

POWER ENGINEER I  
POWER ENGINEER II

DEFINITION

To perform professional level electrical engineering work in the design, specification, review, investigation, and construction of electric utility projects.

DISTINGUISHING CHARACTERISTICS

Power Engineer I – This is the entry level class in the Power Engineer series. This class is distinguished from the journey level by the performance of the more routine tasks and duties assigned to positions within this series. Employees at this level are not expected to perform with the same independence of direction and judgment on matters allocated to the journey level. Since this class is typically used as a training class, employees may have only limited or no directly related work experience. Employees work under general supervision while learning job tasks.

Power Engineer II – This is the journey level class within the Power Engineer series and is distinguished from the Power Engineer I level by the assignment of the full range of duties. Employees at this level receive only occasional instruction or assistance as new, unusual or unique situations arise and are fully aware of the operating procedures and policies within the work unit. Positions in this class are flexibly staffed and are normally filled by advancement from the Power Engineer I level.

This class is distinguished from the Senior Power Engineer in that the latter performs the most difficult and responsible types of duties assigned to classes within this series including assigned responsibility for the project management complex capital improvement and maintenance improvement projects and exercising technical and functional supervision over professional engineering staff.

SUPERVISION RECEIVED AND EXERCISED

Power Engineer I

Receives general supervision from and assigned supervisor.

May exercise technical and functional supervision over technical staff.

Power Engineer II

Receives direction from an assigned supervisor.

May exercise technical and functional supervision over lower level professional and technical staff.

EXAMPLES OF ESSENTIAL DUTIES - Duties may include, but are not limited to, the following:

Design and prepare plans and specifications for the construction of electric transmission, distribution and substation projects; research project design requirements; perform calculations and prepare estimates of time and material costs.

Delegate routine research, design, and drafting tasks to technical staff; review completed work and identify solutions for solving design, construction and maintenance and operational problems; research publications and industry information sources as needed.

Maintain the Electric Utility Department's circuit loadflow and analysis program; prepare short circuit, loadflow and coordination studies; review switching schedules of complex load transfers; monitor system power factor reports.

Recommend capacitor installation and prepare capacitor control settings to maintain system power factor; review switching schedules of complex load transfers.

Prepare requests for bids and proposals; review bids and proposals, recommend award of contracts and monitor progress of capital improvement projects and professional services contracts; prepare equipment specifications and recommend installation; prepare job packages for line construction.

Prepare estimates and feasibility reports for new or modified electrical transmission, distribution and substation projects; prepare substation regulator settings.

Review conduit and feeder master plans for the City-wide electric distribution system; prepare relay settings; identify system supervisory control and data acquisition (SCADA) requirements.

Investigate field problems affecting property owners, contractors and maintenance operations; perform inspections of construction work in progress and review existing facilities to determine need for upgrades or modifications; conduct field testing for acceptance of work.

Coordinate electric engineering activities with other City departments and divisions, and outside agencies as appropriate.

Build and maintain positive working relationships with co-workers, other City employees and the public using principles of good customer service.

Perform related duties as assigned.

MINIMUM QUALIFICATIONS

Power Engineer I

Knowledge of:

Principles and practices of professional electric power engineering.

Methods, materials and techniques used in the design of electric transmission, distribution and substation projects.

Use and application of computer aided design software (AutoCAD).

Modern office procedures, methods and computer equipment including word processing, database and spreadsheet applications.

English usage, spelling, grammar and punctuation.

Ability to:

Perform professional level electrical engineering work in the design, investigation, and construction of electric utility projects.

On a continuous basis, know and understand all aspects of the job; intermittently analyze work papers, reports and special projects; identify and interpret technical and numerical information; observe and problem solve operational and technical policy and procedures.

On a continuous basis, sit at desk for long periods of time; intermittently bend, squat, climb, kneel or twist while performing field work; intermittently twist to reach equipment surrounding desk; perform simple grasping and fine manipulation; use telephone, and write or use a keyboard to communicate through written means; and lift or carry weight of 10 pounds or less.

Learn to prepare engineering plans and specifications and perform complex computations related to the design and construction of electric utility facilities.

Learn to prepare accurate cost estimates and make recommendations.

Learn City policies and procedures and department standards related to the design and construction of electric utility facilities.

Learn pertinent local, State, and Federal codes, regulations, and laws.

Learn industry standards, including the IEEE, NESC, NEMA and other standards while performing the assigned work.

Use and care for engineering and drafting instruments and equipment.

Learn to analyze and prepare technical reports.

Communicate clearly and concisely, both orally and in writing.

Establish and maintain effective working relationships with those contacted in the course of work.

### Experience and Training

#### Experience:

No professional experience is required; one year of technical electric power engineering experience is desirable.

AND

#### Training:

A Bachelor's degree from an accredited college or university in electrical engineering or a related field.

#### License and Certificate:

Possession of a valid California driver's license by date of appointment.

### Power Engineer II

In addition to the qualifications for the Power Engineer I:

#### Knowledge of:

Principles and practices of electric power engineering as applied to the design and construction of electric utility facilities.

Project management, including cost estimating and budget monitoring and control.

Ability to:

Independently perform professional electrical engineering work in the design, investigation, and construction of electric utility projects, including preparation of complex plans and specifications.

Experience and Training

Experience:

Two years of responsible experience performing duties similar to that of a Power Engineer I with the City of Roseville.

AND

Training:

A Bachelor's degree from an accredited college or university with major course work in electrical engineering or a related field.

License and Certificate

Possession of a valid California driver's license by date of appointment.

Possession of an Engineer in Training (EIT) certificate. California certification is desirable but not required.

04-08-23

08-22-15 Power Engineer I/II

02-09-13 Assistant Power Engineer/Power Engineer

05-10-01

07-01-98 Power Engineer

04-29-98 Associate Power Engineer

02-01-06

07-05-90

07-05-90 Assistant Power Engineer

01-11-89 Associate Electrical Engineer

01-11-89 Assistant Electrical Engineer