

# **CALLEGUAS MUNICIPAL WATER DISTRICT**

## **JOB DESCRIPTION**

**Job Title: ELECTRO-MECHANICAL TECHNICIAN**

**Division: Operations and Maintenance**

**Position Type: Full Time**

**Reports To: Distribution System Supervisor**

**FLSA Status: Non-Exempt**

**Revision Date: January 2006**

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### **POSITION SUMMARY**

Working individually or as a member of a crew, this intermediate journeyman position performs highly skilled mechanical and basic electrical control work in the Distribution Systems division. Position requires a DOHS Water Distribution Operator Grade 1 certificate; demonstrated knowledge in the operation and maintenance of water distribution and water treatment system components; an understanding of hydraulics in a water system; a basic knowledge of electrical controls; the abilities to work unsupervised and effectively communicate; and display initiative, versatility and innovation in solving complex problems and complicated work assignments. Typical duties include the installation, maintenance and repair of equipment such as control valves, pumps, water treatment and chemical feed systems, meters, wells, standby power generators and hydroelectric generators; troubleshooting and adjustment of equipment; inspection, testing, evaluation and documentation of equipment performance; and technical research.

### **ESSENTIAL DUTIES AND RESPONSIBILITIES**

To perform this job successfully, an individual must be able to perform each essential duty satisfactory. 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 duties and responsibilities.

- While working under general direction, the incumbent is required to use a high degree of initiative, versatility, and innovation to solve technical problems related to electrical, mechanical, and electro-mechanical equipment and systems.
- Performs troubleshooting, diagnostic analysis, and fault isolation of a variety of electrical, mechanical and electro-mechanical equipment and systems.
- Performs preventative maintenance and repair on a wide range of pumps, motors, valves, hydroelectric generators, standby power generators and water treatment equipment. Ability to properly disassemble, rebuild or service equipment.
- Performs measurements, tests, and evaluations to verify performance of equipment, systems, and components, as applicable.
- Demonstrates a working knowledge of electrical, instrumentation, and control components and systems.

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### Electro-Mechanical Technician

- Maintains service records and completes requisitions for maintenance and replacement parts.
- Works effectively with highly skilled and unskilled people to jointly perform tasks requiring expertise in other disciplines.
- Installs, repairs and maintains automatic control valves for pressure reducing, flow control and meter stations.
- Repairs and maintains air compressors, air filters and automatic oilers at all District facilities.
- Maintains a variety of records, reports and logs.
- Be responsible for their own safety and the safety of coworkers by recognizing hazards and potentially hazardous situations, and having an awareness of safe practices on the job site.
- Performs other work, as assigned

## **SUPERVISOR RESPONSIBILITIES**

This position does not include supervisory responsibilities.

## **QUALIFICATIONS**

The Electro-Mechanical Technician is expected to possess a wide range of skills, talents and knowledge necessary to maintain a wide range of pumps, motors, valves, hydroelectric generators, standby power generators and water treatment equipment. The position requires strong analytical ability, excellent interpersonal skills with strong oral and written communication skills, and the ability to perform research and make value-added conclusions. 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 duties and responsibilities.

### Education and Experience

A high school diploma or general education degree (GED) or a minimum of four years related experience and/or training or equivalent combination of education and experience is required. The incumbent must have demonstrated technical experience in the field of electro-mechanics, the majority of which must have been directly related to test, evaluation, modification, installation, and maintenance of hydro-generator, pumping, control valve, and pressure reducing stations. This education or experience must include knowledge and skill in theories, principles, and practices applied to electro-mechanical equipment and systems and demonstrated ability to perform measurements with electronic test equipment and precision measurement devices. Technical knowledge must include electrical and mechanical instrumentation and controls for water distribution and power generation equipment and systems throughout the District. Must also have formal or in-service training courses in cleaning, adjusting and replacement of electro-mechanical equipment/parts for water treatment, storage, pumping, pressure control and power generation. Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Should have the ability to compute rate, ratio, and percent and to draw and interpret bar graphs.

Skills and Abilities

Ability to read and interpret documents such as safety rules, operating and maintenance instructions, procedure manuals and blue prints. Electro-Mechanical Technician should be able to write routine reports and internal memoranda, plus be able to communicate effectively with employees and customers. Must have knowledge of safety requirements for working around heavy and power equipment, construction sites, high voltages, and in confined spaces. The position requires the individual to apply common sense understanding in carrying out instructions furnished in written, oral, or diagram form and be able to solve day-to-day problems, which may occur in stressful environments. In addition, the worker must have a working knowledge of water hydraulics and pneumatics and be skilled in the use of precision measurement devices.

**EQUIPMENT TO BE USED**

Operates a wide variety of equipment and machines; such as, cranes, air compressors, welders, drilling and cutting machines, etc. Must be able to use electronic test equipment for technical analysis and modification. Also must be able to operate District light duty trucks, forklifts, compressors, jackhammers, a wide range of hand and power tools, and other equipment common to a water system. Regularly uses a telephone and two-way radio for communication and also must be able to use office equipment; such as, computer terminals and printers.

**PHYSICAL DEMANDS**

The physical demands described 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; walk; use hands to finger, handle, or feel; reach with hands and arms; and talk or hear. The employee frequently is required to climb stairs and ladders or balance and is occasionally required to sit; stoop, kneel, crouch, or crawl; and taste or smell. Electro-Mechanical Technician must be able to regularly lift and/or move up to 10 pounds, frequently lift and/or move up to 25 pounds, and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus. Personal protective equipment provided by the employer is regularly required to be worn. The employee must have the ability to be able to wear and operate a half and full face air purifying respirator and a supplied air system.

**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. The Electro-Mechanical Technician is normally required to work in an outdoor environment, which frequently consists of hillsides and uneven terrain and exposure to allergens. In addition the employee may work in the industrial environment of the water treatment plant, well fields,

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pipelines, support-structures, and construction sites, confined space environments and is frequently exposed to moving mechanical parts.

The employee is occasionally exposed to interior wet and/or humid conditions; high, precarious places; fumes or airborne particles; toxic or caustic chemicals; risk of electrical shock; vibration and moving mechanical parts. The noise level in the work environment is occasionally loud. The employee is a designated Emergency Services Worker and is occasionally called upon to work overtime or odd schedules.

**SPECIAL REQUIREMENTS**

The individual must possess a current California Operators license and have a good driving record. A driving record provided by the Department of Motor Vehicles showing less than two (2) points assessed within the last 36 months and/or no serious or multiple traffic violations or accidents or failure to appear notices within the last 36 months.

The applicant will agree to submit to and pass the District's pre-employment, post-offer medical examination including drug and alcohol screening performed by a physician chosen by the District. The applicant will agree to authorize background reference checking with past employers and personal references.

Employee must possess a Grade 1 or higher Water Distribution Certificate issued by the California Department of Health Services.