

**CITY OF MADISON  
POSITION DESCRIPTION**

<b>1. Name of Employee (or "vacant"):</b> Vacant  Work Phone: 266-4537	<b>5. Department, Division &amp; Section:</b> Water Utility – Water Supply
<b>2. Class Title (i.e. payroll title):</b> Electronics Maintenance Technician	<b>6. Work Address:</b> 119 E. Olin Ave. Madison, WI 53713
<b>3. Working Title (if any):</b>	
<b>4. Name &amp; Class of First-Line Supervisor:</b> Kathy Cryan, Water Supply Supervisor  Work Phone: 266-4819	<b>7. Regular daily hours of work:</b> Hours/Week: 40  From: 7:30 AM To: 3:30 PM
<b>8. Date of hire in this position:</b>	
<b>9. From approximately what date has employee performed the work currently assigned:</b>	
<b>10. Position Summary:</b> This is journey-level technical electronics work in the Water Utility Water Supply Section. Work involves the modification, calibration, maintenance and repair of a wide variety of electrical and electronic control systems, supervisory control and data acquisition systems, plant control systems, telecommunication systems, field telemetry systems, and related equipment and devices used in the treatment, storage, pumping and distribution of potable water; and performs related duties as assigned. The work is performed under the general direction of the Water Supply Supervisor and may involve leading lower level staff on assigned projects, assisting higher level staff on more complex assignments and performing system maintenance on a stand-by/emergency basis.	
<b>11. Time % Functions and Worker Activities: (Do <u>not</u> include duties done on an "Out-of-Class" basis.)</b>  <div style="margin-left: 20px;">         60% Instrumentation, Communications and Electronic Systems Installation, Maintenance and Repair         <ol style="list-style-type: none"> <li>1. Test, troubleshoot, calibrate, repair and perform preventive maintenance on a variety of electronic, telecommunication and instrumentation systems, components and devices associated with the operation of a large, state-of-the-art water supply and distribution system; rebuild equipment to manufacturer's specifications, including but not limited to: motor controllers, flow and pressure transmitters, data radios, metering control systems, valve actuators, digital modems, PLCs, RTUs, devices and scientific instruments using operational performance standards, and standard and specialized testing equipment; correct defects in instrumentation.</li> <li>2. Test, troubleshoot, calibrate, program and perform preventive maintenance on a variety of complex electrical and electronic instruments and devices, such as programmable logic controllers, including softstart/hardstart motor controls and variable speed drives.</li> <li>3. Install, maintain, repair and calibrate a wide variety of pneumatic and electronic recording and indicating instruments such as differential pressure flow meters, sonic flow meters, pressure and temperature recorders, signal conversion modules, level sensing devices, valve actuators and pneumatic controllers.</li> <li>4. Perform a variety of skilled, technical duties in the development, installation, modification and maintenance of telecommunication, process control, supervisory control and telemetry systems.</li> <li>5. Modify, install and support software-based control and instrumentation logic.</li> <li>6. Modify, install and support systems and networks used for the transportation of electronic signals across a wide geographic area utilized by the SCADA system.</li> <li>7. Isolate and resolve electronic and telemetry equipment and system failures in the field and in central control; perform bench repairs at the component level in a shop setting; troubleshoot, align and calibrate equipment with such devices as chlorinators, fluoridators, flow meters, switchgears, pumps, motors, venturi and mag meters, transducers, metering equipment, valves, and related equipment.</li> <li>8. Maintain and repair chemical and leak detection devices, fluoride and chloride concentration analyzers, spectrometers, and related equipment for use in analysis of water samples.</li> <li>9. Inspect and assist in troubleshooting new control and communication systems and installations.</li> <li>10. Plan and lay out jobs from work orders or verbal instructions; maintain records in the form of blueprints, plans and specifications for equipment and devices.</li> <li>11. Schedule and coordinate activities with other staff, sections, departments or agencies; ensure the timely and accurate completion of preventive maintenance activities.</li> <li>12. Respond to emergency situations as necessary, including those occurring after normal working hours.</li> </ol> </div>	

11.

Time % Functions and Worker Activities: (Do not include duties done on an "Out-of-Class" basis.)

30% Computer Hardware and Networks

1. Troubleshoot and maintain computer systems used in SCADA and security/access control systems.
2. Modify, install and support systems and networks used for the transportation of electronic signals across a wide geographic area utilized by SCADA and security/access control systems.
3. Provide local/site support for SCADA and security/access control systems.
4. Configure and support real-time connection from SCADA and security/access control systems to a historical database; administer the databases.

10% Other Related Responsibilities

1. Research, evaluate and recommend new or replacement equipment such as: chlorinators, fluoridators, flow meters, pumps, motors, venturi meters, metering equipment, valves, etc. Assist in analysis, development and implementation of system enhancements
2. Establish and maintain good communications and rapport with vendors and management.
3. Project future needs, control on-hand inventory for production, and advance order equipment required to maintain telemetry system and implementation process.
4. Write and update, on an ongoing basis, maintenance manual and documentation to reflect changes and additions to system.

Perform related work as required.

12. Primary knowledge, skills and abilities required:

Knowledge of the practices, theories, methods, techniques, tools and equipment used in the installation, testing, calibration, maintenance and repair of electronic process and instrument controls, supervisory control, radio and telemetry-based SCADA systems, communication equipment common to a waterworks system. Knowledge of PLC ladder logic programming; telemetry RTU configuration, diagnoses and support. Electronic shop procedures, practices and mathematics. Safety practices and regulations pertaining to the work. Computer applications related to the work.

13. Special tools and equipment required:

14. Required licenses and/or registration:

Possession of a valid driver's license, or the ability to otherwise meet the transportation requirements of the position.

15. Physical requirements:

Employee is subject to indoor and outdoor environmental conditions. Includes a variety of physical conditions, such as proximity to moving mechanical parts, moving vehicles, electrical current, working on scaffolding and high places, exposure to high heat or exposure to chemicals. Employee is subject to noise. Must have close visual acuity to view a computer terminal; using measurement devices; and/or assembly of fabrication of parts at distances close to the eyes. Must be able to ascend and descend ladders, stairs, scaffolding, ramps.

16. Supervision received (level and type):

Work is performed with a high degree of independence under the general supervision of the Water Supply Supervisor. Work may involve directing subordinate maintenance employees as assigned.

17. Leadership Responsibilities:

This position:

- ☐ is responsible for supervisory activities (Supervisory Analysis Form attached).
- ☐ has no leadership responsibility.
- ☒ provides general leadership (please provide detail under Function Statement).

18. Employee Acknowledgment:

- ☐ I prepared this form and believe that it accurately describes my position.
- ☐ I have been provided with this description of my assignment by my supervisor.
- ☐ Other comments (see attached).

Employee's Signature \_\_\_\_\_

\_\_\_\_\_ Date

19. Supervisor Statement:

- ☒ I have prepared this form and believe that it accurately describes this position.
- ☐ I have reviewed this form, as prepared by the employee, and believe that it accurately describes this position.
- ☐ I have reviewed this form, as prepared by the employee, and find that it differs from my assessment of the position. I have discussed these concerns with the employee and provided them with my written comments (which are attached).
- ☐ I do not believe that the document should be used as the official description of this position (i.e., for purposes of official decisions).
- ☐ Other comments (see attached).

Supervisor's Signature \_\_\_\_\_

\_\_\_\_\_ Date

Note: Instructions and additional forms are available from the Human Resources Dept., Room 501, City-County Bldg. or by calling 266-4615.