

Summary of Duties : Performs entry-level professional electrical engineering work assisting in the preparation of designs, reports, plans, specifications, calculations, and estimates for electrical equipment or systems and lighting and control systems; assists in testing and inspection activities related to the manufacturing, construction, installation, operation and maintenance of electrical, electronic and communications equipment; assists in conducting research and forecasting system requirements; and does related work.

Distinguishing Features : This class is the first level of the professional electrical and communications engineering series. Assignments are received in specific terms or are well defined by standards and procedures, but an employee has some opportunity to use independent judgment. Completed work is generally reviewed for conformance to accepted codes, standards and engineering practices. Much of the work involves routine checking, computing, inspection, research or testing activities, and a technical background is necessary for adaptation to a wide variety of work assignments including planning, design and operations and design analysis. An employee of this class may direct several technical assistants.

Example of Duties : Assists in preparing plans, designs, and specifications for power generating and receiving stations, station facility improvements, transformer stations, meters and services, pumping plants, water treatment plants, transmission, distribution and communication systems, marine facilities and electric equipment such as motors, starting equipment, protective devices, and automatic controls; investigates and analyzes various engineering problems and devises possible remedies; prepares and assists in the checking of engineering drawings and specifications for the fabrication, installation, repair, and operation of electric equipment; checks finished drawings for accuracy and completeness, including dimensions and computations, and for conformance with sketches, notes, altered blueprints, and oral instructions of design engineers; assists in preparing environmental impact, licensing and siting reports and plans; does street lighting design utilizing a variety of lighting equipment; performs illumination calculations, designs and tests on lighting equipment; assists in analyzing load growth requirements and calculations of future transformer bank changeouts; evaluates customer electrical plans and prepares calculations for furnishing electrical services; checks electrical systems of industrial and commercial facilities for conformance with established codes, standards and good engineering practices.

Tests or supervises the testing of meters, relays, instruments, and other electric equipment and apparatus to assure conformance with established electrical safety standards; prepares procedures to conform with established electrical safety standards and practices; participates in research, operational and economic studies, load studies, and cost estimates for proposed projects; performs quality

assurance functions on electrical construction work; inspects the manufacture and assembly of machinery and equipment for conformance with specifications; assists in conducting operating tests of generators, transformers, and other electric equipment to assure conformance with established codes and standards; makes field and laboratory tests in connection with stray current electrolysis and soil corrosion; may supervise technical assistants; prepares reports on tests, research projects, operational studies, and operating characteristics of electric facilities and equipment; checks electrical plans of major buildings for technical errors and non-compliance with applicable ordinances and electrical safety codes including load study fault overload and voltage drop calculations; prepares reports on requests for variances of code requirements; and may occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications : A good knowledge of the principles and practices of electrical engineering; a good knowledge of the sources of engineering information such as codes and test standards; a good knowledge of the principles and practices of electrical engineering drafting; a general knowledge of the principles of mathematics, physics, chemistry, metallurgy, hydraulics, thermodynamics, and mechanics normally included in the field of electrical engineering; a general knowledge of electrical engineering practices in the planning, design, construction, operation, maintenance, testing, and research activities of a large industrial facility; the ability to deal tactfully and effectively with employees and the public; and the ability to communicate effectively, both orally and in writing.

Graduation from a school of engineering in a recognized four year college or university with a degree in Engineering, which includes at least 24 semester units or 36 quarter units of Electrical Engineering core courses, or possession of a valid Engineer-in-Training Certificate recognized by the California State Board of Registration for Professional Engineers is required for Electrical Engineering Assistant.

License: A valid California driver's license and a good driving record are required.

Physical Requirements : Strength to perform average lifting of less than 5 pounds and occasionally over 15 pounds; good speaking and hearing ability; and good eyesight.

Persons with medical limitations may, with reasonable accommodation, be capable of performing the duties of some of the positions in this class. Such determination must be made on an individual basis in light of the person's limitations, the requirements of the position, and the appointing authority's ability to effect reasonable accommodations to the person's 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.