

ELECTRICAL ENGINEER

DEFINITION

Performs a variety of professional office and field engineering work relating to planning, design, construction and maintenance of electric utility systems and projects within the Engineering and Operations Division of the Electric Utility Department and performs related work as required.

SUPERVISION EXERCISED AND RECEIVED

Receives general direction from the assigned supervisor. May provide supervision or lead direction to lower-level classifications of this division.

DISTINGUISHING CHARACTERISTICS

This is a flexibly staffed class series in that the Electrical Engineer may reasonably expect to progress to the Senior Power Engineer with training, satisfactory performance and management approval.

EXAMPLES OF DUTIES

Duties may include, but are not limited to the following:

Assists in performing complex professional engineering work in the design, construction and maintenance of City's electrical and communication facilities, including system modeling and planning, engineering studies, material specification, cost and scheduling estimates and written reports and presentations;

Assists in developing material and equipment standards and specification, and operating and maintenance procedures for the electric utility;

Assists in preparing reports and presentations for load forecasts and analyses, system expansion studies and other power system studies, analyses and calculations;

Prepares bid specifications and Council communications, reviews bids and proposals, recommends awards of contracts and monitors progress of capital improvement projects and professional services contracts;

Prepares plans, specifications, and cost estimates for electric utility construction projects, makes feasibility and economic studies of alternative plans;

Coordinates Electric Utility Department activities with other city departments and outside agencies;

Performs engineering assignments for a wide range of utility, commercial and residential electric systems, including substations, overhead and underground electric distribution, transmission, generation, metering, grounding systems, protective fuse and relay systems, and various street lighting systems;

Assists in the training of utility personnel;

Provides technical guidance as directed for lower level engineering division staff;

Assists and provides guidance for the utilities' customers for the efficient use of electric energy, in establishing utilities service requirements, fault current protection, load management and demand control, power factor correction, and systems safety and protections schemes;

Assists in the preparation of the division budget, capital improvement programs and reports as required;

Assists in the performance of long and short term system planning studies for transmission, substation and distribution systems modifications, improvements and additions to serve existing and new loads;

Assists in monitoring system performance and efficiency and recommends corrective measures as required;

Assists in performing load studies and preparing forecasts as required for the utility's distribution system planning and budget preparation;

Performs other related duties as required.

MINIMUM QUALIFICATIONS

Knowledge of:

Electrical theory, design parameters and applicable codes and regulations as applied to electrical utility distribution, transmission and generation facilities;

Methods, materials and techniques used in the construction of electric transmission, distribution and substation projects;

Use and application of computer aided design software and geographical information systems;

Principles and practices of applicable codes and standards;

Principles of supervision and training; principles of budget preparation and administration;

Principles and practices of safety.

Ability to:

Prepare complex engineering plans, specifications, engineering computations and studies;

Check designs and supervise the preparation of engineering plans, studies and reports;

Communicate clearly and concisely, both orally and in writing;

Use and operate centralized telephone equipment, personal computer, related software and peripheral equipment;

Establish and maintain cooperative and effective relationships with those contacted during the course of work.

EDUCATION AND EXPERIENCE:

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Education:

Possession of a Bachelor's degree from an accredited college or university with major coursework in electrical engineering or a related field.

Experience:

Three (3) years of responsible electric utility engineering experience.

LICENSES AND CERTIFICATES

Possession of the appropriate valid Driver's License from the California Department of Motor Vehicles.

Registration as a Professional Electrical Engineer is preferred.

WORKING CONDITIONS

Environmental Conditions: Exposure to safety hazards including, fumes or odors, dust or gases, chemicals, toxic materials, oil, and a variety of mechanical machinery.

Physical conditions: Essential functions may require maintaining physical condition necessary to see well enough to read, write and make observations; hear well enough to converse on the radio, telephone and in person; bodily mobility to occasionally walk, bend, kneel, reach, stand, crouch or climb; operate assigned equipment and vehicles; operate office equipment requiring repetitive hand movement and fine coordination including use of a computer keyboard; to verbally communicate to exchange information; and intermittently sit while preparing reports and operating vehicles and equipment.

*FLSA Status: EXEMPT