

# Senior Electrical Engineer, Caltrans (Specialist)

## California State Personnel Board Specification

- **Schematic Code:** GM30
- **Class Code:** 2177
- **Established:** 01/31/1989
- **Revised:** 04/06/1999
- **Title Changed:** --

### Definition

Under general direction, in a staff specialist capacity, to perform the more difficult and complex work in specialized areas of electrical engineering such as electrical control systems and cathodic and stray current protection as applied to transportation systems; and to do other related work.

### Typical Tasks

Evaluates, develops, and implements departmental policies related to the design, construction, and maintenance of electrical systems for transportation facilities; performs difficult and complex work on specialized electrical engineering projects or research studies; writes technical specifications; performs field tests for final acceptance of equipment; represents the Department on complex special assignments such as research studies; provides training and consultation to Headquarters and district engineers on specialized electrical engineering problems; attends and conducts meetings with outside agencies and the general public concerning California policy and design procedures; coordinates the work of engineers and contractors; confers with manufacturers' agents and contractors regarding acceptability of equipment; initiates correspondence; and prepares reports.

### Minimum Qualifications

Possession of a valid certificate of registration as an Electrical Engineer issued by the California Board of Registration for Professional Engineers. (Candidates who submit proof that they have applied for registration will be admitted to the examination, but must possess a valid certificate of registration before they may be appointed.) and Either I Experience: One year of experience in the California state service performing design, construction, and maintenance work in cathodic and stray current protection; outdoor and indoor lighting; power and control systems for transportation projects; and building heating, ventilating, and air conditioning as an Associate Electrical Engineer, Caltrans, or a Transportation Engineer (Electrical), Range

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### OR II

Experience: Five years of professional engineering experience, two years of which shall have been: (1) after obtaining registration as an Electrical Engineer from any state; and (2) in design, construction, and maintenance work in the following fields: cathodic and stray current protection; outdoor and indoor lighting; power and control systems for movable bridge operation, pumps, vehicular tunnel ventilation, standby engine generators, and aids to navigation; and building heating, ventilating, and air conditioning. and

Education: Equivalent to graduation from a college accredited by the Accreditation Board for Engineering and Technology with major work in electrical or electronic engineering or equivalent degree approved by the Council for Private Postsecondary and Vocational Education under the provisions of California Education Code Chapter 3, Part 59, Division 10. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.)

### Knowledge and Abilities

Knowledge of: Designing and the preparation of plans, specifications, and estimates for the electrical systems of transportation-related facilities; electrical theory and practice; electrical equipment; power distribution and control systems; various codes and field practices governing the design and installation of electrical and electronic equipment; materials and maintenance of electrical installations; basic occupational safety and health regulations contained in the Title 8 Industrial Relations, Electrical Safety Orders, safety and health policies and procedures as contained in the Department's Injury and Illness Prevention Program.

Ability to: Prepare plans, specifications, and estimates for the electrical systems of transportation-related facilities; coordinate the work of others; make construction and maintenance inspections; check drawings and specifications; establish and maintain cooperative relations with those contacted in the work; analyze situations and adopt an effective course of action; initiate correspondence; prepare reports.

Updated 6/3/2012