



## Utility System Operator

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### Summary

Perform skilled work in the operation of and maintenance of facilities and equipment utilized in the production, treatment and distribution of water; operate water distribution systems and regulate the flow of water into the system; perform preventive maintenance on treatment and distribution facilities and equipment and serve as the first contact for off-hours utility operations emergencies.

### Class Characteristics

General supervision is provided by the Utility Supervisor; responsibilities may include the indirect supervision support.

The journey level class, fully skilled and competent to perform the full range of water production facility inspection, operation, and maintenance activities. This class is distinguished from the Assistant Utility System Operator in that the latter serves as an operator on a relief basis only. The Utility System Operator is distinguished from Utility Supervisor in that the latter is a first level direct supervisory class with responsibility for supervising the staff and operations of an assigned section.

### Essential Duties, Skills and Demands of the Position

*The duties, skills, and 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 a disability to perform the essential duties, skills, and demands.*

#### Duties:

Perform skilled work in the operation of and maintenance of facilities and equipment utilized in the production, treatment and distribution of water; operate water distribution systems and regulate the flow of water into the system.

Inspect wells, reservoirs, pumping stations and filter plants, following an established route; inspect pumps, motors, chemical feeders, valves and similar equipment at such sites; perform cleaning and maintenance as required.

Operate reservoirs and associated water distribution facilities; regulate gates, and operate booster pumps to adjust flows and water levels.

Perform preventive maintenance and repair on pumps, motors, chemical feeders, minor electrical systems troubleshooting, and similar equipment; notify supervisor of the need for major repairs; install and replace varied equipment at production sites.

Read charts and gauges and maintain logs of water and chemical flows, rainfall, temperature and other data.

Perform duties as shift operator; make decisions addressing the operation of pumps and related flow and pressure control and storage facilities manually or by using a system control and data acquisition system (SCADA), to maintain and/or adjust system flow and pressure requirements; control flows to meet consumer demands including fire flow demands and minimum pressure requirements.

Make decisions addressing operational activities to determine and control proper chemical dosage rates for wellhead disinfection and distribution residual maintenance; investigate water

quality problems in the distribution system; take samples and perform standardized tests or transport samples to the laboratory.

Lead and provide direction regarding landscape installation and maintenance around reservoirs, wells, and similar sites; maintain sites in a clean and orderly condition, including painting facilities and equipment on a regular basis.

Disassemble and remove pumps, motors and similar equipment for major contract maintenance; reinstall as necessary.

Drive various vehicles and use hand and power tools and equipment related to the trade.

Observe proper safety precautions, particularly in dealing with hazardous chemicals such as chlorine; maintain a safe work environment.

Read drawings and blueprints; maintain records of work performed.

Perform operational activities such as: install, tap, re-line, disinfects, test, and connect water mains and appurtenances; shutdown, repair, disinfect and test broken water mains; oversee the flushing, cleaning, and pigging of existing water mains; pull, reset, rehabilitate, disinfect and test domestic water wells; standby emergency response duties for after hours distribution system operational emergencies; and drain, clean, disinfect, and maintain distribution reservoirs.

May train and provide lead direction over lower level maintenance or operations staff.

May work as a crewmember in maintaining and repairing the water, wastewater and stormwater distribution systems.

Perform related duties as assigned.

Skills/Abilities:

Perform skilled duties in the operation and maintenance of water production and treatment facilities and equipment.

Read and interpret a variety of gauges and other visual devices.

Perform routine water quality tests.

Review treatment process and determine proper dosage of chemicals required.

Operate a variety of hand and power tools used in the trade.

Drive trucks and operate a variety of heavy construction equipment.

Read and interpret drawings, blueprints, and specifications.

Make mathematic calculations.

Maintain records of work performed.

Lead and direct the work of assigned staff.

Understand and follow oral and written directions.

Communicate effectively both verbally and in writing.

Establish and maintain effective working relationships with those contacted in the course of the work.

**Physical Demands and Work Environment:**

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, or feel; reach with hands and arms; and talk or hear. The employee frequently is required to stand, walk, and sit. The employee is occasionally required to climb or balance; stoop, kneel, crouch, crawl; and taste or smell. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus. The employee must be able to perform heavy physical labor, including having sufficient strength to lift and carry tools and materials weighing up to 90 pounds. While performing the duties of this job the employee is occasionally exposed to outside weather conditions, wet and/or humid conditions, moving mechanical parts, fumes or airborne particles, toxic or caustic chemicals, and vibration. The noise level in the work environment may be moderate to loud depending on working conditions. The employee will be required to work emergency overtime or off-shift hours as necessary.

**Qualifications**

**Knowledge of:**

Operations of water distribution, wastewater collection systems and stormwater systems.

Mathematics related to water distribution such as water measurements, formulas (area and volume), units and conversion factors, water pressure, calculation of dosage, feed rates, and flow rates, and horsepower requirements.

Principles and practices of distribution system maintenance such as; purpose, configuration, and operation, pipe materials, water storage facilities, meters, hydrants, leak detection and repair, corrosion, flushing and cleaning, water meter testing, maintenance and repair, and maintenance of pumps and electric motors.

Principles, practices, materials and equipment required to produce and to treat a potable water supply.

Electrical and mechanical principles related to the maintenance and repair of pumps, motors and other electromechanical equipment.

Safe working conditions and safety practices pertaining to the work, including the handling of hazardous chemicals.

Operational characteristics and maintenance requirements of SCADA (Supervisory Control and Data Acquisition) systems.

Principles and practices of distribution system operation such as water quality, sources of supply, sanitation practice, and disinfection safety.

Proper use of equipment, tools, materials and methods used in underground water distribution or installation, maintenance, and repair.

Principles of leadership and related training.

**Education and Experience**

*Any combination equivalent to the education and experience likely to provide the required knowledge and abilities would be qualifying. A typical way to gain such knowledge and abilities would be:*

Education:

Equivalent to graduation from high school.

Experience:

Two years of experience in operating potable water production and treatment or similar production and processing equipment, or two years in installing, maintaining and repairing pumps, motors, SCADA, and related water distribution systems and facilities.

Licenses/Certifications:

Possession of Department of Health Services Grade II Water Distribution Certificate issued by the State of California.

Possession of California Department of Health Services Grade II Water Treatment Certificate issued by the State of California.

Obtain a California Department of Health Services Grade III Water Distribution Certificate within one year of placement in the position

Possession of a valid California Class C driver's license with a satisfactory driving record.

Desirable:

Possession of a California Water Environment Association Grade II Certificate.

Established: 03/90  
Resolution #:   
Revised: 11/07/05  
Resolution#: 2005-184 N.C.S.  
Department: Water Resources and Conservation  
FLSA Status: Non-exempt