



## Stationary Engineer

Exam Code: 4PB16

Department: State of California  
Opening Date: 6/5/2014  
Final Filing Date: Continuous  
Type of Examination: Service-wide, Open

### CLASSIFICATION DETAILS

Stationary Engineer – \$6,249 - \$6,561 per month

#### Who Should Apply:

Applicants who meet the minimum qualifications as stated on this bulletin may apply for and take this exam.

#### How to Apply:

Self-scheduling for this examination is offered on a first-come-first-served basis for each written exam date. Please be aware that, although seating is limited and scheduling will conclude once all seats are filled for a specific written exam date, additional self-scheduling dates and exam locations will be posted.

Check this bulletin regularly for future exam dates.

**Once you have taken the Written Examination, you may not retake it for twelve (12) months.**

**ON THE SELF-SCHEDULING DATE, PLEASE GO TO THE “Taking the Exam” SECTION OF THIS BULLETIN TO BEGIN THE SCHEDULING PROCESS.**

### MINIMUM QUALIFICATIONS

All applicants must meet the education and/or experience requirements as stated on this exam bulletin to be accepted into the examination. Part-time or full-time jobs, regardless of whether paid or volunteer positions, and inside or outside California state service will count

toward experience.

## **Stationary Engineer**

### **Either I**

Completion of a recognized Apprenticeship For Stationary Engineers (Apprentices who are within six months of completing their apprenticeship program may be admitted to the examination, but must present evidence of completion prior to appointment.)

### **OR II**

Experience: Four years of experience performing duties which included the operation, maintenance and repair of boiler, heating, refrigeration, ventilation and power equipment of large commercial, industrial or institutional buildings including the operation of large commercial, industrial or institutional buildings including the operation and maintenance of air conditioning systems involving the use of automatic controls.

### **And**

Education: Completion of 700 hours of formalized technical instruction relating to Stationary Engineer in training offered by such established programs as: Job Corps, Skills Center, ROP, Trades Schools, Military and JTPA (Joint Training Partnership Act).

(An Associate of Arts or Certificate in Mechanical Electrical Technology, which must have included at least 12 semester units of instruction in heating, ventilation and refrigeration systems involving the use of automatic controls may be substituted for the 700 hours of technical instruction). Students who are within six months of completing their degree will be admitted to the examination but they must present evidence of completion prior to appointment.

Two years of additional qualifying experience may be substituted for the required education.

## **POSITION DESCRIPTION**

### **Stationary Engineer**

Under general direction, to perform a variety of skilled work in the operation, maintenance and repair of boiler, heating, air conditioning, ventilating, lighting, power, water, water treatment, and other mechanical systems normally found in a State hospital, institution, large office building or complex of buildings; may instruct or lead other engineers; may instruct or lead resident workers; and do other related work.

### **Typical Tasks**

Operates, maintains, and repairs boilers, heaters, pumps, valves, apprentices, and lines used in the distribution of steam and heated or processed water; operates, repairs and maintains refrigerant compressors, condensers, evaporators, traps, transfer pumps, expansion valves, stop valves, and float valves, together with all refrigerant lines and

devices used to control temperatures; operates, maintains and repairs air compressors, together with distribution lines and all valves and devices for air control; operates, maintains and repairs all natural and manufactured gas distribution lines, and manufacturing systems including all valves and control devices; operates, repairs and maintains water filters, softeners, piping and pumps used in conjunction with water distribution, including all sinks and toilet bowls, supply lines and water lines; operates, repairs and maintains all types of motors and engines used to power pumps, compressors and fans; repairs and maintains single-phase and multi-phase electrical circuits up to 550 volts; repairs and maintains electrical transformers, motors, controls, machinery fixtures, appliances and elevators; repairs and maintains electronic systems such as clocks, closed circuit television, automatic alarm systems, security systems, energy management systems, equal potential grounding and automatic power transfers; calibrates control systems for air conditioning, refrigeration, heating and ventilation systems, including air balance, humidistat and solid state electronic motor control amplifiers; operates, maintains and repairs water and sewage systems, laundry, bakery and culinary equipment; inspects and trouble shoots electrical and mechanical systems and equipment to identify repairs needed; performs minor building maintenance and repair; plans layouts and estimates costs of electrical, mechanical, and electronic systems; requisitions parts, supplies and equipment; calculates systems requirements to provide estimates for modification or replacement of systems; leads and trains subordinate and less senior personnel, and advises them of unusual problems, procedures, and practices.

## **EXAMINATION SCOPE**

This examination consists of the following components:

Written Test – Weight 100% of the final score. The examination will consist solely of a multiple choice, written test designed to measure knowledge in the following areas: Mathematics and Stationary Engineer Knowledge.

A final score of 70% must be attained to be placed on the eligible list.

In addition to evaluating applicants' relative knowledge, skills, and ability, as demonstrated by quality and breadth of education and/or experience, emphasis in each exam component will be on measuring competitively, relative job demands, each applicant's:

Knowledge of:

1. Heating, ventilation, and air conditioning (HVAC) systems, to assess repair needs and determine the proper course of action to fix malfunctioning units.
2. Elements of a refrigeration system (e.g., compressors, condensers, evaporators, traps, pumps, valves) to assess repair needs and determine the proper course of action to fix malfunctioning units.
3. Building electric and pneumatic controls to assess building functions and determine the need for repair and replacement of action to fix malfunctioning units.

4. Building electric and pneumatic controls to assess building functions and determine the need for repair and/or replacement of building systems.
5. Electrical, water sewage, and other mechanical systems to assess repair needs and determine the proper course of action to fix malfunctioning units.
6. The principles and methods (e.g., sequences of installation, coordination with other trades, conduit bending wire pulling, rating of equipment) used in the installation, maintenance, and repair of electrical systems and components (e.g., wiring, switches, lighting, transformers, high voltage, switchboards, motor control centers) to accomplish work assignments.
7. Materials, tools, and equipment (e.g., cable reels, conduit benders stripping tools, voltage or current meters, wire or cable cutters) used in the installation, maintenance, and repair of electrical systems and components (e.g., wiring, switches, lighting, transformers, high voltage, switchboard, motor control centers, control modules, control boards) to accomplish work assignments.
8. Materials, tools, and equipment (e.g., cable reels, conduit benders, stripping tools, voltage or current meters, wire or cable cutters) used in the installation, maintenance, and repair of electrical systems and components (e.g., wiring, switches, lighting, transformers, high voltage, switchboard, motor control centers, control modules, control boards) to accomplish work assignments.
9. The principles and operations of electrical equipment (e.g., wiring, switches, lighting, transformers, switchboards, motor control centers, control modules, control boards) for the installation, maintenance, alteration and repair of electrical systems and components.
10. Organizational policies and procedures to maintain safety and security of facilities/departments, staff, and property.
11. Boilers and auxiliary boiler equipment to determine proper maintenance and care of facilities.
12. Gas and water distribution systems to assess functionality of building systems and determine when repairs are needed.
13. Steam distribution systems to assess functionality of building systems and determine when repairs are needed.
14. Building water and sewage systems to assess building functions and determine the need for repair of building systems.
15. Tools used by various trades (e.g., electrician, plumber, carpenter, stationary engineer) used in the maintenance and repair of building facilities.
16. Basic mathematical operations and calculations (e.g., addition, subtraction, multiplication, division, percentages, order of operations, fractions) to calculate labor, materials, and/or cost estimates for projects and work orders.

Ability to:

17. Perform basic mathematical computations (e.g., addition, subtraction, multiplication, division, ratios, percentages) to calculate labor, materials, and/or cost estimates for projects, work orders and additions.
18. Convert between units of measurement (e.g., temperature, energy, volume, mass) to calculate workloads and complete project work.
19. Determine the accuracy of various mathematical calculations (e.g., addition,

subtraction, multiplication, division, ratios, percentages) to verify labor, materials, and/or cost estimates for projects, work orders and additions.

## ELIGIBLE LIST INFORMATION

A service-wide, open eligible list for the Stationary Engineer classification will be established for:

State of California (all State of California departments, statewide)

The names of successful competitors will be merged onto the eligible list in order of final score regardless of exam date. Eligibility expires **24 months** after it is established. Applicants must then retake the examination to reestablish eligibility.

Veterans' Preference will be granted for this examination. In accordance with Government Codes 18973.1 and 18973.5, whenever any veteran, or widow or widower of a veteran achieves a passing score on an open examination, he or she shall be ranked in the top rank of the resulting eligible list.

Veteran status is verified by the California Department of Human Resources (CalHR). Information on this program and the Veterans' Preference Application (Std. 1093) is available [online](#). Additional information on veteran benefits is available at the Department of Veterans Affairs.

Career Credits are not granted for examinations administered on an Open basis or Promotional basis.

## EXAMINATION INFORMATION

Hand-held calculators will be permitted and issued to you on the day of the written examination. **Note:** Cell phones, palm pilots, and other electronic devices may not be used during the examination.

## PREPARING FOR THE EXAMINATION

**Here is a list of suggested resources to have available prior to taking the exam.**

**Employment History:** Employment dates, job titles, organization names and addresses, names of supervisors or persons who can verify your job responsibilities, and phone numbers of persons listed above.

**Education:** School names and addresses, degrees earned, dates attended, courses taken

(verifiable on a transcript), persons or offices who can verify education, and phone numbers of persons or offices listed above.

**Training:** Class titles, certifications received, names of persons who can verify your training, and phone numbers of persons listed above.

## TAKING THE EXAM

**You must schedule yourself to participate in this written examination.** Self-scheduling for this examination is offered on a first-come-first-served basis for each written date. Although seating is limited and scheduling will conclude once all the available seats are filled for a specific written exam date, additional self-scheduling dates and test locations will be posted in the future.

[Click here to Schedule](#) a written exam for the Stationary Engineer classification.

<u>Scheduling Opens</u>	<u>Examination Date</u>	<u>Examination Location</u>
February 1, 2018 @ 10:00 AM	February 27, 2018	Atascadero, CA

**Test dates are posted above as needs warrant. Please check this area periodically for open testing.**

**Please note:** If you have a disability and need special testing arrangements, please select the Reasonable Accommodation box during the self-scheduling process.

## TESTING DEPARTMENTS

State of California (all State of California departments).

## CONTACT INFORMATION

Questions regarding this examination should be directed to:

California Department of Human Resources  
CalCareer Service Center  
1810 16<sup>th</sup> Street  
Sacramento, CA 95814  
Phone: (866) 844-8671  
[CalCareer@CalHR.CA.GOV](mailto:CalCareer@CalHR.CA.GOV)

California Relay Service: 7-1-1 (TTY and voice)

TTY is a Telecommunications Device for the Deaf, and is reachable only from phones equipped with a TTY Device.

### **EQUAL OPPORTUNITY EMPLOYER**

The State of California is an equal opportunity employer to all, regardless of age, ancestry, color, disability (mental and physical), exercising the right of family care and medical leave, gender, gender expression, gender identity, genetic information, marital status, medical condition, military or veteran status, national origin, political affiliation, race, religious creed, sex (includes pregnancy, childbirth, breastfeeding, and related medical conditions), and sexual orientation.

### **DRUG-FREE STATEMENT**

It is an objective of the State of California to achieve a drug-free State work place. Any applicant for State employment will be expected to behave in accordance with this objective, because the use of illegal drugs is inconsistent with the law of the State, the rules governing civil service, and the special trust placed in public servants.

### **GENERAL INFORMATION**

The Examination/Employment Application (STD 678) is available at the California Department of Human Resources, local offices of the Employment Development Department, and through your CalCareer account ([www.CalCareers.ca.gov](http://www.CalCareers.ca.gov)).

If you meet the requirements stated on this examination bulletin, you may take this competitive examination. Possession of the entrance requirements does not assure a place on the eligible list. Your performance in the examination described in this bulletin will be rated against a predetermined job-related rating, and all applicants who pass will be ranked according to their scores.

The California Department of Human Resources (CalHR) reserves the right to revise the examination plan to better meet the needs of the service, if the circumstances under which

this examination was planned change. Such revision will be in accordance with civil service laws and rules, and all applicants will be notified.

**General Qualifications:** Applicants must possess essential personal qualifications including integrity, initiative, dependability, good judgment, the ability to work cooperatively with others, and a state of health consistent with the ability to perform the assigned duties of the class. A medical examination may be required. In open examinations, investigation may be made of employment records and personal history, and fingerprinting may be required.

**Eligible Lists:** Eligible lists established by competitive examination, regardless of date, must be used in the following order: 1) sub-divisional promotional, 2) departmental promotional, 3) multi-departmental promotional, 4) service-wide promotional, 5) departmental open, and 6) open. When there are two lists of the same kind, the older must be used first. Eligible lists will expire in one to four years unless otherwise stated on the exam bulletin.