



## CLASS SPECIFICATION

**01/09/2014 SENIOR PORT ELECTRICAL MECHANIC, 3847**

**Summary of Duties:** Works with and supervises a small group of Port Electrical Mechanics and helpers performing skilled electrical, mechanical, electronic, welding, and rigging maintenance and repair work on de-energized and energized high voltage electrical conductors, wharf-side high voltage electrical power connections, barge mounted high voltage electrical equipment, container cranes, drawbridges and other Harbor Department (Harbor) structures and equipment; and performs related duties as a designated Qualified Electrical Worker.

**Class Characteristics:**

A Senior Port Electrical Mechanic is responsible for the safe operating practices of a crew, their use of proper methods and materials, and for inspection of the work upon completion. Employees of this class may work on de-energized and energized high voltage electrical circuits and equipment. A Senior Port Electrical Mechanic is distinguished from a Port Electrical Mechanic Supervisor in that a Senior Port Electrical Mechanic is in immediate charge of a crew of skilled workers and helpers while a Port Electrical Mechanic Supervisor supervises more than one crew working at various locations, does more independent inspection, and is responsible for the maintenance program in the group.

**Examples of Duties:**

- Supervises and performs skilled electrical, mechanical, electronic, welding, and rigging maintenance and repair work on de-energized and energized high voltage electrical conductors, wharf-side high voltage electrical power connections, barge mounted high voltage electrical equipment, container cranes, drawbridges, and other Harbor structures and equipment;
- Estimates time and materials necessary for a job and orders necessary supplies;
- Coordinates work with other City departments;
- Prepares sketches and brief reports regarding job problems and plan changes;
- Assures that proper safety precautions are taken by subordinates;
- Prepares required plans and secures electrical permits;
- May inspect and repair electrical and electronic equipment;
- Checks, adjusts, and lubricates motor couplings;
- Disassembles, inspects, maintains, repairs, and reassembles gear boxes;
- Uses various instruments and hydraulic schematics to perform troubleshooting and repairs on hydraulic systems;
- Machines parts, by utilizing all machine shop equipment and precision hand tools;
- Makes diagnostic checks of electrical components; performs insulation resistance tests on motor windings;

- Replaces arc shields, cleans, services, and adjusts high voltage switchgear, transformers, fuses, and buses;
- Lubricates, adjusts, brazes, replaces, and reweaves wire rope;
- Inspects and replaces wire ropes and cables to ensure that they are safe for the loads to be carried;
- Repairs cracked welds on dockside container cranes or other port equipment, using arc, MIG (metal inert gas), and oxyacetylene welding processes;
- Completes forms and reports required of the work and keeps logs and records of maintenance performed and other crane-related matters;
- Installs, maintains, overhauls, and repairs high voltage (4.16 KV to 34.5 KV) distribution switchgear, protective relays and control wiring, fiber optic cables and devices, pumping stations, and auxiliary equipment;
- Utilizes safe work practices for the de-energizing, lockout, testing, and grounding of electrical circuits, and equipment in low and high voltage electrical distribution stations, motor control centers, and other electrical installations;
- Inspects, maintains, overhauls, tests, and repairs rotating and other electrical equipment and their associated electrical and electrical and electronic control devices including programmable logic controllers and microprocessor-based controls, components, devices and systems;
- Arranges for and participates in rigging and hoisting heavy electrical equipment in electrical installations;
- Installs and maintains power electrical systems, Port and facility lighting, switchboards and panel boards, electronic surveillance equipment, fire alarm and signaling systems, public address and inter-division communications, low voltage and line voltage lighting controls and systems;
- Investigates trouble complaints from industrial and commercial Port installations;
- Performs switching operations and inspects, tests, and maintains equipment at customer stations such as automatic throw over and trip mechanisms on circuit breakers, busses, insulators, and disconnect switches for AMP (Alternative Maritime Power);
- Communicates equal employment information to employees;
- Applies job-related related criteria in selecting, orienting, assignment, training, counseling, evaluating and disciplining subordinates;
- Assists employees in preparing for promotion; and
- May be assigned to other duties for training purposes or to meet technological changes or emergencies.

**Qualifications/Competencies:****Knowledge of:**

- Electrical, mechanical, electronic, rigging, and hydraulic components and systems;
- Major and minor malfunctions of mechanical equipment and the methods of repairing them;
- Preventive maintenance measures for Port electrical equipment;
- Working of test instruments such as digital and analog volt-ohm meters, clamp-on meters, meggers, dial indicators and pressure test gauges;

- Operations of equipment used in the repair of Port electrical and mechanical equipment;
- Preparation of metals, cutting welding, brazing, slag removal, brushing and grinding of welds;
- Safety principles;
- Hazards involved and the applicable safety procedures for working on or in proximity to open energized conductors and equipment, including CPR, first aid, and pertinent provisions of the California Electrical Safety Orders;
- Fundamentals of electricity and electronics as related to the installation, maintenance, and repair of electrical equipment in Port installations; and to the installation, maintenance, and repair of electronic solid state devices, circuits, wiring, and equipment in Port installations, including container cranes;
- Los Angeles City Electrical Code, Cal/OSHA Title 8 Electrical Safety Rules, California Electrical Code, National Electrical Code, and National Electric Safety Code; and
- Port Hazardous Energy Control Program, including lockout/tagout procedures and safe working practices on, or in proximity to, energized low-and high voltage conductors and equipment.

**Ability to:**

- Read, interpret and work from electrical schematics, hydraulic diagrams and mechanical blueprints and drawings and verbal and written instructions;
- Write routine, timely reports and descriptions of work accomplished or problems encountered;
- Use tools and protective equipment for work on, in, or proximity to, energized high voltage conductors and equipment (4.16 KV – 34.5 KV)
- Work at elevated heights during construction and maintenance activities (up to 240 feet);
- Deal tactfully and effectively with subordinates, other employees, tenants, and the public in handling their problems and complaints; and
- Drive a light truck between job locations and operate forklifts and hydraulic lifts.

**Requirements:**

1. Two years of full-time paid experience as a Port Electrical Mechanic with the City of Los Angeles performing inspections, maintenance, and repairs of high voltage electrical systems, marine terminal structures, and equipment; and
2. Have a valid designation as a Port of Los Angeles Qualified Electrical Worker.

**Conditions of Employment**

- Must obtain a Transportation Workers Identification Card (TWIC) prior to completing probation;
- Must maintain a valid designation as a Port of Los Angeles Qualified Electrical Worker; and
- Must have a valid California driver's license.

**License(s)**: A valid California driver's license is required. Some positions may require a Class B commercial driver's license. Some positions may require a license to operate a forklift or crane.

**Physical Requirements**: Persons in these classes must be able to lift at least thirty-five pounds and sometimes over seventy pounds. Some positions require frequent or extended standing or frequent bending, stooping, and reaching.

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.

**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 the duties and responsibilities of any position shall be.**