

## **CLASS SPECIFICATION**

### **SAN DIEGO CITY CIVIL SERVICE COMMISSION**

### **INSTRUMENTATION AND CONTROL TECHNICIAN**

#### **DEFINITION:**

Under direction, to design, install, test, adjust, modify and maintain the most complex fixed and portable electronic and telemetry systems and equipment; to design, modify and make programming and software improvements on computerized system control and data acquisition operations; to analyze problems and make necessary repairs on electronic instrumentation and controls required to interface with process control computers; to instruct Electronics Technicians in the more difficult and complex aspects of their work assignments; may lead the work of lower level staff; and to perform related work.

#### **\* EXAMPLES OF DUTIES:**

- Designs, installs, tests, adjusts, modifies and maintains digital and logic circuitry, microprocessor controlled devices, elements and components such as programmable logic controllers, process control equipment, telemetering devices recorders, sensors, and controllers on a wide variety of water and waste water treatment process instruments and devices;
- Operates computer terminals, portable programming units or other complex electronic test equipment like spectrum analyzers to analyze and troubleshoot instrumentation and control systems, instrumentation interface with process control computers, and process control problems;
- Designs, modifies and tests complex relay logic instruction sequences in the form of computer programs to monitor and control water or waste water treatment processes;
- May lead and instruct Electronics Technicians and other lower level staff in new and current procedures of maintenance and troubleshooting of a wide variety of electronic systems, equipment and components;
- Performs mathematical computations for calibrating instruments and determining values of inputs and outputs in computer programs;
- Works with vendors, control computer hardware and software specialists, and plant operating and engineering personnel in determining process parameters, technical specifications for new and existing installations, and other technical matters regarding digital unit process control systems;
- Maintains records of work performed.

#### **MINIMUM QUALIFICATIONS:**

Please note: the minimum qualifications stated below are a guide for determining the education, training, experience, special skills, and/or license which may be required for employment in the class. These are re-evaluated each time the position is opened for recruitment. Please refer to the most recent Job Announcement for updated minimum qualifications.

Successful completion of a four-year accredited Electronics or Communications Technician Apprenticeship Program, **OR** four years of experience assembling, installing and maintaining electronic instrumentation and control or telemetry equipment, of which two years must include troubleshooting and repair experience at the component level; **AND** one year of experience in all phases of work as a journey-level Electronics Technician diagnosing, repairing and **programming** logic controllers at a water or wastewater treatment plant or industrial production plant; **AND** satisfactory completion of the Appointing Authority's list of critical tasks for Instrumentation and Control Technician. Possession of a valid California Class C Driver's License.

- \* **EXAMPLES OF DUTIES** performed by employees in this class. The list may not include all required duties, nor are all listed tasks necessarily performed by everyone in this class.