



Job Description

Title:	Electrical Systems Technician		Modified:	09/14/2010
Salary Level:	23A		FLSA Status:	Non-exempt
Supervisor:	Maintenance Utility Manager	Supervises:	None	
Job Family:	None	Bargaining Unit:	Miscellaneous Employees	

JOB SUMMARY:

This is a journey-level specialized class. An incumbent in this class performs skilled electrical work pertaining to the maintenance, repair and upgrading of electrical and electronic control systems (e.g., for water, wastewater, sewer and storm water facilities) and provides support to other City electrical and maintenance functions such as radio and information systems network communications.

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Performs electrical installation, maintenance, management, repairs and upgrades on City instrumentation systems such as SCADA, PLC and RTU systems.
- Installs and tests new control system equipment; maintains, calibrates, cleans and tunes control system equipment; maintains, tests, cleans, verifies, repairs or replaces auxiliary systems as needed.
- Troubleshoots and diagnoses malfunctioning equipment; repairs or replaces malfunctioning equipment as appropriate.
- Monitors and tracks SCADA system functions, including system pressure, tank levels and alarms; adjusts system settings as required to maintain proper function.
- Performs electrical and mechanical repairs to pumps and other water, wastewater, sewer and storm water equipment.
- Provides routine technical support for information technology hardware and software for assigned departments; assists with resolving network and communication systems issues.
- Reviews and checks plans and designs of City electrical, radio and control systems; reads and interprets wiring diagrams, mechanical drawings, manuals and specifications; documents and draws circuits as installed.
- Works with outside engineers and contractors to assist with the design of telemetry, radio, SCADA, network and other systems.
- Provides telephone system maintenance, repairs and upgrades for assigned departments.
- Assists in developing work plans, procedures and schedules.
- Orders supplies and equipment for work projects.
- Prepares documentation of projects and time worked.
- May assist in maintaining, repairing, constructing and installing other electrical systems for street lights, traffic signals, and City buildings; may assist general maintenance work crews as needed; may help perform emergency repairs to water, sewer, and drainage systems.
- Maintains awareness of safety procedures and practices them on work assignments.
- Operates hand and power tools and motorized equipment used in maintenance work.
- Responds to citizen complaints and answers questions.
- Performs other related duties as assigned.

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QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Ability to:

- Diagnose electrical, electronic, mechanical, hydraulic, and pneumatic malfunctions in instrumentation and telemetry systems.
- Read and interpret wiring diagrams and mechanical drawings.
- Make repairs to metering and control instruments.
- Make estimates of labor and materials.
- Maintain records and make oral and written reports.
- Establish and maintain effective working relationships with those contacted during the course of work.
- Document modifications made to equipment.
- Operate standard computer hardware and software, as well as specialized software pertaining to water, sewer, wastewater and storm water control systems.
- Read, understand and apply safety procedures in operating equipment and performing work assignments.
- Operate specialized and motorized equipment used in public works maintenance work.
- Meet schedules and time lines.
- Maintain records and prepare reports.

Knowledge of:

- Electrical and electronic circuits.
- Methods, practices and tools used in maintaining, repairing, testing and adjusting a wide variety of recording and metering instruments.
- Mechanical linkages to telemetry systems.
- Safety practices and precautions pertaining to the work.
- Codes, laws and ordinances pertaining to the work, including the National Electric Code (NEC).
- Basic mathematics including addition, subtraction, multiplication, division, percentages, and fractions.
- Principles and operation and maintenance of a variety of actuating instruments and controls.
- Hydraulics as it relates to the operation of recording and metering instruments.
- The mechanics of pumps, valves and backflow devices.
- How to read and implement blue print and schematic directions.
- The use and operation of tools and equipment used in assigned maintenance work.
- The general use of computers.

Education and/or Experience:

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be: possession of a high school diploma or general education degree (GED) and four (4) years of electrical maintenance work, including at least two years of specialized experience involving electrical and electronic telemetry, SCADA and related control systems; or an equivalent combination of education and experience.

Language Skills:

Ability to read and comprehend equipment instructions, as well as correspondence and memos. Ability to write routine correspondence. Ability to effectively present information in one-on-one and small group situations.

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Mathematical Skills:

Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Ability to compute rate, ratio, and percent and to draw and interpret bar graphs.

Reasoning Ability:

Ability to understand and carry out detailed written or oral instructions. Ability to deal with problems involving concrete variables in standardized situations.

Certificates, Licenses, Registrations:

- Possession of a valid California Class “B” driver’s license is required.
- Possession of a valid California Water Distribution Operator Certificate.

PHYSICAL DEMANDS

The physical demands described here 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 functions.

While performing the duties of this job, the employee is regularly required to stand and walk. The employee frequently is required to use hands to finger, handle, or feel; reach with hands and arms; stoop, kneel, crouch, or crawl; and talk or hear. The employee is occasionally required to climb or balance and perform work which involves the unassisted lifting, pushing and or pulling of objects which may weigh 50lbs. and may occasionally lift, push or pull objects that weigh up to 100 lbs. (with assistance). Specific vision abilities required by this job include close vision, distance vision, and color vision.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly exposed to outside weather conditions. The employee is frequently exposed to moving mechanical parts. The employee is occasionally exposed to wet and/or humid conditions, fumes or airborne particles, and toxic or caustic chemicals. The noise level in the work environment is usually loud.