



**APPROVED BY: THE CHIEF
OPERATING OFFICER**

EFFECTIVE: May 2019

SENIOR ENGINEER – ELECTRICAL ENGINEERING
(Job Description)

PURPOSE

The Senior Engineer – Electrical Engineer serves as a subject-matter expert in electrical engineering related to low and medium voltage electrical distribution systems, and low voltage motor control center for industrial facilities including water treatment and pumping plants, provides consulting services and exercises technical supervision throughout the district; coaches, mentors, and trains employees in the field of electrical engineering; and may exercise full supervision of assigned staff.

REPORTS TO

Unit Manager

JOB DUTIES

In addition to the job duties outlined in the Senior Engineer class spec, the following are typical duties performed within this assignment. The duties specified below are representative of the nature and level of duties of this assignment and are not intended to be an inclusive list. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to this position. Management reserves the right to add, modify, change, or rescind the work assignments of different positions.

1. Oversees and directs electrical engineering portion of capital and operations projects (such as treatment plant reliability improvement project, energy optimization plan, and pumping plant medium voltage overhead busway) through all phases including planning, design, construction, testing, commissioning, and close-out.
2. Provides electrical and control engineering routine, urgent, and emergency services to support raw and treated water utility operations.
3. Manages, coordinates, and participates in electrical master plan, power system studies, simulations, and programs such as Arc flash, energy analysis and management, power quality, solar, and in-conduit hydro studies.

4. Assumes responsible charge, as the electrical group leader, in reviewing and preparation of engineering studies, reports, design, and contract documents for compliance with National Electric Code (NEC), Institute of Electrical & Electronics Engineers (IEEE), International Society of Automation (ISA), and National Electrical Testing Association (NETA) standards and principles; stamps and/or signs such work and assumes project management and quality assurance/quality control (QA/QC) responsibility.
5. Works with external agencies such as the United States Bureau of Reclamation (USBR) and Western Area Power Administration (WAPA); develops partnerships and negotiates agreements with external agencies.
6. Analyzes conventional and renewable energy projects proposed by the Power and Water Resource Pooling Authority, determines financial, regulatory, and carbon emission impacts on the District, and develops recommendations to protect and promote District interests.
7. Represents assigned projects, including energy management, electrical and control engineering programs at District meetings, public presentations, and conferences to customers, community organizations, and other government agencies.
8. Analyzes proposed legislation and governmental policies, rules, and regulations, prepares white papers, and develops recommendations for District comments and compliance.
9. Collaborates with the control systems senior engineer and assists unit manager on the development of unit and project budgets including long-term planning and work plan development including long-term forecast and preparation of project spreadsheets.
10. May plan, organize, assign, review, and evaluate the work of assigned staff; may train staff in work procedures; may evaluate employee performance, counsel employees, and effectively recommend initial disciplinary action; and may assist in selection and promotion.
11. Performs other duties as assigned.

QUALIFICATIONS

Knowledge of:

1. Electrical engineering principles, practices, and methods as applied to the design, construction, installation, and testing of electrical facilities and equipment, including pumping plants, water treatment facilities including large electrical switchboards, motor control center, variable speed drives, low and medium voltage motors, low and medium voltage power distribution, hardwired relay control, and instrumentation and automation.
2. Principles, practices, concepts, and standards of project management as applied to the planning, design, cost estimating, construction, installation, and inspection of electrical equipment and power systems.
3. Engineering mathematics, economics, and statistical analysis.
4. Principles and practices of project budget development and administration, contract negotiation and management, and sound financial management policies and procedures.

5. Practices of researching complex issues, evaluating alternatives, making sound recommendations, and preparing and presenting effective staff reports.
6. Implement pertinent local, state, and federal laws, codes, and regulations with specific emphasis on National Electric Code (NFPA 70) and Standards for Electrical Safety in the Workplace (NFPA 70E and NESC).
7. Principles and practices of employee supervision, including planning, assignment, review and evaluation, and the training of staff to implement work procedures.
8. Computer software applications, such as Microsoft Office, Adobe Acrobat, Google Earth, electrical engineering software/tools, power monitoring software/tools, PeopleSoft, Maximo, and power quality analyzers.

Ability to:

1. Deliver complex and technical electrical and power engineering projects in an independent and cooperative manner.
2. Analyze problems, identify alternative solutions, project consequences of proposed actions, and implement recommendations in support of goals.
3. Conduct complex projects and studies, evaluate alternatives, make sound recommendations, and prepare effective technical staff reports.
4. Negotiate, prepare, and administer complex agreements.
5. Represent the District with other public agencies, private organizations, elected officials, regulatory agencies, special interest groups, and the public.
6. Combine technical expertise with political, policy, and legal knowledge to strategically advance District interests.
7. Establish and maintain a variety of filing, recordkeeping, and tracking systems.
8. Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner, and assign staff resources to meet target completion dates.
9. Plan, organize, schedule, assign, train, review, and evaluate the work of staff.
10. Coach, mentor and teach employees with the purpose of transferring knowledge and skill in the subject matter area.
11. Use English effectively to communicate in person, over the telephone, and in writing.
12. Prepare clear and concise reports, correspondence, and other written materials.
13. Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

EDUCATION AND EXPERIENCE GUIDELINES

The following combination represents the minimum training and experience requirements for this classification:

Education:

Graduation from an accredited four-year college or university with major coursework in electrical engineering or a related field.

Experience:

Six (6) years of professional engineering experience designing and maintaining industrial electrical systems in an operating environment, preferably in a critical infrastructure environment, including at least two (2) years of lead responsibility.

License or Certificate:

Possess and maintain a valid license as a Professional Electrical Engineer issued by the California Board for Professional Engineers, Land Surveyors, and Geologists.

JOB DESCRIPTION LEGEND

Established Date: 1/2018
Revisions Dates: 5/2019