

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES ▼
HUMAN RESOURCES ENTERPRISE

WATER AND DISPOSAL PLANT OPERATOR 1

DEFINITION

Learns on a training basis to operate and maintain sewerage disposal and/or water treatment plant equipment; performs related work as required.

The Work Examples and Competencies listed are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

WORK EXAMPLES

Starts pump in order to bring raw water into water plant by turning switch or by opening electrically controlled valves.

Runs raw water through sludge blanket of slaked lime and aluminum sulfate in order to treat water for softening and turbidity by starting the flocculator.

Starts and maintains operation of lime slaker in order to soften water by adding lime to machine periodically.

Checks equipment such as chlorinator, fluoride and carbon dioxide machines in order to treat water for reduction of bacteria, tooth decay, and redness by reading meters and gauges and by making necessary adjustments.

Tests water for hardness, alkalinity, pH, chlorine, and fluoride by collecting raw and treated water samples and by using color comparators, reagent chemicals, and test tubes.

Maintains records for water plant in order to provide regulatory agencies with written documentation of test results, chemicals used, staffing, equipment repairs, amount of water pumped and treated.

Removes foreign materials such as sticks, rags, and cinders in grit chamber in order to maintain proper pump operation by changing grit pans and hosing off bar screens.

Operates and maintains sludge pumps in order to move heavy sludge from primary clarifier and remove lighter sludge from digester by operating pumps and by packing or adjusting valves, checking for proper operation, and repairing pumps as necessary.

Maintains operation of trickling rock filter in order to keep even flow of wastewater by cleaning distributor arms.

Conducts tests on raw and treated sewage such as biochemical oxygen demand, settleable solids, dissolved oxygen, and pH tests in order to determine proper treatment of sewage and to prevent water pollution by using reagent chemicals, measuring cones, test tubes and vials.

Checks for proper sludge pump operation in order to maintain recirculation of water from secondary clarifier to primary clarifier by making visual observations and by repacking pumps when necessary.

Unloads digester in order to prevent complete filling by drawing off sludge and disposing of sludge or depositing sludge on drying sand filter beds.

Removes lime and impurities from water in order to maintain efficient operation of sand filter beds by backwashing beds until water is clarified.

COMPETENCIES REQUIRED

Knowledge of the principles and practices used in treating water and sewerage.

Knowledge of the function and operation of equipment used in treating water such as hydrotreater (counterflow), flocculator, lime slaker, chlorinator, aerator, carbon dioxide machine, sand filter, and fluoride machine.

Knowledge of the function and operation of equipment used in treating sewage including grit chamber, primary and secondary clarifiers, digester, trickling rock filter, and sludge pumps.

Knowledge of the techniques and methods of testing raw and treated water for hardness, pH, chlorine, and fluoride and of conducting P. and M.O. test.

Knowledge of the techniques and methods of testing influent and effluent sewerage for biochemical oxygen demand (B.O.D.), dissolved oxygen, settleable solids, and pH.

Knowledge of laws and regulations regarding water and sewage treatment.

Knowledge of the safety precautions used in handling chemicals such as chlorine, fluoride, and aluminum sulfate.

Knowledge of mathematics used in making measurement conversions and in using standard mathematical formulas.

Knowledge of piping standards and/or proper use of piping in a water or sewage plant.

Knowledge of the mechanics, operation, and repair of pumps and motors.

Ability to operate the machinery and equipment in a water treatment and/ or sewage disposal plant.

Ability to conduct tests used in testing water and sewage.

Ability to make accurate readings and measurements.

Ability to perform basic mathematical operations in making measurement conversions.

Ability to perform a variety of mechanical and maintenance tasks using small hand tools and pipe wrenches.

Ability to maintain accurate operational records.

Displays high standards of ethical conduct. Exhibits honesty and integrity. Refrains from theft-related, dishonest or unethical behavior.

Works and communicates with internal and external clients and customers to meet their needs in a polite, courteous, and cooperative manner. Committed to quality service.

Displays a high level of initiative, effort and commitment towards completing assignments efficiently. Works with minimal supervision. Demonstrates responsible behavior and attention to detail.

Responds appropriately to supervision. Makes an effort to follow policy and cooperate with supervisors.

Aligns behavior with the needs, priorities and goals of the organization.

Encourages and facilitates cooperation, pride, trust, and group identity. Fosters commitment and team spirit.

Expresses information to individuals or groups effectively, taking into account the audience and nature of the information. Listens to others and responds appropriately.

EDUCATION, EXPERIENCE, AND SPECIAL REQUIREMENTS

The equivalent of one year of full-time experience in a trade area involving repair, construction, equipment operation, or the use of tools including such experience as a water and/or disposal plant operator, power plant engineer, plumber, trades helper, maintenance repairer, farmer, or auto mechanic;

OR

any equivalent combination of education and experience substituting one year of post high school education (30 semester hours or equivalent) or training in the armed services with an emphasis in water

treatment, waste sewage, or water pollution control for one year of the required full-time experience to a maximum substitution of one year.

NOTE:

Designated positions in this job class require applicants to obtain the required Commercial Drivers License and endorsements within a period of time as determined by the appointing authority at the time of hire.

NOTE:

Some state agencies may require operators to be State of Iowa certified as a grade #2 waste water treatment operator or water treatment plan operator.

Effective Date: 4/1/92 PW