



# JOB OPPORTUNITY BULLETIN

<b>CLASSIFICATION:</b>	Senior Electrical Engineer
<b>TENURE:</b>	Permanent
<b>TIME BASE:</b>	Full Time
<b>SALARY:</b>	\$ \$8,802 - \$11,015
<b>LOCATION:</b>	Efficiency Division, Building Standards Office
<b>FINAL FILING DATE:</b>	Until Filled

The Building Standards Office is responsible for the development of the Residential and Nonresidential Building Standards for newly constructed buildings and additions and alterations to existing buildings. If you are interested in using your knowledge and abilities to further construction practice in California to achieve the State's goal of Zero Net Energy newly constructed residential buildings by 2020 and nonresidential buildings by 2030 this is the job for you. This job opportunity is perfect for individuals interested in building performance computer modeling; energy efficiency measure cost-effectiveness; building practice changes needed to achieve Zero Net Energy construction; stakeholder engagement; and working with a team of highly motivated and knowledgeable building energy efficiency professionals.

The full duty statement is available at <http://www.energy.ca.gov/careers/jobs.html>.

**DUTIES/RESPONSIBILITIES:** The incumbent conducts the most difficult work related to electrical engineering analysis and reviews and guides the work of electrical engineers, including those employed and under contract to the Commission and provides expert electrical engineering consultation to Management, Commissioners and technical staff working on electrical engineering related issues. The incumbent provides electrical engineering leadership, review of electrical engineering work, and collaboration with electrical engineering experts that are responsible for testing, designing and specifying electrical systems and equipment to implement the Commission's Building Energy Efficiency Standards, Green Building Standards and other reach standards for high performance buildings.

- Plan, organize, and provide high level engineering technical leadership, direction and coordination for electrical engineering analysis for testing, designing, specifying and completing high quality installation of photovoltaic and other solar electric systems. Inform and advise the policy makers and the management about the new developments related to PVs, invertors, communication protocols, storage technologies, demand responsive technologies, and other devices or techniques that impact generation, storage, and usage of renewable resources. Maintain expert knowledge and oversight related to U.S. model standards for electrical safety and International Electro-technical Commission Standards for qualification and performance for all solar electric generation technologies so that Commission eligibility criteria and guidelines incorporate testing that insures California provides public incentives only for high performing photovoltaic and electrical equipment. Maintain expert knowledge and oversight related to the use of state-of-the-art, public domain computer simulation of the performance of photovoltaic and other solar electric systems as installed to meet the electrical needs of California buildings, including modeling of solar radiation incident on solar electric equipment and the effect of ambient temperature and wind in the variety of geographical and climatological areas of California, and modeling of the electrical configuration, design and electrical component and circuitry interaction that effects the electrical generation output dependent on the localized



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solar radiation and climate conditions. Maintain expert knowledge and oversight related to the consequences to solar electric system generation of installation practices, including azimuth, tilt, shading obstructions, and maintenance, and develop installation protocols and field testing procedures to insure high quality installations of solar electric systems that are awarded public incentives. Maintain active contact with and provide guidance to electrical engineers at international firms designing and manufacturing solar components and equipment for sale in California, electrical engineers at international and U.S. test laboratories testing solar electric equipment as required by California guidelines, electrical engineers involved in advancing the state-of-the-art in development of simulation algorithms for modeling the performance of solar electric systems to account for design, component integration and installation characteristics in optimizing system performance, and electrical engineers and contractors engaged in installation of solar electric systems including the use of onsite measurement tools to insure proper installation in conformance with Commission installation protocols.

- Plan, organize, and provide high level engineering technical leadership, direction and coordination for electrical engineering analysis conducted to develop and implement Building Energy Efficiency Standards (both mandatory and reach standards) for indoor and outdoor lighting equipment and systems to serve California residential and nonresidential buildings and outdoor areas requiring illumination. Maintain expert knowledge and oversight related to the design and installation standards of the International Illuminating Engineering Society, safety and performance requirements of national codes and standards, including the National Electrical Code and Underwriters Laboratory and other industry standards and norms, and model code provisions related to energy efficient lighting in buildings, including those in the International Energy Conservation Code and the American Society of Heating, Refrigerating and Air Conditioning Engineers Standards 90.1 and 189. Maintain active contact with and provide guidance to electrical engineers and lighting designers regarding the design and installation of lighting systems to insure compliance with California's mandatory and reach standards for buildings. Coordinate with the IOUs and the regulatory agencies to understand and plan for the upgrades to the distribution system necessary to handle the increased onsite renewable generation. Coordinate with the Smart Invertors Working Group to ensure that these invertors can harmonize the output of onsite renewable generation with the grid to avoid destabilizing the grid. Coordinate with the Appliance Efficiency Program to achieve the lighting savings required by AB 1109 (Statutes of 2007).
- Perform the most difficult and complex work related to the electrical engineering analysis described above to advance the Commission's mandatory and reach standards for buildings, achieving high levels of energy efficiency and demand response and high performance solar electric systems.
- Plan, organize, and provide technical leadership, direction and coordination for electrical engineering analysis conducted to develop and implement Building Energy Efficiency Standards (both mandatory and reach standards) for electrical and electronic equipment and controls for refrigeration and air conditioning and other permanently installed and portable electrical equipment to increase efficiency, reduce hours of operation or provide demand response for all electrical loads in buildings. Coordinate with the Appliance Efficiency Program to insure maximum effectiveness of appliance standards in helping to achieve the CEC/CPUC/ARB goals for zero net energy buildings in California. Work with the CPUC and other agencies to track new regulations that impact cost effectiveness and deployment of renewable resources within the state, including Net Energy Metering (NEM) policies and IOU tariffs impacting renewables. Work with the CPUC on the grid distribution planning and upgrades that are need to the distribution system to accommodate the 50% RPS required by SB 350.
- Prepare and testify at Energy Commission workshops and hearings or on behalf of the Energy Commission before legislative bodies, governmental entities, and agencies on electrical



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engineering issues related to high performance buildings (energy efficiency and solar electric generation). Inform and advise the policy makers and the management about the new developments related to PVs, invertors, communication protocols, storage technologies, demand responsive technologies, and other devices or techniques that impact generation, storage, and usage of renewable resources.

- Perform other duties as required consistent with the specifications of this classification.

**DESIRABLE EXPERIENCE/QUALIFICATIONS:** The successful applicant should have:

- Knowledge of the Building Energy Efficiency Standards for Residential and Nonresidential Buildings
- Knowledge of the Mechanical and Electrical Systems for Residential and Nonresidential Buildings
- Knowledge of building simulation software
- Knowledge of the Alternative Calculation Methods (ACM) manual
- Knowledge of building energy modeling software
- Demonstrated ability to use a variety of analytical and research techniques to assist in evaluating and quantifying the effect of building energy efficiency measures, assist in resolving energy efficiency problems, develop and evaluate alternatives
- Ability to communicate ideas effectively; and
- Strong written and verbal communication skills

**PLEASE NOTE:** Possession of minimum qualifications will be verified prior to interview and/or appointment. If it is determined an applicant does not meet the minimum qualifications, the application may be forwarded to the State Personnel Board for review and the applicant's name may be removed from the eligibility list.

**WHO MAY APPLY:** Eligible candidates who are current state employees with status in the above classification or lateral transfers from an equivalent class, former state employees who can reinstate in this classification or persons who are reachable on a current employment list for this classification. Appointment is subject to the provisions of the SROA process: SROA / SURPLUS / REEMPLOYMENT candidates are encouraged to apply and must attach a copy of their status letter.

Interested applicants must submit a completed Standard State Application (Form STD. 678) with an original signature to the address listed below. Electronic applications will not be accepted. **You must clearly indicate the basis of your eligibility (i.e., list, transfer, SROA/Surplus, reemployment, reinstatement, etc.), RPA #430-181 and position number 430-3600-001 in the "Explanation Section" of the STD. 678.** Will consider a Training and Development (T&D) Assignment. Applications will be screened for experience and only the most qualified will be contacted for an interview.

**INTERESTED APPLICANTS SHOULD SUBMIT A COMPLETED STANDARD STATE APPLICATION (FORM STD. 678) TO:**

**SUBMIT APPLICATIONS TO:**

Personnel Services Office  
Attn: RPA #430-181  
1516 9<sup>th</sup> Street, MS-3  
Sacramento, CA 95814  
Phone: 916-654-4305

California Relay (Telephone) Service for  
the Deaf or Hearing-Impaired  
From hTDD Phones: 1-800-735-2929  
From Voice Phones: 1-800-735-2922

## JOB OPPORTUNITY BULLETIN GUIDELINES

The Job Opportunity Bulletin must be completed in the order of statements. Below is an explanation of each statement and whether or not it is optional or required.

**RECRUITMENT IS LIMITED TO EMPLOYEES OF THE CALIFORNIA ENERGY COMMISSION [OPTIONAL].** When the Commission is in a hiring freeze, all JOBs must include this statement. If, during a hiring freeze, the unit wishes external recruitment, approval to do so must be obtained in advance from the Executive Management Team.

**CLASSIFICATION [REQUIRED].** Provide the full, civil service title of the position, spelling out the parenthetical if applicable (e.g., Associate Energy Specialist (Forecasting)).

**TENURE [REQUIRED].** Provide either: Permanent, Limited-Term (include number of months) or Temporary (include number of months).

**TENURE MAY BECOME PERMANENT IF THE CIRCUMSTANCES WHICH NECESSITATED THAT THE POSITION BE FILLED ON A LIMITED-TERM BASIS CHANGE AT A LATER DATE [OPTIONAL].** When circumstances necessitate a limited-term appointment, the originating unit may include this statement. However, please discuss the circumstances with your Personnel Analyst before including it on the J.O.B.

**TIME BASE [REQUIRED].** Provide either: Full-time, Part-time (include fraction) or Intermittent (include number of anticipated monthly hours).

**Will consider appointments less than full time [OPTIONAL].** If the originating unit will consider appointments to a time base less than the position's time base, this statement should be included on the JOB.

**SALARY [REQUIRED].** Provide the salary range. Provide each range if there is more than one.

**LOCATION [REQUIRED].** Provide only the office name and/or division name, and Sacramento, California.

**FINAL FILING DATE [REQUIRED].** Leave blank. The final filing date will be determined by the Personnel Analyst.

**DUTIES/RESPONSIBILITIES [REQUIRED].** Briefly describe the primary duties of the position (from the duty statement).

**DESIRABLE EXPERIENCE/QUALIFICATIONS [REQUIRED].** Begin this section of the JOB with "The successful applicant should have," and briefly list the desirable, but not required, qualifications.

**WHO MAY APPLY [REQUIRED].** Use the language provided. Also if the position is a Bargaining Unit 2 or Bargaining Unit 9 classification, add "This position is subject to the "Super SROA" provisions of the State Restriction of Appointment (SROA) process."

**[For Energy Analyst positions only] Prior to appointment to this classification, applicants will be required to pass an energy-related written technical assessment test ] [OPTIONAL].** All Energy Analyst JOBs must include this statement.

**Training & Development Assignments may be considered [OPTIONAL].** If the originating unit wishes to consider Training and Development assignments, this statement must be added to the JOB.

**Miscellaneous statements here [OPTIONAL].** Statement(s) which are not appropriate to put under the other headings on the JOB may be included here. For example, "A typing test will be given as part of the interview."

**INTERESTED APPLICANTS SHOULD SUBMIT A COMPLETED STANDARD STATE APPLICATION (FORM STD. 678) TO [REQUIRED].** Use the language provided. Insert the contact person's name, mailing address, and public and calnet phone numbers.