



Senior Hydroelectric Power Utility Engineer (Specialist)

Exam Code: 9PB44

Department: Department of Water Resources

Exam Type: Departmental, Open

Final Filing Date: Continuous

CLASSIFICATION DETAILS

Senior Hydroelectric Power Utility Engineer (Specialist) – \$10,569.00 - \$13,228.00 per month

[View the Senior Hydroelectric Power Utility Engineer \(Specialist\) classification specification](#)

APPLICATION INSTRUCTIONS

Final Filing Date: Continuous

Who Should Apply:

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

Once you have taken this examination, you may not retake it for **six (6) months**.

How To Apply: The link to connect to the Training and Experience Evaluation is located farther down on this bulletin in the “Taking the Exam” section.

Special Testing Arrangements:

If you require assistance or alternative testing arrangements due to a disability, please contact the testing department listed in the Contact Information section of this bulletin.

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.

Senior Hydroelectric Power Utility Engineer (Specialist)

Graduation from college with major work in electrical, electronic, mechanical, or civil engineering. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.) **AND**

Either 1

Two years of experience performing the duties of an Associate Hydroelectric Power Utility Engineer in California state service.

Or 2

Five years of progressively responsible engineering experience in the electric utilities field and/or in the operation and maintenance of pumping and generating equipment, at least two years of which shall have been comparable in responsibility to that of an Associate Hydroelectric Power Utility Engineer.

POSITION DESCRIPTION

Senior Hydroelectric Power Utility Engineer (Specialist)

This is the staff specialist level responsible for conducting assignments which are difficult, controversial, require a high level of specialized expertise or unique technical knowledge and skills relating to: analysis of electric resource requirement and/or making recommendations to management for specific arrangements for acquisition of power supply or exchanges best suited for the operation of the State Water Project, negotiate with high level electric utility representatives for power purchase, sale or exchange agreements; prepare documents and/or testimony regarding power-related activities and present to regulatory agencies; provide guidance to field maintenance personnel about highly specialized maintenance, repair, or testing technologies or for complex database of management information system to improve availability and reliability of hydroelectric plants, machinery, equipment and apparatus; prepare unique procedures and conduct specialized diagnostic, predictive and/or corrective tests for hydroelectric plant machinery, equipment and apparatus using state-of-the-art test equipment; review hydroelectric plant machinery, equipment and apparatus for obsolescence and selecting appropriate replacements; coordinate retrofitting/replacement effort for the Operations and Maintenance Division.

EXAMINATION SCOPE

This examination consists of the following components:

Training and Experience Evaluation – Weighted 100% of the final score.

The examination consists solely of a **Training and Experience Evaluation**. To obtain a position on the eligible list, a minimum score of 70% must be received. Applicants will receive their score upon completion of the Training and Experience Evaluation process.

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 measuring competitively, relative job demands, each applicant's:

Knowledge of:

1. Engineering theory and practices relating to power generation, transmission, distribution, and marketing
2. Electric utility operation and management
3. Functions, responsibilities, and procedures of regulatory and government agencies (e.g., Public Utilities Commission, the Federal Energy Regulatory Commission, and the California Energy Commission) in the electric field
4. Planning, design, construction, and operation of major generating plants, power transmission systems and pumping plants
5. Methods of determining the optimum capacity and energy output of generating plants
6. Power marketing and economics, including the market for and value of electric power, methods of marketing power and rates, agreements
7. Methods of operating, maintaining, and testing of electrical and mechanical equipment and systems for plants, switchyards, reservoir outlets and aqueduct control features
8. Environmental issues and policies
9. Unit operating and loading procedures and criteria
10. Standards of the American National Standards Institute, Institute of Electrical and Electronic Engineers, and American Society of Mechanical Engineers
11. Instrumentation and control circuitry and electrical protection
12. Servo systems and governors
13. Bearings
14. Lubrication
15. Metal working
16. Machining and welding
17. Nondestructive examination
18. Alignment and balancing of rotating machinery including vibration measurement
19. Methods of maintenance, repair and testing
20. Power system operation and control
21. Power system studies, load flow, stability, and fault analyses

Ability to:

1. Analyze situations accurately and adopt an effective course of action
2. Prepare clear and concise reports
3. Prepare procedures and manuals
4. Make feasibility studies
5. Interpret, prepare, and revise electrical and mechanical drawings and schematics and relay control logic diagrams
6. Assist and advise others on maintenance and repair procedures, materials, and tools
7. Negotiate, administer, and coordinate contracts such as for maintenance, repair, testing, and consultation
8. Conduct and coordinate special test activities

9. Use personal computers

ELIGIBLE LIST INFORMATION

A departmental, open eligible list for the **Senior Hydroelectric Power Utility Engineer (Specialist)** classification will be established for:

Department of Water Resources

The names of **successful** competitors will be merged onto the eligible list in order of final score regardless of exam date. Eligibility expires **twelve (12) 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.

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

EXAMINATION INFORMATION

[Preview of the Senior Hydroelectric Power Utility Engineer \(Specialist\) Training and Experience Evaluation](#)

PREPARING FOR THE EXAMINATION

Note: Please be aware that each page of the examination times out at 20 minutes.

It is recommended to preview the examination by clicking the link under "Examination Information" and prepare your responses into a word processing document which you can later copy and paste into 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 office 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 EXAMINATION

[Take the Senior Hydroelectric Power Utility Engineer \(Specialist\) examination](#)

TESTING DEPARTMENTS

Department of Water Resources

CONTACT INFORMATION

If you have any administrative questions concerning this examination bulletin, including provision of reasonable accommodation for this testing process, please contact:

Department of Water Resources
Phone: (916) 653-4838

If you have any **technical** questions concerning this examination bulletin, please contact:

California Department of Human Resources
CalCareer Service Center
1810 16th Street
Sacramento, CA 95814
Phone: (866) 844-8671
Email: CalCareer@CalHR.CA.GOV

California Relay Service: 1-800-735-2929 (TTY), 1-800-735-2922 (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

Examination and/or Employment Application (STD 678) forms are available at the California Department of Human Resources, local offices of the Employment Development Department, and through your [CalCareer Account](#).

If you meet the requirements stated on this examination bulletin, you may take this examination, which is competitive. 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 score.

The Department of Water Resources 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 judgement, 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) servicewide promotional, 5) departmental open, 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 bulletin.

High School Equivalence: Equivalence to completion of the 12th grade may be demonstrated in any one of the following ways: 1) passing the General Education Development (GED) Test; 2) completion of 12 semester units of college-level work; 3) certification from the State Department of Education, a local school board, or high school authorities that the competitor is considered to have education equivalent to graduation from high school; or 4) for clerical and accounting classes, substitution of business college work in place of high school on a year-for-year basis.