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INSTRUMENTATION AND CONTROL TECHNICIAN (SKILL BASED PAY)

Purpose:

To actively support and uphold the City's stated mission and values. To perform complex technical work in the testing, installation, maintenance and repair of all pneumatic and electronic control systems and instruments relative to water and wastewater production and treatment operations. To provide technical support in the design, construction and modification of the Supervisory Control and Data Acquisition (SCADA) system, and to install and maintain/service the Remote Telemetry Units (RTU) that monitor and control water production and treatment functions.

Positions in this class may additionally be given the opportunity, or required, to learn and perform duties in other skill/trade areas (i.e. skill blocks) including: electrical work, mechanical maintenance, water plant operations, and/or wastewater plant operations.

Supervision Received and Exercised:

Receives general supervision from the Control Center Supervisor, or other supervisory staff.

May act as a subject matter expert to assist in training other staff.

Examples of Duties:

This class specification is intended to indicate the basic nature of positions allocated to the class and examples of typical duties that may be assigned. It does not imply that all positions within the class perform all of the duties listed, nor does it necessarily list all possible duties that may be assigned.

Duties may include, but are not limited to, the following:

- Analyze instrument and control system malfunctions; install, maintain, repair and adjust computer system hardware and digital data multiplexing equipment used for indicating, telemetering, measuring and controlling flow, temperature, motion, force, and chemical composition.

- Repair, maintain and calibrate level, pressure and flow telemetry; install, maintain, repair and calibrate all types of process instrumentation used for monitoring water/wastewater parameters such as level, pressure, flow, chemical concentrations, turbidity, and pH.

- Maintain a variety of electronic control devices/instruments used to operate electrical mechanical equipment, record data, indicate equipment status and activate supervisory control; maintain and repair automatic control valves and associated control functions; modify and install a variety of supervisory controls including switches, relays and control loops.

- Design, build, program and modify system displays for the Supervisory Control and Data Acquisition (SCADA) network; develop a functional data base structure for the SCADA system and update the data base as required; operate and program a portable computer and other data communications devices.

- Respond to SCADA system user problems; identify SCADA system malfunctions and refer to IT network administration staff or SCADA system vendor staff for resolution as appropriate.

- Design and modify Remote Telemetry Units (RTU's) to provide control and monitoring functions required for water production and treatment processing; document program design and function procedures; design intuitive graphical user interfaces (GUI's) using control software.

- Design, install, maintain, and modify Remote Telemetry Units (RTU's) to provide timely and accurate data transmission to the host computer on water treatment facility monitoring points; specify and procure parts necessary to build and install RTU's according to design specifications.

- Install RTU's in field locations and terminate control and instrument wiring; inspect and test RTU functions to verify accurate data transmission between the RTU and host computer; coordinate appropriate communications interface for RTU's in various remote locations.

- Develop and write programs for local process control and monitoring, and install programs in RTU's; develop, recommend and install system enhancements to improve process monitoring and control functions; perform data entry as well as programming.

- Inspect, analyze and correct system problems to ensure continuous reliable operation of the SCADA system; inspect, maintain and repair low voltage electrical and control circuit wiring, PLCs, stand-alone controller, relays, and switch logic.

- Participate in training other Water Division staff in the operation and use of the SCADA system; attend training sessions and technical meetings as required;

read and interpret technical manuals relating to maintenance and enhancement of the SCADA system.

- Communicate orally and in writing with co-workers and supervisory personnel concerning routine and emergency system functions, maintenance and installation projects; communicate with outside vendors to help specify and procure instruments and related equipment as needed.

- Read and interpret schematics, blue-prints and engineering drawings.

- Perform related duties as assigned.

Experience and Training Guidelines:

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. The hiring department may include job related experience, training or license and certification preferences at the time of recruitment. A typical way to obtain the knowledge and abilities would be:

Experience:

Two years of increasingly responsible electronic and instrument maintenance and repair experience preferably in a water utility.

Training:

Equivalent to an Associate of Arts degree from a two-year college with major course work in electronics technology, electrical technology or a related field.

Licenses/Certifications:

Requires the possession of a valid driver's license.

Required to obtain, within 18 months of hire, Grade I water and/or wastewater treatment certificates issued by the State of Arizona.

This position is included in the City's classified service, pursuant to City of Tempe Personnel Rules and Regulations, Rule 1, Section 103.

Job Code: 463

FLSA: Non-Exempt