

WATER RESOURCES TREATMENT PROCESS SPECIALIST

JOB DESCRIPTION

Classification Responsibilities: A Water Resources Treatment Process Specialist (WRTPS) working in conjunction with the operational staff and the Superintendent directs process treatment activities of the water and wastewater systems, and serves as a technical expert with the responsibility for training, performing specialized functions, and advising plant operational staff for the day-to-day operation of the City of Mesa's conventional surface water treatment plant(s) or wastewater reclamation plant(s), as assigned. Duties include: monitoring process performance to determine optimization and compliance; serving as a subjective matter expert and trainer for plant treatment processes and equipment; writing comprehensive reports on plant process control operations as necessary to provide information as may be required by management, local, state, or federal agencies; developing the application of plant process control procedures to increase the treatment and energy efficiency through optimization of the treatment plants; participating in the overall planning, organizing, and review of activities relating to the plant process control operation of the treatment plants; providing leadership, training, and oversight of asset management methodology, approach, and procedures; owning responsibility for the management, calibration, and required recordkeeping for all plant on-line monitoring/control instrumentation, which includes the facilitation of maintenance functions; and reviewing, recommending, and assisting in the implementation of new monitoring/control instrumentation. Additional duties may include: performing operational tasks, such as analyzing trends and data, monitoring equipment, optimizing plant processes and energy, collecting and analyzing process samples, and entering data. Employees in this class are required to use appropriate safety equipment and follow safety procedures in performing assignments and enforcing safety regulations. This class performs related duties as required.

Potable Water Treatment Plant Assignment: This position will be assigned to the Brown Road and/or the Signal Butte Road Water Treatment Plant. The WRTPS serves as a technical expert for the training and optimization of the plant processes, which include those of oxidation/disinfection, conventional and advanced treatment processes such as ballasted flocculation (Actiflo), coagulation and sedimentation, ozonation processes, biological filtration, supervisory control and data acquisition (SCADA) monitoring, sodium hypochlorite on-site generation, and other related job duties and functions as related to treatment process applications, as assigned.

Water Reclamation Plant Assignment: This position will be assigned to the Southeast, Northwest, and/or Greenfield Water Reclamation Plants. The WRTPS serves as a technical expert for the training and optimization of the plant processes and equipment, which include odor control devices, centrifuges, conveyor systems, ultraviolet (UV) equipment, chemical metering pumps, sludge hoppers, filtration equipment, biogas systems, waste gas flares, bio-reactors/activated sludge, anaerobic digestion, and others.

Distinguishing Features: This class works under the general supervision of the Water Resources Plant (Operations) Supervisor and/or Superintendent, who evaluates the employee's work through reports, meetings, and overall results achieved. This position provides leadership, mentorship, and training to other operational staff, and may serve in a lead capacity for plant operations in the absence of the Plant Supervisor. A WRTPS generally works a day shift schedule, but will accommodate evening, midnight, weekend, and holiday shifts as required, and be able to attend to multiple plants. This position is subject to call-out or call-back at any time due to staff shortages or emergencies in order to facilitate and sustain

plant operations. Demonstrates superior seamless customer service, integrity, and commitment to innovation, efficiency, and fiscally responsible activity. Reviews plant process control operation through inspection of system or plant operational records, technical data, operational reports, and graphic charts. This class is FLSA nonexempt.

QUALIFICATIONS

Employee Values: All employees of the City of Mesa are expected to uphold and exhibit the City's shared employee values of Knowledge, Respect, and Integrity.

Minimum Qualifications Required. Any combination of training, education, and experience equivalent to four years of experience in a water/wastewater treatment plant, with at least two years as a Water/Wastewater Treatment Plant Operator in a water/wastewater treatment plant (*depending on assignment*). Graduation from an accredited college or university with an Associate's Degree or higher in Water/Wastewater Technology, Water/Wastewater Quality Management, or a directly related field can be substituted for one year of experience.

Special Requirements. Must possess a valid Class D Arizona Driver's License by hire or promotion date. Must meet the physical standards and requirements for the wearing of an Air Purifying Respirator (APR) and a Self-Contained Breathing Apparatus (SCBA) respiratory protection equipment. Must meet the qualifications to wear a tight-fitting respirator by passing a medical evaluation in accordance with Code of Federal Regulations (CFR) 1910.134 by hire or promotion date and must maintain certification. A WRTPS must obtain a 40-hour HazWoper Certification as per the Occupational Safety and Health Administration (OSHA) and must attend an eight-hour refresher course annually to maintain certification.

Potable Water Treatment Plant Assignment: Must possess a Grade IV Water Treatment System Operator Certification from the Arizona Department of Environmental Quality (ADEQ) or equivalent certification from another state through reciprocity with Arizona by application date. Certification through reciprocity must be obtained within 3 months of hire or promotion.

Water Reclamation Plant Assignment: Must possess a Grade IV Wastewater Treatment System Operator certification from the ADEQ or equivalent certification from another state through reciprocity with Arizona by application date. Certification through reciprocity must be obtained within 3 months of hire or promotion.

Substance Abuse Testing. Due to the safety and/or security sensitive nature of this classification, individuals shall be subject to pre-employment or pre-placement alcohol, drug and/or controlled substance testing as outlined in City policy and procedures.

Preferred/Desirable Qualifications. Technical training and/or college courses in water technology, biology, chemistry, or sanitary engineering is preferred. Experience in mechanical and electrical troubleshooting is desirable. Considerable (3 - 5 years) journey-level experience associated with a water/wastewater treatment plant and/or water treatment equipment maintenance. Some (1 - 3 years) supervisory experience.

Potable Water Treatment Plant Assignment: Experience with advanced water treatment processes, which include ozonation processes, ballasted flocculation (Actiflo), biological filtration, sodium hypochlorite generation, and others. Experience with advanced computerized systems utilized in water treatment facilities is also preferred. Knowledge of laboratory and analytical methods used in the analysis of drinking water is desirable. Knowledge of water treatment methods, procedures, and techniques; operations; asset management and preventive and corrective maintenance practices for water treatment facilities and equipment; computers and programs used in the operations of a water treatment plant; and knowledge and use of SCADA monitoring and control systems.

Water Reclamation Plant Assignment: Experience with advanced wastewater treatment processes, which includes both liquids and solids handling processes, odor control systems, centrifuges, UV disinfection, bio-reactor/activated sludge, anaerobic digestion, bio-gas production and others. Experience with advanced computerized systems utilized in water or wastewater treatment facilities is also preferred. Knowledge of laboratory and analytical methods used in the analysis of wastewater and bio-solids is desirable. Knowledge of wastewater treatment methods, procedures, and techniques; operations; asset management and preventive and corrective maintenance practices for wastewater treatment facilities and equipment; computers and programs used in the operations of a wastewater treatment plant; and knowledge and use of SCADA monitoring and control systems.

ESSENTIAL FUNCTIONS

Communication: Provides operational information to coworkers and utility control center staff in order to answer questions concerning water/wastewater flows and quality. Prepares written shift logs, and maintains orderly written data on test results, flow rates, and gauge and meter readings. May provide plant tours to the public or schools on occasion. Coordinates water or effluent deliveries with other staff or external agencies. Responds to and informs supervisors and coworkers of present and potential problems and hazards.

Manual/Physical: Adjusts flows, and chemical feed rates and biological processes. Uses a variety of standard testing procedures to determine problems and any adjustments needed in the treatment process, and operates laboratory equipment to perform analyses. Distinguishes colors to determine the outcome of certain chemical analyses. Requires a valid Class D Arizona Driver's License to operate City-owned vehicle to deliver and collect supplies, parts, and other items for various City facilities. Additionally, the position will be required to operate "powered industrial trucks," which may include forklifts, front-end loaders, etc. This will require training certification requirements per OSHA requirement 29 CFR 1910.178 on a three-year basis. Uses common hand tools such as: hammers, screwdrivers, wrenches, and pliers to operate equipment, calibrate on-line process monitors, and perform maintenance tasks. Cleans work area, pumps, tanks, SCBA equipment, operations lab, and equipment. Works with hazardous materials including toxic chemicals and chlorine gas using normal and/or specialized protective equipment. Lifts and carries heavy (up to 100 pounds or more) equipment, drums, and chemicals for distances of 20 feet or more with the assistance of a hand cart or power equipment. Works in all weather conditions. Moves objects such as chlorine containers and chemical drums (450-600 pounds) using a hoist to mix and/or replace. Works with cleaning solutions, painting plant structures, and equipment using normal protective equipment. May perform yard work, sweep plant areas, and perform general housekeeping duties. Works at heights of up to 150 feet and depths of 50 feet. Makes rounds of the plant and inspects buildings, grounds, pump stations, and equipment for conformance to safety standards, security requirements, and operating parameters to deliver material,

and complete other job assignments. Works in confined areas that may contain toxic gases or that are low in oxygen while performing maintenance on equipment. Monitors SCADA displays, gauges, and meters to ensure proper plant operation. Meets scheduling and attendance requirements.

Potable Water Treatment Plant Assignment: Job hazards may include frequent exposure to bleach, caustic, rotating equipment, noise, low oxygen, and explosive atmospheres. Monitors plant equipment and process operations including mixing, flocculation, settling, filtration, and solids handling. Checks chemical tank levels. Operates valves, gates, pumps, and remote-control devices. Operates pilot plant systems to evaluate and improve water treatment plant effectiveness. Works closely with the Plant Supervisors to produce both internal and external reports. Generates trends, compiles spreadsheets, and enters data into a computer workstation in order to provide daily summary of plant processes, flows, chemical usage, electrical usage, and water quality. Provides leadership of asset management system, policies, and other areas of responsibility as assigned.

Water Reclamation Plant Assignment: Job hazards may include frequent exposure to bleach, caustic, rotating equipment, biogas, noise, low oxygen, and explosive atmospheres. Monitors plant equipment and process operations including bio-reactors/activated, solids handling, anaerobic digestion, disinfection, filtration, biogas, and odor control. Checks chemical tank levels. Operates valves, gates, pumps, and remote-control devices. Operates pilot plant systems to evaluate and improve wastewater treatment plant effectiveness. Works closely with the Operations Supervisors to produce both internal and external reports. Generates trends, compiles spreadsheets and enters data into a computer workstation in order to provide daily summary of plant processes, flows, chemical usage, electrical usage, and effluent quality. Provides leadership of asset management system, policies, and other areas of responsibility as assigned.

Mental: Prepares plant standard operating procedures and job hazard analysis as required. Analyzes chemical data to make recommendations regarding appropriate chemical dosages. Plans or organizes daily workload and coordinates daily plant operation during assigned shift. Performs mathematical calculations to compute chemical usage, chemical feed calculations, and/or biological process calculations. Comprehend written material from shift reports and daily reports to evaluate efficiency of electrical usage, chemical feeds, and/or biological processes. Learns job-related material through operator training and state certification programs. Participates in facility safety and training sessions. Works with SCADA systems to monitor plant, interpret trends, and control valves and pumps. Utilizes limited purchase orders (LPOs) for plant purchases. Ability to quickly analyze safety hazards and to direct the operations of a team in a potentially dangerous situation.

Potable Water Treatment Plant Assignment: Evaluates water treatment plant effectiveness and makes adjustments in the water treatment processes as needed. Coordinates work activities such as filter backwashing, and high service pump activities with water supply and the Utility Control Center. Performs jar tests and other related analysis in order to achieve maximum plant efficiency. Resolves operational related problems such as change in turbidity and process problems by making necessary feed and/or equipment changes. Works closely with the Plant (Maintenance) Supervisors to coordinate equipment maintenance and repairs.

Water Reclamation Plant Assignment: Evaluates wastewater treatment plant effectiveness and makes process control adjustments to both the liquids and solids operations. Coordinates work activities with

Wastewater Collections such as odor control optimization, and with the Utility Control Center on plant operations and effluent flows. Works closely with the Plant (Maintenance) Supervisors to coordinate equipment maintenance and repairs.

Knowledge and Abilities:

Knowledge of:

Potable Water Treatment Plant Assignment:

SCADA systems and Computer Maintenance Management Software (CMMS);
the equipment used in a modern, conventional surface water treatment plant;
the chemical and physical processes used to treat potable water, (example: coagulation, flocculation, sedimentation, filtration, chlorination, and solids handling;
the practices and principles of complex tasks and duties involved in water treatment;
the basic maintenance needs of water treatment equipment;
federal, state, and local guidelines and regulations specific to the operation of a water treatment plant;
occupational hazards and safety procedures associated with lock-out tag-out, confined space entry, mechanical maintenance, welding, bleach, and caustic; and
standard water treatment operating procedures.

Water Reclamation Plant Assignment:

SCADA systems and Computer Maintenance Management Software (CMMS);
the equipment used in a modern, wastewater treatment plant;
the chemical and physical processes used to treat wastewater;
the principles of bio-reactor and anaerobic digestion;
the basic maintenance needs of wastewater treatment equipment;
the equipment used and the process utilized in liquids handling;
the equipment used in the processing of bio-gas;
the equipment and processes utilized in solids handling, digesters, centrifuges, polymer systems;
federal, state, and local guidelines and regulations specific to the operation of a wastewater treatment plant; and
standard wastewater treatment operating procedures.

Ability to:

determine processing and treatment requirements;
collecting and analyzing samples at stages of processing to determine the effectiveness of the treatment process and any adjustments that are necessary;
utilize specialized equipment, chemical feeders, various types of pumps, electronic equipment, electric hoists, and laboratory equipment;
utilize computer workstations for data entry, data interpretation, SCADA operation, and on-line calibration monitoring equipment;
wear a respirator and/or SCBA;
independently make well thought out decisions and act in the best interest of the City;
identify problems and provide solutions in order to ensure proper and efficient operation of the treatment plant;

instruct others in a classroom setting;
work alone on shifts as required; and
establish and maintain effective working relationships with management, coworkers, and the general public.

The duties listed above are intended only as general illustrations of the various types of work that may be performed. Specific statements of duties not included does not exclude them from the position if the work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by the City as the needs of the City and requirements of the job change.

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MZ/eb/ah

CS4707.DOCX

EEO-SCW

JOB FCTN-TEC

Non-DOT Safety and Security-Y

CDL-N

RESP-Y

PAY RANGE: 49

IND-7520-Water/7580-Wastewater

SWORN-N

Non-DOT Random-N

DOT-N

INCREMENT 63-200