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Wastewater Plant Operator

Class Code:
260-8 (CC-5)

Bargaining Unit: Non-union Non-
Exempt

CITY OF APPLETON
Revision Date: Jun 13, 2022

SALARY RANGE

\$25.58 - \$35.80 Hourly
\$53,193.00 - 74,474.00 Annually

NATURE OF WORK:

This is a technically skilled, professional, state certified position responsible for successful continuous, real-time operations of a 15.5 MGD advanced secondary wastewater treatment plants, and operation of solids dewatering processes and final deposition procedures in accordance with within the facility's Wisconsin Pollution Discharge Elimination System (WPDES) permit and local, state, and federal standards for municipal wastewater treatment residuals and agricultural land application practices. The Wastewater Plant Operator is responsible for operational control and maintaining plant processes within the facility's Wisconsin Pollution Discharge Elimination System (WPDES) permit. Systems include:

- Sanitary Collection Systems (monitoring and troubleshooting the operation of 15 lift stations)
- Preliminary Treatment Systems (fine screen and wash, vortex grit removal and classification).
- Primary Treatment
- Secondary Treatment Systems (conventional activated sludge, with single stage nitrification and secondary clarification).
- Disinfection Systems (pathogen destruction with chlorination and dechlorination)

- Solids Thickening (dissolved air flotation, primary and receiving station processing).
- Digestion (anaerobic digestion, methane production, gas compression, storage/use).
- Chemical phosphorous precipitation.
- Inventory Systems (include secondary digesters, digested sludge wells, filtrate delivery and storage system, water treatment residuals delivery and storage, and the biosolids conveyance system)
- Dewatering Equipment (belt filter presses, chemical feed and mix systems, biosolids storage and out loading (containment and out loading systems that utilize forklift and payloader operations to maintain physical inventory).

Wastewater Plant Operator responsibilities involve the comprehensive monitoring, testing, and control of the chemical, physical and biological processes at the wastewater treatment plant. The operator completes analytical testing to maintain plant processes and for regulatory reporting requirements. Operators control equipment, pumps, valves, chemicals, etc. in order to affect efficient, compliant discharge effluent and digestion product. Work is performed under general supervision of the Operations Manager.

JOB FUNCTIONS:

ESSENTIAL JOB FUNCTIONS

- Monitors, determines necessary adjustments of unit processes to optimize wastewater treatment performance. Determines, adjusts, and monitors chemical dosage for treatment including flocculants, ferrous sulfate, ferrous chloride, sodium hypochlorite, and sodium bisulfite.
- Develops process control strategies and responds to abnormal conditions with appropriate corrective measures using accepted wastewater practices to re-establish compliant plant performance.
- Retrieves samples and performs required preservation and regulatory analysis to comply with WPDES permit and Wisconsin Administrative Code. Regulatory testing requirements include the following: Biochemical Oxygen Demand (BOD), pH, fecal coliform, and chlorine residual. Process analyses includes: settability testing, suspended solids and volatile suspended solids to derive MCRT and SVI's. Volatile acids, alkalinity and carbon dioxide to determine anaerobic digester performance.
- Monitors flows, levels, pressures, data and trends. Utilizes information in troubleshooting and controlling plant processes.
- Controls and processes wastes transported to facility for treatment.
- Conducts microscopic analysis of process microlife to determine and control biological treatment performance.
- Monitors for and identifies equipment malfunctions and initiates work requests. Safely starts, stops and isolates treatment processes and equipment.
- Makes process and maintenance observations and maintains accurate benchsheets, worksheets, records, requests, and reports.
- Completes chronological log and communicates relevant information to operations, maintenance and laboratory staff.
- Compiles and enters computer data from system monitoring activities using standard and

process specific software.

- Leads plant operation during emergency events including peak flow, power outage, and emergency response.
- Responsible for immediate security and as contact of the facility during non-business hours, responds to security system and facilitates response as appropriate.
- Responds to public inquires regarding the wastewater treatment as appropriate.
- Maintains regular punctual and predictable attendance, works overtime and extra hours as required.
- Monitors and manipulates process variables including digested sludge inventory levels, feed rates, chemical feed rates, and belt filter press settings to ensure consistent throughput.
- Collects process control and regulatory compliance sampling as required for total solids, total volatile solids, pH, fecal coliform, nitrogen, phosphorus, potassium, calcium, and RCRA metals.
- Monitors biosolids storage distribution and building configuration appropriately for inventory levels, moves materials, loads trucks, and produces scale records for material tracking.
- Assists with bulk chemical delivery, relocates chemical totes and containers, and maintains chemical inventory information.
- Maintains and cleans solids dewatering facilities and equipment.
- Identifies necessary corrective maintenance, initiates work orders, and monitors status of repairs where appropriate.
- Assists mechanical, electrical, or instrumentation technician in troubleshooting and repair of related equipment and systems.
- Enters areas of facility and sewer system structures designated as "confined space" per CFR 1910.146

OTHER JOB FUNCTIONS

- Maintains awareness of potential adverse impacts of inadvertent industrial discharges, responds to industrial notifications as necessary and communicating information and plant response actions to Pretreatment Coordinator or supervisor.
- Responsible for the operation of the stand-by electrical generators (includes 1500 kW on-site electrical generation).
- Utilizes lockout tagout, personal protective equipment and department and city safety procedures to perform work safely.
- Monitors raw material consumption, initiates purchase order requests to maintain adequate inventories, and coordinates receipt of incoming chemical shipments and supplies.
- Participates and contributes to research and development.
- Performs laboratory bench scale process simulation tests to optimize chemical and biological treatment.
- Utilizes engineering drawings including general, mechanical, and process instrument and diagrams.
- Performs off-site sampling, testing, and maintains field data logs for biosolids compost.
- Communicates compost process status with the Biosolids Program Coordinator.

REQUIREMENTS OF WORK:

- Post-secondary education or training in wastewater treatment technology with a college degree preferred.
- Possession or the ability to obtain WDNR Advanced Wastewater Operator certification

(certification subgrades A1, B, C, D, L, P and SS) preferred within 48 months of employment and maintain the certificate when employed.

• Possession or the ability to obtain WDNR general operator certification with mechanical sludge handling subgrade (certification subgrade G) preferred within 48 months of employment and maintain the certificate when employed.

- Three to five years of operating experience in a wastewater treatment facility, manufacturing environment, industrial maintenance environment or any equivalent combination of education, experience, and training desired.
- Routinely rotating through three duty shifts providing twenty-four hour coverage on a seven day per week basis including holidays.
- Valid Wisconsin driver's license.
- Mechanical systems including centrifugal and positive displacement pumps, turbines, compressors, generators, as well as their control mechanisms.
- Safety requirements in an industrial environment including precautions associated with working with mechanical equipment and industrial grade chemicals.
- State and Federal regulation governing operation of wastewater treatment plants.
- Exercise independent judgment based on available information when necessary.
- Read engineering drawing and utilize operations and maintenance manuals.
- Increase unit performance with arithmetic calculations to determine process flow, loadings, and chemical dosing set points.
- Perform analytical procedures according to method protocols and quality control standards.
- Use computer interfaces including Supervisory Control and Data Acquisition (SCADA) systems and reporting software to enter data, produce records and develop reports.
- Understand and follow oral or written instructions.
- React promptly and efficiently in emergencies.
- Maintain effective relations with other employees and deal with the public in a courteous and tactful manner.
- Withstand various weather conditions, fumes, odors, and dust generally associated with wastewater treatment processes.
- Perform tasks which require frequent standing, climbing, reaching, squatting, bending, pushing, pulling, lifting and carrying.
- Safely operate hand-trucks, forklifts, man-lifts, and similar equipment.
- Perform all duties in a safe manner consistent with department and city safety policies and procedures.
- Follow confined space entry procedures.
- Use a variety of personal protective equipment effectively, including respirators and self-contained breathing apparatus (SCBA).

SUPPLEMENTAL INFORMATION:

COMPETENCIES

Customer Focus
Adaptability/Flexibility
Technical Skills
Communication
Positive Attitude

To learn more about these competencies click [here](#)