

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE Senior Electrical Engineer, Caltrans (Specialist)	OFFICE/BRANCH/SECTION DES/Structure Design-EMWW	
WORKING TITLE Staff Specialist, Control Systems	POSITION NUMBER 559-240-2177-xxx	EFFECTIVE DATE 08/01/14

As a valued member of the Caltrans team, you make it possible for the Department to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans is a performance-driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

GENERAL STATEMENT:

This position exists in the Office of Electrical, Mechanical, Water & Wastewater Engineering. This is the technical specialist level of professional engineering work in Caltrans. Under the direction of the Office Chief, a Supervising Mechanical & Electrical Engineer, incumbent performs a wide variety of professional engineering work in either an office or field setting and is responsible for providing electrical engineering staff support to the Maintenance and Special Projects Branch Chief in meeting delivery and service commitments for transportation facilities. A California certificate of registration as an Electrical Engineer is required. A valid California driver license is required. Travel is required. Duties include but are not limited to:

TYPICAL DUTIES:

Percentage		Job Description
30%	E	Provides staff work in the form of recommendations to the Office Chief in the areas of control systems, equipment, and technology associated with stormwater pumping plants, movable bridges, vehicular tunnels, toll bridges, commercial vehicle enforcement facilities, buildings, and other transportation related facilities.
25%	E	Evaluates, develops, and implements Caltrans policies for the design, construction, operation, and maintenance of control systems.
15%	E	Provides consultation to designers, construction engineers, district maintenance personnel, liaison engineers, and consultants on issues relating to control systems.
15%	E	Develops and prepares standard plans and specifications used in California contracts. Writes reports, analyzes data and prepares correspondence. Initiates and oversees research dealing with the subject of control systems and equipment as it relates to efficiency, reliability, and state of the art design. Works with Translab and Traffic electrical and electronics personnel in developing criteria for the design, testing, and implementation of new standards for control systems.
15%	M	Provides training as required. As part of quality assurance protocols, accompanies and evaluates staff training during field inspections. Responds to emergencies as a result of equipment or facility failures. Acts as Branch Chief in his or her absence.

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.

MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

No direct supervision. May act as lead over the activities of various engineering and technical personnel.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Requires a high level of experience, competence, and background in Electrical Engineering as it relates to design, implementation, specification development, construction, operation, and maintenance of complex electrical control systems associated with movable bridges, vehicular tunnels, drainage pumping plants, toll bridges and other transportation facilities.

Requires knowledge of typical power, lighting, and control systems associated with office buildings.

Requires knowledge of methods, materials, equipment, codes, and safety procedures used in electrical engineering.

Requires knowledge of Computer-Aided Drafting and Design (CADD).

ADA Notice

For individuals with sensory disabilities, this document is available in alternate formats. For information, call (916) 445-1233, TTY 711, or write to Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

Requires ability to communicate, both orally and in writing, with Caltrans employees at all levels, Caltrans consultants, FHWA, Cal-OSHA, Caltrans consultants, California Highway Patrol Officers, American Association of State Highway Transportation Officials (AASHTO), Uniform Building Code (UBC) officials, National Electrical Code (NEC) officials, State and Local Fire officials and the general public concerning Caltrans policies and procedures for the design, construction, operation, and maintenance of control systems.

Requires ability to conduct research and implement findings.

Requires ability to prepare and check plans, specifications and cost estimates for control systems.

Requires ability to conduct and evaluate construction and maintenance inspections and prepare reports and correspondence related to control systems.

Requires ability to analyze situations and adopt an effective course of action

Requires ability to work collaboratively with individuals, groups, and teams to efficiently deliver quality products and services.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Responsible for the development of Caltrans' policy and standards relating to the design, construction, operation, and maintenance of Control Systems. Also responsible for related research and input to national and state standards in this field.

Standards established will affect the operation, safety, and economy of electrical systems and equipment associated with highway facilities in California.

Errors in judgment and decisions could affect public safety or result in liability for the Department.

Failures could be catastrophic due to public and employee safety, disruption in goods movement, or delays to the traveling public.

PUBLIC AND INTERNAL CONTACTS

Maintains communication with all personnel assigned to various projects. Meets with and discusses job progress and issues with other branches, offices, divisions and districts at the rank-and-file level, senior level and office chief level. Communicates with outside agencies and departments concerning permits and approvals. Examples of these agencies include the FHWA, Cal-OSHA, California Highway Patrol, American Association of State Highway Transportation Officials (AASHTO), Uniform Building Code (UBC) officials, State Fire Marshal, Fire Departments, Division of the State Architect, State and Local officials, and electric utilities. Most outside agency contacts are at the working level and the supervising or manager level. Communicates with construction personnel, at the rank-and-file level, senior level and office chief level. Communicates with contractors and suppliers at the working level such as sales persons and engineers and also at the supervising level. Communicates with maintenance personnel on routine and emergency issues, at the working level, lead worker level and at the manager level.

Attends and conducts meetings and discussions with Caltrans technical committees and national organizations. Responds to requests for information relating to control systems and equipment used on movable bridges, storm water pumping plants, tunnels, tubes, maintenance stations, equipment shops, safety roadside rest areas, commercial vehicle enforcement facilities and other transportation related facilities.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Employee must be able to:

- Move, lift or carry for a medium distance up to 40 pounds (for example a tool case or test equipment)
- Move or remove utility and manhole covers with tools (up to 100 pounds)
- Climb and descend ladders up to 20 feet in length at a time for total distances of up to 90 feet
- Work on elevated catwalks and landings
- Work in confined spaces, near operating heavy machinery and with energized low voltage (less than 600 volts) power

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

systems

- Work along highways and near construction sites
- Fly in commercial aircraft routinely throughout the State
- Drive a State automobile for up to 8 hours a day

WORK ENVIRONMENT

While at his or her base of operation, the incumbent will work in a climate-controlled office under artificial lighting. Travel and work outdoors is required and incumbent may be exposed to dirt, noise, uneven surfaces and/or extreme heat or cold.

I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE (Print)

EMPLOYEE (Signature)

DATE

I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE