

OPERATOR / TECHNICIAN

NATURE OF WORK

This is a skilled position responsible for assisting in the operation of the water treatment plant and related equipment. Work involves maintaining correct water levels, draining, washing and refilling water filters and adjusting chemical feed for machines and pumps. Work also includes maintaining, calibrating, and performing minor repair of instrumentation. The incumbent works under general supervision of the Working Foreman and the Plant Manager.

JOB FUNCTIONS

ESSENTIAL JOB FUNCTIONS

- Acts as an Operator when scheduled.
- Maintains correct water levels at all stages of the water treatment process.
- Maintains correct pressure at all stages of water treatment process.
- Starts and stops process equipment.
- Operates and maintains filters. This includes, but is not limited to:
 - Draining
 - Washing
 - Refilling
 - Operating via supervisory control and data acquisition (SCADA) system.
 - Operating via local controls
 - Modifying operating parameters
 - Performing filter drop test
- Operates, adjusts, and calibrates chemical feed systems. The systems include, but are not limited to:
 - Chlorine
 - Aqua ammonia
 - Coagulant
 - Potassium permanganate
 - Fluoride
 - Polymer
 - Carbon
 - Polyphosphate
- Checks, cleans, and performs light maintenance on process and monitoring equipment, including, but not limited to:
 - Flow meters
 - Pressure gauges
 - Level indicating devices
 - Chemical mixing chambers
 - Basins
 - Lift pumps

- Chemical feed pumps
- Chemical analyzers
- Laboratory equipment
- Air compressors
- Emergency power generators
- Boilers
- Chemical feed injectors
- Static mixers
- Valves
- Computers
- Programmable controllers
- Remote terminal units
- Electrical panels
- Uninterruptible power supplies
- Operates all systems in plant using manual/local controls, as well as automatic/remote controls.
- Performs public relations duties. This includes, but is not limited to:
 - Answering telephone in polite and courteous manner
 - Greeting visitors at door
 - Collecting necessary information and materials from clients requesting water testing.
- Performs laboratory tests, including, but not limited to:
 - Chlorine residual
 - Free ammonia residual
 - Nitrite analysis
 - Nitrate analysis
 - Fluoride residual
 - Phosphate residual
 - Hardness
 - Alkalinity
 - pH
 - Heterotrophic plate count
 - Most-Probable-Number (MPN) of Total Coliform and E. Coli.
 - Presence Absence of Total Coliform and E. Coli.
 - Odor
 - Jar test for coagulant
- Operates laboratory equipment, including, but not limited to:
 - Spectrophotometer
 - Turbidimeter
 - Autoclave
 - Dry sterilizer
- Mixes and dilutes laboratory chemicals and reagents as needed.
- Maintains accurate records and reports.
- Operates sludge removal system.

- Troubleshoots and responds to operational problems. Problems include, but are not limited to:
 - Chemical feed malfunction
 - Erratic pumpage
 - Erratic performance of filters
 - Power failure
 - Equipment failure
- Use computers for record-keeping, reporting, and supervisory control of treatment processes. This includes, but is not limited to:
 - Using mouse and keyboard to enter data
 - Changing setpoints and operational parameters
 - Data entry into spreadsheet or database
 - Operating word processing, spreadsheet, and database programs
 - Printing lab results
- Completes log sheets.
- Understands chemical, mechanical, and hydraulic principles of water treatment processes. This includes, but is not limited to:
 - Flocculation
 - Sedimentation
 - Sludge removal
 - Filtration
 - Disinfection
 - Filter backwash
 - Water transfer via pumps
 - Clearwell storage
 - Reservoir storage
 - Washwater storage
 - Pressurization of distribution system
- Understands electrical system layout for Water Treatment Plant and Klode Park Pumping Station. This includes, but is not limited to:
 - Transfer switchgear location
 - Electrical buss configuration
 - Location of high voltage areas
 - Location of electrical breakers and fuses
 - Location of three phase and single phase circuits for process and monitoring equipment
- Performs minor electrical duties, including, but not limited to:
 - Resetting breakers
 - Replacing fuses
 - Starting and stopping emergency power generators
 - Operating switchgear
- Installs and replaces components of instruments as part of light maintenance. This includes, but is not limited to:
 - Replacing tubing and lamps for analyzers
 - Replacing circuit boards

- Replacing transducers
- Installing electrical conduit
- Assists mechanic and technician/mechanic as needed.

OTHER JOB FUNCTIONS

- Performs routine maintenance, cleaning and custodial tasks.
- Takes inventory of chemicals and other supplies.
- Assists with emergency breakdowns.
- Cleans and paints equipment and facilities as needed.
- Maintains a clean working environment.

REQUIREMENTS OF WORK

Requires some experience in mechanical, electrical, and chemical areas and a high school diploma, or any equivalent combination of experience and training, which provides, with or without reasonable accommodation when applicable, the following knowledge, abilities, and skill:

- Knowledge of computer systems for use in data entry, word processing, and spreadsheet applications.
- Skill in the use of or the equivalent to Microsoft Windows operating system as well as Microsoft Word, Microsoft Excel, Microsoft Access.
- Skill in the use of computer programs for supervisory control and data acquisition (SCADA).
- Understanding of basic electrical, mechanical, pneumatic, and hydraulic principles.
- Knowledge of water treatment plant operations and equipment.
- Knowledge of different types of chemicals used in a water treatment plant.
- Knowledge of basic chemistry and algebra to perform calculations.
- Knowledge of various power and hand tools used in performing maintenance and cleaning tasks.
- Ability to understand and follow oral and written instructions.
- Ability to perform heavy manual labor for extended periods and under adverse weather conditions.
- Ability to work safely in and around various chemicals.
- Ability to maintain effective relations with other employees and to deal with the public in a courteous and tactful manner.
- Communicate effectively with other people.
- Possess S-1 water license within one year of date of hire.
- Skill in the use of common hand and power tools.
- Minimum lifting requirement of 50 pounds.