

THE CITY OF LOS ANGELES



CIVIL SERVICE COMMISSION

## CLASS SPECIFICATION

4/24/08

### ELECTRICAL REPAIRER, 3853

**Summary of Duties:** Receives intensive classroom and on-the-job instruction and training, and works as a trainee under close supervision assisting journey level Electrical Repairers in both the shop and the field in the maintenance, overhauling, dismantling, repairing, rebuilding, rewinding, cleaning, reassembling, and installing of electrical equipment and components within the Water and Power systems; performs semi-skilled electrical repair work independently, and skilled duties under the direction of a journey level Electrical Repairer; or as a journey level Electrical Repairer performs a variety of skilled electrical rewinding, repairing, rebuilding, assembling, troubleshooting, maintenance and rigging work in both the shop and the field; may also lead a group of employees performing electrical repair work in shop and field locations; and performs related duties.

**Distinguishing Features:** An entry level Electrical Repairer is typically employed as a trainee, and must acquire the knowledge, skills, and abilities needed to perform at journey level through extensive on-the-job and classroom training. The trainee is supervised by an Electrical Repair Supervisor, and closely guided by a journey level Electrical Repairer. Employment is limited to three years, and during that time, a trainee must successfully complete an intensive course curriculum, and demonstrate proficiency in all modules of the training curriculum, in order to qualify for promotion to journey level.

A journey level Electrical Repairer is primarily concerned with the extensive and detailed repair, rewinding, and rebuilding of rotating and other electric equipment, and routine field maintenance and repair of electric equipment, wiring, and circuits in electric plants and installations. This work includes, but is not limited to, assembly or disassembly related to the repair or rewinding of internal portions of the equipment. A journey level Electrical Repairer may instruct new employees in repair methods and the safe and proper use of equipment; and may also provide guidance and on-the-job training to trainees.

Employees in this classification occasionally work on or near energized equipment. Assignments are normally received in the form of blueprints, sketches, and verbal instructions. The work is normally checked by inspection and review of work reports by supervisors.

**Examples of Duties:** An Electrical Repairer:

- Repairs, rewinds, and overhauls generators, synchronous condensers, transformers, exciters, induction voltage regulators, motor generators, oil and air blast circuit breakers, switching and fusing equipment, high voltage bushings, elevators and overhead bridge and gantry cranes;

- Aligns shafts and bearings;
- Balances rotors and impellers;
- Rebabbits and installs bearings;
- Undercuts electric motors commutators;
- Assembles, disconnects, copper bus bars, barriers, and switches in oil circuit breaker cabinets;
- According to diagrams or sketches, winds various types of transformer coils, motor generator armature coils, compensator coils, magnetic coils for automatic switches, and other coils;
- Rebuilds transformers by dismantling, removing the core from the tanks, preparing insulation, assembling core, stacking iron, drying the coil in the oven, reassembling according to diagrams or sketches, and checking for leaks;
- Repairs and rewinds condensers and generating and auxiliary equipment in the field;
- Analyzes cause and extent of trouble with testing instruments and devices;
- Unloads, untanks, dismantles, and inspects new electric equipment for conformance to specifications and for damage during shipment;
- Performs rigging necessary in hoisting and moving heavy electric equipment;
- May operate a traveling bridge crane;
- May assist in the installation of, and perform routine maintenance on, electrical equipment such as wiring, and building electrical equipment;
- Lays out, cuts, fabricates, drills, paints, and polishes steel, aluminum, or fiber switchboards, terminal boards, barriers, and small items of insulating material in the shop for use in connection with Water and Power System facilities;
- May assemble, repair, remodel, and refinish switch and control boards in generating plants and electric stations; and
- Drives automotive equipment applicable and incidental to position duties.

Employees in this classification may occasionally be assigned to other duties for training purposes, or to meet demands associated with technological changes or emergencies.

**Qualifications:** Incumbents must have the following knowledge and abilities:

**Knowledge of:**

- Methods, materials, tools, and equipment used in repairing, rewinding, and rebuilding a variety of electric rotating and auxiliary equipment, such as alternating and direct current motors, motor generator sets, generators, induction voltage regulators, switches and disconnects, steam and hydro-generating, and various types of transformers, and fabricating special apparatus and switchboards;
- Fundamentals of electricity as related to electrical repair work;
- Internal functioning and connection of rotating and other electric equipment;
- Methods, stress limits, and equipment used in moving and hoisting heavy equipment;
- Hazards and safety precautions relating to electrical repair work and first aid;
- Electric refrigeration, heating, and air conditioning equipment, installation, and operation; and
- Electrical and mechanical characteristics of electric equipment.

**Ability to:**

- Use the tools needed in electrical repair work;
- Read and interpret electrical diagrams;
- Understand and follow written and oral instructions;
- Interpret test results, keep records, and make reports;
- Troubleshoot electrical equipment down to the component level;
- Use a computer to acquire and organize data, keep records, and prepare reports;
- Communicate in an effective manner orally and in writing;
- Work at elevated heights and in confined spaces, sometimes for extended periods, during electrical repair activities;
- Understand, apply, and enforce safe work practices; and
- Deal tactfully and effectively with other employees and the public.

**Minimum Requirements:**

1. Six months of full-time paid experience in a class at least at the level of an Electrical Craft Helper with the City of Los Angeles performing electrical work on both high and low voltage equipment and circuits in the maintenance or construction of electrical systems; or
2. One year of full-time paid experience as an electrical craft helper performing electrical work on both high and low voltage equipment and circuits in the maintenance or construction of electrical systems.

**Licenses:**

A valid California driver's license is required prior to appointment.

Some positions may require the ability to obtain a license to operate a forklift or a crane.

**Physical Requirements:**

Average lifting up to 25 pounds routinely and occasionally 75 pounds; body agility and equilibrium involved in activities such as climbing and balancing under precarious conditions; back and leg coordination involved in activities such as stooping, kneeling, crouching and crawling to an unusual extent, sometimes near energized equipment; face severe working conditions outdoors and on or near water; work in confined spaces or awkward positions for extended periods; arm, hand, and finger dexterity with both hands involved in activities such as reaching, handling, and feeling; good speaking and hearing ability, and good eyesight.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to the disability, and the ability of the hiring department to reasonably accommodate the limitations.

Because this class has been designated as Safety Sensitive in accordance with City Policy, a drug and alcohol screening test may be required prior to appointment.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties, responsibilities, and required qualifications of any position shall be.