

JOB DESCRIPTION

Coachella Valley Water District

Date: April 2020

TITLE: Electronics Technician Trainee

SECTION: Electronics Shop

DEPARTMENT: Facilities and Maintenance

SRN: 30

REPORTING RELATIONSHIP:

Reports to: Electronics Supervisor

Supervises the following positions: None

DEFINITION: Under general supervision to perform installation, repair, calibration, and maintenance work on the district's supervisory control and data acquisition (SCADA) system, automatic control systems, radio systems, telephone systems, security systems, flood warning systems, and do related work as required. Familiar with the district's domestic, flood control, irrigation, and sanitation distribution and collection systems.

ESSENTIAL FUNCTIONS:

1. Performs professional installations and calibrations and proficiently repairs and maintains system, equipment, and components including but not limited to local and remote terminal units, programmable controllers, variable drives, automatic control circuits, process controllers, liquid level controllers, level and pressure transducers, flow and position transmitters, microwave radios, multiplex and data communications equipment, base and mobile radios, tone and pulse duration transmitters and receivers, security equipment, solar power equipment, flood warning equipment, gas detectors, audio and video equipment, telephone and voice mail equipment, cellular telephone, and underground cable.
2. Systematically troubleshoots system, equipment, and component malfunctions using effect-to-cause reasoning techniques to make timely and effective repairs. Analyzes failures and takes prompt responsible corrective action in striving to minimize service interruptions to co-workers and the district's customers and to minimize damage.
3. Effectively utilizes test equipment including but not limited to analog multimeters, digital multimeters, oscilloscopes, frequency selective level meters, frequency counters, oscillators, cable locators, communications and spectrum monitors, wattmeters, logic probes and pulsars, component testers, pressure calibrators, telemetry monitors, PLC programmers, portable test units and personal computers.
4. Reads and understands schematics, wiring diagrams and technical manuals.

ESSENTIAL FUNCTIONS (Cont.):

5. Understands and adheres to the rules and regulations of the Federal Communications Commission regarding the operation and maintenance of radio transmitters and receivers.
6. Consistently practices good preventive maintenance measures to minimize failures and maintain reliable operation of systems, equipment, and components.
7. Accurately calculates and edits database constants for the levels, pressures, gate positions, valve positions, pump status and other equipment and site alarms monitored by the SCADA system to display and archive accurate information.
8. Proficiently operates the SCADA system consoles to adjust flows, water levels and pressures for the domestic, flood control, irrigation, and sanitation distribution and collection systems by remotely operating gates, pumps, and valves to test and maintain reliable SCADA system operation.
9. Provides good customer service to co-workers and the districts outside customers. Tactfully and courteously deals with the customers to help resolve problems in a satisfactory and timely manner while paying attention to details and using time productively.
10. Communicates effectively with others both orally and in writing and coordinates all work being performed with the control operators and others that may be affected by it.
11. Accurately accounts for all labor and equipment usage on time cards and work orders as well as collects asset data for Asset Management and the Computerized Maintenance Management System (CMMS)
12. Develops and maintains preventive maintenance schedules.
13. Safely and effectively uses hand tools and power tools including but not limited to hammers, screwdrivers, wrenches, drive sockets, saws, tuning tools, soldering irons, drills, stud guns, and rotary hammers.

MINIMUM QUALIFICATIONS:

License or Certificates: Valid California Operators license issued by the State Department of Motor Vehicles. Department of Motor Vehicles driving record may influence employment or classification.

AND

Must have possession of a valid Technician Certificate issued through a program endorsed by the Federal Communications Commission or a FCC license within 18 months of hire date.

Experience: Any combination of training and experience which would likely provide the required knowledge and abilities is qualifying. A typical way to obtain this knowledge and abilities would be to have two years experience in the electronics repair field.

Knowledge of:

- MS-DOS and Windows operating systems.
- Basic mechanical principals.
- Microprocessor troubleshooting.
- Analog and digital troubleshooting.

ESSENTIAL FUNCTIONS (Cont.):

- Effective and reliable soldering practices.
- Measurement instrumentation and process control.
- Properties of electricity (alternating current, direct current, circuit theory.)
- Electronics theory (electronics principles, measurements, and components.)
- Electronic fundamentals (DC and AC electronics, semiconductors, circuits.)
- Electronic communications (TV, radio, FAX, modem, multiplex, data transmission.)
- Radio theory (transmitters, receivers, antennas, radio wave propagation.)
- Advanced electronics (impedance, gain, amplifiers, regulators, oscillators, PL circuits.)
- Digital electronics (logic circuits, digital integrated circuits, memory devices.)
- Microprocessor principles (D to A, A to D converters.)
- Test equipment (voltmeter, ammeter, ohmmeter, and oscilloscope.)

Abilities:

- Perform maintenance, repairs and installations on SCADA systems, automatic control systems, radio systems, telephone systems, security systems, and flood warning systems.
- Troubleshoot and analyze problems and take appropriate corrective action to effectively and efficiently repair.
- Operate a variety of electronic equipment and tools in a safe manner.
- Comprehend and comply with FCC rules and regulations.
- Communicate effectively with others.
- Perform mathematical calculations.
- Maintain accurate records and reports.
- Reads and accurately interprets schematics and wiring diagrams.

Education: Possession of a High School diploma or G.E.D.

PHYSICAL REQUIREMENTS:

1. Drives District vehicle to job sites including over rough terrain. Driving: Moderate to heavy
2. Works in extreme weather conditions including heat and rain.
3. May work in areas containing fumes, dust, chemicals, sewage and exhaust.
4. Work in extreme weather conditions including wind, heat and rain.
5. Uses telephone and two-way radio to communicate.
6. Will climb ladders and 250 foot towers when required.
7. Will work nights, weekends, holidays, and standby when required.
8. Tolerate the District's immunization program.
9. See Human Resources for physical assessment form.

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ESSENTIAL FUNCTIONS (Cont.):