

**High Voltage Electrician
UCI Series Concepts**

Class Specifications - G.25

Lead High Voltage Electrician -7783

High Voltage Electrician - 8154

June 2010

SERIES CONCEPT

To troubleshoot, repair, install and service medium and high voltage electrical systems and associated equipment; to operate, inspect and perform preventive maintenance on medium and high voltage overhead and underground distribution systems; to prepare estimates; and plan and manage own projects within allotted budgets; .and to perform related work required.

DISTINGUISHING CHARACTERISTICS.

High Voltage Electrician is a full journey level classification performing skilled high voltage electrical work in accordance with the techniques of the trade, based on completion of a recognized apprenticeship or its equivalent. This classification is distinguished from other classifications which may perform limited elements of electrical work by its focus on voltage systems above 480 volts and equipment, and by the scope of work and level of skill required. Positions at this level may direct the work of less skilled helpers on projects, and train apprentices; and may work independently or in conjunction with other crafts

EXAMPLES OF DUTIES

The following duties are intended to illustrate examples of duties typically performed by incumbents in this classification. Individual incumbents may not perform all of the duties listed, nor are all of the duties an incumbent will perform necessarily listed.

- Troubleshoots and repairs overhead and underground distribution systems, including transformers, circuit interrupters, reclosers, capacitors: voltage regulators, medium voltage switches, utility poles, and supporting hardware;
- Replaces and installs medium voltage overhead and underground electrical circuits and terminations;
- Fabricates and installs a variety of components including but not limited to duct banks; cable runs, concrete pads for electrical equipment, risers, transformer banks, and low voltage electrical panels;
- Operates various components on the medium and high voltage distribution electrical system including isolation switches, interrupters, capacitor banks,

transformers, overhead fused cutouts, and voltage regulators; isolates and clears sections of the system for maintenance, installation and load shedding;

- Inspects overhead and underground distribution systems, tests, and documents findings;
- Responds to emergency calls and takes necessary actions;
- Provides support for in house capital and in-house projects with commissioning, testing and inspecting finished work;
- Uses personal protective gear such as hot sticks, respiratory protection, and places or erects clearance tags, barricades, warning signs and devices to protect others;
- Directs the work of unskilled and semi-skilled helpers assisting in projects, assuring that proper safety practices are followed;
- Provides on the job training to apprentices;
- Operates a variety of testing, calibration and repair devices, tools and equipment including voltmeters, ammeters, ohmmeters, insulation resistance testers, high potential test sets, circuit breaker testers, etc.;
- Coordinates work with customers, project managers, other crafts, and inspectors; inspects job sites and reviews detailed plans, drawings and oral directions to plan work;
- Prepares detailed estimates including labor and materials, and prepares lists of materials;
- Assists other crafts as needed;
- Maintains tools and equipment;
- Maintains current knowledge of equipment and materials through self-study and training;
- Prepares and maintains a variety of records and paperwork regarding work performed.

CLASS CONCEPTS

Lead High Voltage Electrician

Under supervision, incumbents serve as work leaders for high voltage crews and helpers assigned to a specific job. Incumbents typically transmit and explain work orders; may make minor changes in material needs or modifications to assigned work due to material delays or other problems; communicate work order revisions, material delays or other problems to supervisor and await further instruction; maintain time and material records; and perform the full range of duties as outlined in the series concept. Additionally, incumbents may have limited responsibilities for making or modifying daily work assignments and for evaluating personnel.

High Voltage Electrician

Under supervision, incumbents perform the full range of duties as outlined in the series

concept.

MINIMUM QUALIFICATIONS

Applicants for the positions in the High Voltage Electrician and Lead High Voltage Electrician classifications are expected to possess a certificate of completion of a recognized apprenticeship, accredited trade school, or the equivalent amount of experience and training comparable to journey level crafts status as a High Voltage Electrician.

Knowledge of:

- Electrical theory and terminology.
- Methods, materials, tools and equipment used in the maintenance, repair, and testing of high and medium voltage overhead and underground systems, and associated equipment.
- Safety and safe working practices pertaining to high voltage electrical work, including ensuring clearances, and working on energized lines and equipment.
- Laws, codes and regulations pertaining high voltage electrical work, including NEC, IEEE, GO 95, and 128.
- Mathematics used in electrical calculations including algebra.
- Job planning and basic estimating.

Skill in:

- Performing repairs, fabrication, operations and maintenance of medium and high voltage electrical systems and associated equipment
- Using testing equipment, and troubleshooting complex electrical problems and develop effective resolutions.
- Operating and maintaining tools and equipment of the trade.
- Establishing and maintaining effective working relationships with those contacted in the course of the work such as customers, project managers, inspectors, and other crafts, including assisting others and working cooperatively.
- Maintaining records related to work performed including use of computers.
- Reading and interpreting plans, diagrams, drawings, instructions, and related technical materials.
- Planning and directing the work of semi-skilled and apprentice workers.

OTHER REQUIREMENTS

Possess a valid California driver's license and have a satisfactory driving record.