



DECEMBER 2018
FLSA: NON-EXEMPT

LEAD ELECTRICAL TECHNICIAN

This class specification indicates, in general terms, the type and level of work performed as well as the responsibilities of employees in this classification. The job functions described are not to be interpreted as being all-inclusive to any specific employee.

DEFINITION

Under direct or general supervision or direction, leads, oversees, and participates in the work of staff responsible for the maintenance, repair, and installation of electrical equipment up to 12K volts including lighting systems, sump pumps, controls, motors, transformers, generators, batteries, cranes, variable frequency drives, air conditioners, and switch gears; oversees and performs predictive, preventive, and corrective maintenance on assigned equipment; and oversees and assists contractors as necessary.

SUPERVISION RECEIVED AND EXERCISED

Receives direct or general supervision or direction from the assigned supervisory and/or managerial staff. Exercises no direct supervision of staff. Exercises technical and functional direction and training over assigned staff.

CLASS CHARACTERISTICS

This classification is the fourth of five (5) levels within the electrical maintenance job series and serves in a lead role. Incumbents perform the most complex duties required to ensure that the District's high-voltage electrical infrastructure, systems, and facilities are maintained in a safe and effective working condition to provide the highest level of safety for the public. Responsibilities include inspecting and attending to assigned areas in a timely manner and performing a wide variety of tasks in the maintenance and repair of assigned facilities, systems, and appurtenances. This class is distinguished from Maintenance Supervisor in that the latter is a full supervisory-level class responsible for organizing, assigning, supervising, reviewing and evaluating the work of assigned staff.

EXAMPLES OF ESSENTIAL JOB FUNCTIONS (Illustrative Only)

The following essential job functions are typical for this classification. Incumbents may not perform all of the listed job functions and/or may be required to perform additional or different job functions from those set forth below to address business needs and changing business practices

- Leads, plans, trains, and reviews the work of staff responsible for the maintenance, repair, and installation of electrical equipment; performs the most complex work of the unit including the maintenance, repair, and installation of lighting systems, sump pumps, controls, motors, transformers, generators, batteries, cranes, variable frequency drives, air conditioners, and switch gears.
- Ensures established safety precautions are adhered to, corrects unsafe work conditions/practices, and/or reports unsafe work conditions/practices to assigned supervisory or managerial staff.
- Trains assigned employees in their areas of work including electrical maintenance, repair, and installation methods, procedures, and techniques.
- Oversees and demonstrates the use, care, and operation of electrical maintenance and repairs equipment including power tools, cranes, and test equipment.
- Verifies the work of assigned employees for accuracy, proper work methods, techniques, and compliance with applicable standards and specifications.

- Performs the most complex preventive maintenance duties; inspects equipment; checks voltage and amperage; tightens, cleans, and lubricates equipment; locates potential problems.
- Performs the most complex corrective maintenance; isolates power and ground equipment; troubleshoots problems and makes necessary repairs; restores power and checks equipment for proper operation.
- Performs the most complex electrical circuit installation for additions or modifications; bends and installs conduit; pulls wire, and wiring in circuit as shown on blueprint; tests system for proper installation.
- Oversees and participates in the maintenance and repair of electrical equipment at pump stations such as motors, switchgears, substations and control equipment; generates power at pump stations during outages by connecting emergency generator to pump stations.
- Records and updates data in maintenance management system regarding electrical equipment, including voltage and amp readings, dates and type of work performed, back logs, lockout/tagout, and other equipment information that is necessary.
- Participates in a full-featured predictive maintenance program using condition monitoring, recording new baselines for newly installed equipment and continuing to periodically monitor for future trends.
- Utilizes condition assessment equipment, including dissolved gas analysis, infrared thermography, ultra sound scans, and vibration analysis for electrical switchgear, power transformers, motor control centers, motors and generators.
- Inspects and audits work processes, reviews task procedures and updates the preventive maintenance based on the findings.
- Works on up to 12K volt generators, operates, synchronizes, parallels and transfers plant load.
- Drives generator truck, hook up power, transfer load at pump stations.
- Reads, maintains and updates all electrical drawings, schematics and single line drawings.
- Troubleshoots and repairs electrical, electronic and microprocessor based electrical control equipment.
- Performs preventive, predictive and corrective maintenance on electrical, generation and distribution systems including 12K volt generators, exciters, 12K volt circuit breakers, generator controls, 12K volt power transformers and motors up to 2,600 horsepower.
- Performs predictive, preventive and corrective maintenance on uninterruptible power supplies (UPS) and DC power system for generator and switchgear controls.
- Prepares clear and concise purchase requisition forms for necessary materials, tools and electrical equipment.
- Assists construction management staff and contractors as necessary by switching electrical power, factory acceptance testing (FAT) on newly installed electrical system.
- Oversees and assists contractors as necessary.
- Responds to inquiries in a courteous manner; provides information within the area of assignment; resolves complaints in an efficient and timely manner.
- Estimates time, materials, and equipment required for jobs assigned; contacts other departments involved in the maintenance or repair of equipment; lays out job plans; requisitions materials as required.
- Performs routine maintenance work in plant or at pump stations including painting, cleaning and digging; drives District vehicles and generator truck.
- Performs related duties as assigned.

QUALIFICATIONS

Knowledge of:

- Operations, services, and activities of an electrical maintenance program.
- Principles of coaching and training.
- Advanced electrical and electronic technology principles and practices.
- Advanced principles of electrical theory and design as applied to electrical circuits and wiring

systems.

- Principles, methods, materials, and tools used in electrical repair and maintenance work.
- Advanced methods and techniques of maintaining, installing and repairing electrical systems and equipment.
- Advanced methods and techniques of troubleshooting electrical equipment and components.
- Advanced methods and techniques of high voltage electrical system maintenance and repair.
- Operating characteristics and application of electrical test equipment.
- Advanced preventive and corrective maintenance techniques.
- Electrical safety regulations, practices, and procedures.
- National Electrical Code, NETA (InterNational Electrical Testing Association) maintenance testing specifications, OSHA 1910 and NFPA-70E (National Fire Protection Association)
- Principles of diesel engine operation and troubleshooting.
- Testing and calibrating electrical protective relays.
- Office procedures, methods, and equipment including computers and applicable software applications such as word processing, spreadsheets, maintenance management systems and databases.
- Mathematical principles and calculations.
- Principles and procedures of record keeping.
- English usage, spelling, vocabulary, grammar, and punctuation.
- Occupational hazards and standard safety practices
- Principles and practices of customer service and techniques for effectively communicating with the public, vendors, contractors and District staff.

Ability to:

- Lead, organize, train, and review the work of staff.
- Independently perform the most difficult electrical maintenance and repair.
- Interpret, explain, and enforce department policies and procedures.
- Operate a variety of electrical repair, maintenance and installation equipment in a safe and effective manner.
- Inspect, troubleshoot, diagnose, and repair electrical and electronic malfunctions.
- Use electrical test equipment.
- Isolating, testing and grounding electrical equipment up to 12K volts while wearing personal protective equipment (PPE).
- Perform a variety of complex electrical system and component installation.
- Read, interpret, and understand plans, schematics, technical manuals, diagrams, drawings, and operating and maintenance manuals.
- Prepare clear and concise technical reports.
- Design electrical controls.
- Perform complex mathematical calculations necessary for electronic and electrical troubleshooting.
- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner; organize own work, set priorities, and meet critical time deadlines.
- Work independently in the absence of supervision.
- Work extended hours, including nights, weekends and holidays when necessary.
- Ensure adherence to safe work practices and procedures in the workplace.
- Operate a motor vehicle and travel to various District sites, projects and/or meetings.
- Utilize a computer, relevant software applications and/or other equipment.
- Effectively communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Employment Standards:

Any combination of education and experience that provides the required knowledge, skills, and abilities may be qualifying as determined by OCSD.

1. High school diploma or G.E.D., supplemented by specialized training or coursework such as relevant trade school in electrical technology or a related field; AND
2. Four (4) years of work experience maintaining, repairing and installing electrical equipment with at least two (2) years of experience performing duties comparable to an Electrical Technician II with the District.

Licenses and/or Certifications:

- Valid California Class C Driver's License.

Disaster Service Workers:

All Orange County Sanitation District employees are designated Disaster Service Workers through state law (California Government Code Section 3100-3109). Employment with the Orange County Sanitation District requires the affirmation of a loyalty oath to this effect. Employees are required to complete all related training as assigned, and to return to work as ordered in the event of an emergency.

Standby and Call Back:

Employees in this classification may be required to participate in standby duty and are subject to call back, which may include nights, weekends and 24-hour emergency call out with little or no notice. Any employee designated to serve on standby, or report to an emergency, and refuses to do such, shall be subject to disciplinary action up to and including termination.

PHYSICAL DEMANDS

Must possess mobility to work in and around District facilities; ability to travel to various District sites, projects and/or meetings; strength, stamina, and mobility to perform moderate to heavy physical work, to work in confined spaces and around machines, to climb and descend ladders; to operate varied hand and power tools and equipment; vision to read printed materials and a computer screen; color vision to discern electrical wires and gauges; and hearing and speech to communicate in person and over the telephone or radio. The job involves fieldwork requiring frequent walking in operational areas to identify problems or hazards. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate above-mentioned tools and equipment. Positions in this classification bend, stoop, kneel, reach, and climb to perform work and inspect work sites. Employees must possess the ability to lift, carry, push and pull materials and objects weighing up to 40 pounds, or heavier weights with the use of proper equipment.

ENVIRONMENTAL ELEMENTS

Employees work in and around facilities and are exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives, and contractors in interpreting and enforcing departmental policies and procedures.