



## Board of Public Utilities City of Cheyenne, Wyoming

### INSTRUMENTATION TECHNICIAN

Division: **Engineering & Water Resources**      Class Code: **2725**  
Revised Date: **December 2016**      FLSA Status: **Non-Exempt**

**GENERAL PURPOSE:** Under general supervision performs skilled and technical maintenance on instrumentation and controls, electronics, pneumatics, and electrical equipment for the Board of Public Utilities (BOPU); Includes maintenance, troubleshooting, and repair of the Supervisory Control and Data Acquisition (SCADA) systems, water & wastewater process control systems, equipment, and components.

#### **PRIMARY DUTIES AND RESPONSIBILITIES:**

*The following duties **ARE NOT** intended to serve as a comprehensive list of all duties performed by all employees in this classification, only a representative summary of the primary duties and responsibilities. Incumbent(s) may not be required to perform all duties listed and may be required to perform additional, position-specific duties.*

- Keeps the mission, vision and values of the Board of Public Utilities at the forefront of decision making and action; builds strategic and collaborative relationships and interacts with others in a way that builds confidence and trust; provides excellent customer service by taking action to accomplish objectives, maintaining high levels of work and productivity, and generating innovative solutions to work situations.
- Maintains Supervisory Control and Data Acquisition (SCADA) equipment, process control, and communication systems which includes electronic instruments, Remote Terminal Units (RTU's), monitoring systems, telemetry, and specialty components; locates, installs, tests, inspects, calibrates, maintains and repairs electrical power, and electronic and mechanical components; reads and interprets diagrams, schematics, blueprints, and technical documents.
- Performs repair and maintenance activities within scope of authority and in accordance with federal, state, and local rules, regulations, and codes including, WY DEQ and Water Quality Divisions and BOPU policies;
- Works independently, analyzes complex variables, and makes appropriate decisions based on experience; recommends changes to improve the effectiveness of process control systems; uses diagnostic test equipment and personal computers to interpret testing results; maintains and updates specialty instrumentation software and notifies supervisor of complex repair problems.
- Examines equipment malfunctions and troubleshoots actual and potential problems; examines components to be repaired and determines the proper repair techniques; studies schematics to determine needed repairs or replacement of components; replaces faulty components and tests finished job to determine system functionality.
- Verifies that SCADA control systems are operating effectively and in compliance with specifications; analyzes operational functions, evaluates current and potential system problems, and recommends improvements.

#### **MINIMUM QUALIFICATIONS:**

##### **Education and Experience:**

Associate's Degree in Electronics or related field AND two years of electronic control systems experience, including electrical and electronic system maintenance, preferably in the water and wastewater industry; OR an equivalent combination of education, training and experience.

## **JOB DESCRIPTION**

### **Instrumentation Technician**

#### **Required Licenses or Certifications:**

- Driver's license valid in Wyoming with good driving record.
- Level 1 Distribution Systems Certification and Level 1 Collection Systems Certification from Wyoming Department of Environmental Quality within two years of hire.
- Depending on the needs of the BOPU other job specific training and certifications may be required.

#### **Required Knowledge of:**

- Maintenance of SCADA systems, including specialized programming languages.
- Theories and principles of electrical and power generation/distribution system maintenance.
- Electromechanical components and the appropriate diagnostic methods and techniques for troubleshooting.
- National Electrical Code standards, protocols, specifications and guidelines.
- Safe work practices, occupational hazards and safety precautions.

#### **Required Skill in:**

- Inspecting equipment and components and identifying maintenance issues.
- Interpreting and following instructions, technical manuals, schematics, blueprints, and diagrams for the maintenance, repair, and installation of electrical and electronic equipment and instruments.
- Interpreting and applying technical standards and rules and regulations.
- Utilizing electronic diagnostic and testing equipment and interpreting results.
- Operating tools and equipment used in the installation, testing and maintenance of SCADA systems.
- Testing, diagnosing, repairing and maintaining electrical and mechanical equipment and systems.
- Operating a personal computer using a variety of standard and technical software to include Office 365.
- Using initiative and independent judgment within established procedural guidelines.
- Establishing and maintaining effective working relationships with co-workers, customers and general public.
- Effective verbal and written communications.

#### **Desired Competency**

##### **To perform the job successfully, an individual should demonstrate experience with the following:**

- Water and wastewater utility systems, equipment, and process control systems.
- Motorola Moscad and ACE RTU's, Allen Bradley PLCs, Banner I/O radios.
- Proficy iFix, Motorola Toolbox and STS, RSLogix 500 and 5000, Banner software, Ladder Logic.
- The following systems: radio and landline telemetry, photovoltaic, 120/480 vac and DC electrical, hydraulic, HVAC, and electrical power.
- Electromagnetic and differential pressure water flow meters, level and pressure transmitters, valve actuators, ultrasonic level transmitters, pressure reducing valves, temperature transmitters, digital switches, flumes and weirs, water quality instruments, and variable frequency drives.
- Fluke Multimeters, radio watt meters, frequency meters, and megohmmeter.
- Pump stations, sewage lift stations, submersible well pumps, dams, and reservoirs.

**Work Environment:** Work is performed 40% of the time inside and 60% of the time outdoors in all weather conditions (hot, cold, wet, windy, humid); occasionally required to work after normal hours and on weekends; frequent travel to offsite locations including remote sites and occasional overnight stays is required. Work is conducted in areas where there is frequent exposure to mechanical and electrical hazards, dusts, gases and poor ventilation; occasional exposure to toxic or caustic chemicals, fumes, odors, and mists.

**Physical Demands:** Moderate physical work requiring ability to stand 40%, walk 40% and sit 20% of work time; ability to lift, carry, push and pull objects weighing up to 50 pounds and occasionally up to 80 pounds; constantly required to use hands and fingers to work on machinery, equipment controls, handle objects and paperwork and to operate a computer and keyboard; frequently required to climb, kneel, crouch and reach; occasionally required to balance, stoop, crawl and feel; specific vision abilities required by this job include close vision, distance vision, depth perception, color vision and ability to adjust focus; constantly required to verbally communicate and to hear conversation and other sounds.