

INSTRUMENTATION SPECIALIST

DEFINITION

Under general supervision, installs, alters, maintains, repairs and calibrates a wide variety of process instrumentation equipment used in Water or Wastewater Treatment Facilities.

SUPERVISION RECEIVED/EXERCISED

Receives supervision from a Manager or designee. Exercises no supervision.

DISTINGUISHING CHARACTERISTICS

Instrumentation Specialist is a journey level class in which an incumbent performs a variety of specialized and skilled duties involving the installation, repair, maintenance, and calibration of water/wastewater related instrumentation. An incumbent works with minimum supervision and work is reviewed through periodic inspection and consultation.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

May include, but are not limited to the following:

Documents procedures and readings of process control instrumentation and related equipment such as recording calibration data, or sketching schematics of previously or newly installed pneumatic and/or electronic metering or control loops.

Trouble shoots, calibrates, and repairs process control instrumentation and related equipment, i.e. pressure and temperature gauges, pressure switches, differential pressure transmitters, magnetic flow meters, etc.

Conducts periodic preventive maintenance inspections of all process control instruments, diagnosing existing or potential trouble; cleans, lubricates, calibrates, and adjusts as conditions indicate.

Lays out, installs, aligns, and places into service new metering and recording devices, calibrating as required; may extend or connect related electrical circuits, i.e., 4 - 20 mA.

Assists in the maintenance of disinfection systems.

Installs telemetry equipment and systems for process areas which include uploading, downloading, and validating instrument parameters.

Research and verify proper technologies, equipment, and replacement parts. Contacts vendors to obtain pricing quotes.

Utilizes gas monitoring equipment for confined space entry, maintains permanent safety sensors, gas sensors, and troubleshoots as needed.

Reads and interprets wiring diagrams, mechanical drawings, manuals and specifications before and while installing or performing major repair work.

Makes recommendations for improvements to instrumentation systems.

Configures process and instrumentation diagrams, control loop parameters and discrete logic for programmable logic controllers and distributed control systems.

Ensures that proper safety precautions and safe work methods are followed.

Maintains accurate records; prepares oral and written reports of work performed; and prepares accurate purchase requisition forms for process control instrumentation and related equipment.

Uses and maintains a wide variety of hand and power tools and bench test equipment related to instrument installation and maintenance.

Safely operates City equipment including bucket truck, aerial work platforms; performs pre/post work inspections; identifies any damage or defects in the equipment and reports to the appropriate personnel.

Documents and draws circuits as installed.

Performs related duties as required.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Knowledge of:

Methods, practices, and equipment used in the maintenance, repair, testing and adjusting of a wide variety of process control and monitoring instruments.

Safety practices and procedures pertaining to process instrumentation equipment and water/wastewater treatment facilities.

Codes, laws, and ordinances pertaining to process instrumentation equipment and water/wastewater treatment.

Skill/Ability to:

Maintain and prepare accurate reports and make oral and written recommendations.

Operate standard office equipment including computers, cell phones, handheld tablets, and

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various software applications.

Maintain an on-going preventive maintenance program for instrumentation.

Establish and maintain effective working relationships.

Diagnosing mechanical, hydraulic, pneumatic, electrical and electronic malfunctions in instrumentation and telemetry systems.

Making extensive repairs and overhauls to metering and process control instrumentation and related equipment.

Estimating necessary labor and materials.

Work safely and effectively in challenging environments, including at heights, confined spaces, and in areas with exposure to loud noises, hazardous materials, contaminants, or wastewater.

MINIMUM QUALIFICATIONS

Education:

Possession of a High School Diploma or equivalent GED completion.

Experience:

Two (2) years of experience in the application of pneumatic and electronic technical skills installing and/or maintaining process control instrumentation.

An Instrumentation Technician may be promoted to Instrumentation Specialist after one (1) year of experience and upon the recommendation of the appointing authority.

SPECIAL REQUIREMENTS

Possession of a valid Class C California Driver's License is required at the time of application and continued maintenance throughout the entire term in the classification.

Depending on assignment, must obtain and maintain throughout the entire term of employment in the classification, a valid Water Distribution Operator Certificate, Grade D2, issued by the State of California, State Water Control Resources Board, within 12 months of appointment.

PHYSICAL DEMANDS

The physical demands described here are representative of those that are necessary to safely, effectively, and efficiently perform the essential functions of this job with or without reasonable accommodation.

This classification's physical demands involve medium work exerting up to 50 pounds of force occasionally, and/or up to 30 pounds of force frequently, and/or up to 10 pounds of force constantly to

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move objects. Additionally, the following physical demands may be required: balancing, climbing, crawling, crouching, feeling, manual dexterity, grasping, handling, hearing, kneeling, lifting, mental acuity, pulling, pushing, reaching, repetitive motion, speaking, standing, stooping, talking, visual acuity, walking.

APPROVED: Signature on File
Director of Personnel Services

DATE: 10/20/2025

MR/MPA/jl/12/20/90

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