



Classification Unit:	Field and Office
Last Revision:	May 2003

ELECTRICAL/ELECTRONIC TECHNICIAN

Class specifications are intended to present a descriptive list of the range of duties performed by employees in this class. Specifications are not intended to reflect all duties performed within the job.

DEFINITION

Under general supervision install, repair, replace, calibrate, test, overhaul, design, construct or modify various electrical and electronic systems and equipment; and perform related work as required.

DISTINGUISHING CHARACTERISTICS:

This is a skilled working level class required to perform a variety of complex repairs, adjustments, maintenance, installation, and testing of electrical and electronic equipment and instrumentation, process control and data acquisition, and communications systems.

SUPERVISION RECEIVED AND EXERCISED

Exercises no supervision.

ESSENTIAL FUNCTION STATEMENTS

Essential responsibilities and duties may include, but are not limited to, the following:

- ❖ Install, calibrate, test, diagnose, repair and replace all electrical systems and equipment such as electrical motors; high and low voltage manual and automatic motor controls; panel boards and switch gear; automatic safety controls; pneumatic-electric controls for valve operations; liquid level control indicators, recorders and alarms; electronic and impulse telemetering transmitters, transmission lines, rectifiers, receivers, indicators and recorders for pump control, flow control, liquid level control and remote data recording.
- ❖ Perform emergency repairs to a variety of equipment as necessary.
- ❖ Install, repair, and replace underground cables.
- ❖ May wire or re-wire new or existing facilities, structures or equipment for electrical or electronic service including communications as required.
- ❖ Repair and replace a variety of communication equipment.
- ❖ May design simple electronic and electrical system circuits and simple design modifications for power, communications and control systems.
- ❖ Prepare reports and maintain records, such as preventative maintenance test and repair records.

- ❖ Operate a variety of specialized test equipment and use small hand tools in the maintenance, calibration and repair of electrical, electronic and related equipment and systems.
- ❖ Locates underground conduits, pipelines and facilities.
- ❖ May order and maintain inventory control of parts and materials.
- ❖ May train new personnel as required.
- ❖ Perform related duties as assigned.
- ❖ Perform “on-call” and emergency work assignments.

EMPLOYMENT STANDARDS

Knowledge of:

- ❖ Basic understanding of hydraulic systems.
- ❖ Computer skills
- ❖ The theory and practice of electrical design, installation, repair, maintenance, testing and troubleshooting of high and low voltage systems, electrical motors, and electrical motor controls.
- ❖ The theory and practice of troubleshooting and repairing co-generation systems and emergency generator systems.
- ❖ Pneumatic, hydraulic, electronic and electro-mechanical systems.
- ❖ Modern radio, landline, microwave and infra-red communications and process control and data acquisition systems.
- ❖ Tools and test equipment used in radio, landline, microwave and infra-red communication equipment maintenance and repair work, including multi-meters, audio generators, frequency modulation and deviation meters, radio test sets and oscilloscopes.
- ❖ Methods and principles used in the design and planning of process control and telemetry systems.
- ❖ Operating principles of low, high and ultrahigh frequency AM/FM radio receivers, transmitters and auxiliary equipment.
- ❖ Proper work safety standards.

Ability to:

- ❖ Troubleshoot, maintain and repair high and low voltage electrical equipment and systems, co-generation systems and emergency power systems.
- ❖ Follow written and verbal direction.
- ❖ Diagnose defects and problems in telemetry, communication and process control systems and perform a variety of repairs.
- ❖ Plan, design, modify and install landline, communications and control systems.
- ❖ Design and fabricate electrical and electronic circuits.
- ❖ Read and interpret a variety of blueprints, schematic and single line diagrams.
- ❖ Maintain accurate records and prepare reports.
- ❖ Establish and maintain cooperative working relationships.
- ❖ Willingness to wear a uniform.
- ❖ Willingness to perform call back or emergency work as required.

Experience and Training Guidelines:

Any combination equivalent to experience and training that would provide the required knowledge, skills and abilities would be qualifying. A typical way to obtain the knowledge, skills and abilities would be:

Experience:

Three years of responsible work experience in the installation, design, repair, maintenance and modification of electrical systems, electronic systems, radio, telemetry, microwave and landline communications and process control and data acquisition systems.

WORKING CONDITIONS

Essential duties require the following physical skills and work environment:

Environmental Conditions

- ❖ Operates District vehicles to travel between District plants and facilities.
- ❖ Works in an environment with exposure to dust, dirt, chemicals and significant temperature changes between cold and heat.
- ❖ Works in a confined space.

Physical Conditions

- ❖ Must be able to carry, push, pull, reach and lift equipment and parts weighing up to 50 lbs.
- ❖ Must be able to climb stationary ladders up to 135 feet in height, work in confined spaces.
- ❖ Stoops, kneels, crouches, crawls and climbs during maintenance and repair work on telemetry and communications systems.
- ❖ Communicates orally with District staff in face-to-face, one-on-one settings.
- ❖ Regularly uses a telephone and radio for communication.
- ❖ Uses office equipment such as computer terminals, copiers and FAX machines.
- ❖ Stands and walks for extended time periods.
- ❖ Hearing and vision within normal ranges.

SPECIAL REQUIREMENTS

- ❖ Possession of a valid California Driver's License, as issued by the State of California Department of Motor Vehicles and a driving record acceptable to the District's auto insurance provider.
- ❖ Obtain and maintain defensive drivers training certification (training provided by the District)
- ❖ Obtain and maintain CPR and First Aid training certification (training provided by the District)
- ❖ Must reside within a thirty (30) minute response time by the end of probationary period.

Approved: May 1, 2003

/s/ John Gregg
District Manager