

Possession of, or ability to obtain, an appropriate, valid driver's license.

Possession of, or ability to obtain within one year of employment, a Grade D1 Water Distribution Operator certificate.

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: Office and field environment; travel from site to site; work with or around equipment; work or inspect in confined spaces; exposure to electrical energy, noise and inclement weather conditions.

Physical: Sufficient physical ability for moderate to heavy lifting and carrying; walking, standing and sitting for extended periods of time; repeated bending and operation of motorized vehicles and equipment.

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: January 2004
Johnson & Associates

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