

**City of Sault Ste. Marie**  
**WATER TREATMENT PLANT (WTP) FACILITY**  
**OPERATOR AND MAINTAINER**  
**Job Description**

**Title:** WATER TREATMENT PLANT FACILITY OPERATOR AND MAINTAINER

**Department:** Department of Public Works

**Union:** Steelworkers Local 13635

**Wage Class:** Non-Exempt, Hourly

**Pay Rate:** Per Labor Agreement

**Purpose and Scope:**

The primary purpose of this position is to ensure a reliable, efficient, and safe supply of domestic water that meets or exceeds all state and federal water standards. The incumbent accomplishes this through a variety of semi-skilled to skilled operation and maintenance duties to keep plant processes, equipment, facilities, pump stations and all other related items operating at peak efficiency.

A unique aspect of this position is that the incumbent is not only a Water Plant Operator, but also assumes the duties of the Water Plant Maintainer. Through a rotating 4/10 shift the incumbent is assigned to operate and monitor the drinking water systems and provide maintenance to the treatment facility and related appurtenances. Therefore, this position must be adept at mechanical and maintenance related tasks and have aptitude for science-based processes and duties. The incumbent must be able to obtain all required State drinking water operation licenses.

**Examples of Job Duties:**

*The following is intended as a brief description/illustration of the duties, responsibilities, and requirements of this position and are not intended to be all encompassing or all-inclusive.*

1. Installs, tests, maintains, and repairs mechanical and chemical feeding equipment, including air compressors, pumps, valves, elevated storage tank transducers, underground reservoirs, and minor electrical work.
2. Installs, calibrates, and maintains regulated online and laboratory water treatment equipment used to monitor quality of water and creates all required records of work. Assists with maintaining quality control records for all instruments to maintain State laboratory certification.
3. Operates industrial equipment such as overhead cranes, man lifts, plows, lawn mowers, hand powered tools and various shop equipment.

4. Performs annual inspections and maintenance on filters, flocculation basins, and backwash basin in accordance with all State and Federal regulations.
5. Safely performs all work including permit-required confined space work and elevated platform work in compliance with MIOSHA/OSHA regulations.
6. Performs maintenance on chlorine systems following the Risk Management Plan and Process Safety Management plans. Monitors and makes repairs to the chlorine storage and feed system, all of which are federally regulated to ensure public safety. Tests and calibrates chlorine leak detection system.
7. Utilizes panel instrumentation and chart recorders to control pressure, operate pumps, monitor turbidities, adjust flow rates, operate remote pumps and valves, and control water towers. Continuously monitors and makes adjustments so plant operates efficiently, and pressure is maintained throughout distribution system according to regulatory requirements.
8. Determines adequate levels for treatment, flow, chemistries, and operation process streams.
9. Disinfects harmful disease-causing bacteria in the water to ensure public health and safety while complying with EPA's Surface Water Treatment Rules by testing and monitoring for microbial contaminants, disinfectants, and filter turbidity.
10. Receives, communicates, and assists customers and City staff with emergencies. Evaluates situations and calls appropriate personnel.
11. Collects water samples, performs chemical analyses, and uses the data to monitor and respond to process variations and to meet regulatory requirements.
12. Gathers readings on chemical feeders and storage tanks, calculates chemical doses and adjusts feed rates according to changing water conditions and keep water within regulatory requirements.
13. Creates and evaluates daily analysis reports using data from flow numbers, chemical usage, filter turbidities, and laboratory data.
14. Monitors filter operation according to state and federal standards; backwashes media filters when needed or required.
15. Transfers lime, aluminum sulfate, and fluoride to storage tanks and bins. Prepares dry polymer solutions to correct dilution specifications.
16. Receives chemical deliveries from bulk chemical tankers, direct delivery to the correct storage tanks and ensures integrity of chemicals.
17. Ensures safe chlorine management practices. Responds promptly to chlorine leaks as well as initiating practice drills on a regular basis for emergency prevention. Assumes responsibility for monitoring and providing instructions to plant staff in emergency situations such as terrorist threat, tornado warnings, fires, etc.

18. During loss of power situations, responsible for initiating generator back-ups to ensure water supply continuity.
19. Inspects plant grounds, including raw water pump building, pump stations, and elevated storage tanks noting any adverse conditions or security concerns. Immediately calls for appropriate response to any noticed concerns.
20. Keeps accurate record keeping, such as monthly chemical inventories, monthly electrical usage readings, water plant meter readings.
21. Stays abreast of new and emerging trends and changing technologies in the field of water treatment and reads pertinent industry publications. Attends training, meetings, and conferences as required.
22. Supports core values, mission and goals of the department and the City of Sault Ste. Marie.
23. Assists Water Director
24. Performs all other duties as assigned.

**Required Knowledge, Skills, and Abilities:**

1. Associates degree or equivalent training in a mechanical or maintenance field, water environmental technology, chemistry, biology, or another related field.
2. Work experience should include but not limited to skilled trades, maintenance, scientific, chemical processing, or related field preferred. In the absence of the education requirement above, a minimum three years' work experience in a closely related field is required.
3. Demonstrated proficiency in mechanical and maintenance work, including strong knowledge of tools and methods to perform water plant maintenance work. Must have strong aptitude for mathematics and chemistry fields, preferably including formal training.
4. Ability to secure and maintain an F-4 water treatment license, or other water treatment licenses as required by regulatory agencies or the Water Director.
5. Highly effective and creative problem-solving skills in a technically complex environment.
6. Ability to carry out assignments both independently and as part of a work group. Ability to lead a work group and achieve results.
7. Ability to work independently with minimal supervision, stay organized and balance conflicting deadlines with unforeseen events.
8. Ability to work well under pressure.
9. Ability to communicate effectively and tactfully, both in writing and verbally.
10. Ability to set and work within a budget to reach project goals.

**Other Requirements of the Job:**

1. Possession of a valid CDL motor vehicle operator's license issued by the State of Michigan and must maintain a good driving record as a condition of employment.
2. Ability to work alone safely for long hours when assigned to weekend shifts.

3. Must be able to successfully pass City safety and equipment training programs as required.

**Physical and Mental Demands:**

**Physical Demands**

While performing the duties of this job, the individual must regularly and quickly traverse through the water plant and surrounding facilities (including ladders, stairs, tight spaces and uneven terrain); operate a wide variety of tools and equipment; must be able to communicate with individuals in person and by telephone; repetitively operate and manipulate all standard office, SCADA and water treatment equipment; required to lift, move and secure objects weighing up to and sometimes exceeding 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, and the ability to adjust focus. Must be able to detect both visual and audio plant alarms and calls.

**Mental Demands**

While performing the duties of this job, the employee is regularly required to use written and oral communication skills; read and interpret data, information, and documents; analyze and solve problems; use math and mathematical reasoning; observe and interpret situations; learn and apply new information or new skills; perform highly detailed work on multiple, concurrent tasks; effectively interact with other coworkers, other departments, and others encountered in the course of work.