SENIOR ELECTRICAL ENGINEER

FC: EF265 PC: 725
PB: 07 BU: 92 (NR)
FLSA: Exempt Created: August 1987
Revised: September 22, 2017

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

Performs complex professional engineering work in the preparation of engineering designs, plans and specifications for the development, modification and maintenance of the District's electrical facilities and systems, including traction and utility power, corrosion protection, lighting and other electrical equipment; ensures work quality and adherence to established specifications; and performs related duties as assigned.

CLASS CHARACTERISTICS

This is the advanced journey level class in the Electrical Engineer series. Positions at this level possess a specialized, technical or functional expertise within the area of assignment or may exercise lead supervision over assigned lower level staff. This class is distinguished from the Principal Electrical Engineer in that the latter performs the most complex work assigned to the series or serves in a working supervisory capacity over lower level District or contracted staff.

REPORTS TO

This position reports to either a Principal level Engineer or a designated supervisory/managerial position.

EXAMPLES OF DUTIES – *Duties may include, but are not limited to, the following:*

1. Performs complex and advanced electrical engineering project duties in the preparation of engineering design plans and specifications for the District's electrical facilities and systems, including traction and utility power, corrosion protection, lighting and other equipment and systems.

2. Performs engineering design duties; prepares engineering design drawings and specifications, calculations and cost estimates, provides design support during construction.

3. Inspects equipment or facility; analyzes and makes recommendations on engineering solutions for repair, modification or maintenance.

4. Prepares and coordinates the preparation of construction feasibility studies and cost estimates; defines scope and develops conceptual plans; prepares electrical engineering design project proposals for management review and approval.

5. Provides assistance in obtaining outside consultant services; schedules consultant proposal submissions, participates in evaluation of consultant proposals.

6. Coordinates engineering work with that of other engineering divisions and public agencies; administers control of required documentation for electrical engineering projects.

7. As assigned, may participate in the selection of engineering staff; provides engineering guidance to lower level staff in their areas of work including electrical engineering design, methods, procedures and techniques.

8. Initiates and evaluates design and field engineering changes during construction; takes field measurements of completed work; inspects construction at substantial and final completion stages; reviews, stamps, and signs design drawings as Engineer of record for construction contracts.

9. Prepares engineering reports, manuals and other correspondence related to work activities.

10. Participates in the preparation and administration of the electrical engineering program budget; submits budget recommendations; monitors expenditures.

11. Recommends approval of and submits contractor's progress payment applications; maintains documentation of contract deficiencies.

12. Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of electrical engineering.

13. As assigned, conducts field inspections, site investigations and field materials testing duties.

QUALIFICATIONS

Knowledge of:
Operations, services and activities of a comprehensive electrical engineering program.
Principles and practices of electrical engineering design and construction.
Principles and practices of electrical equipment and materials.
Principles and practices of project scheduling and management.

Principles and practices of engineering cost estimating.
Methods and techniques of field measuring and testing.
Methods and techniques of conducting construction site inspection and investigation.
Electrical systems and facilities.
Advanced mathematical principles.
Principles and practices of contract administration and management.
Current office procedures, methods, and equipment including computers.
Specialized computer programs or systems utilized in electrical engineering design and construction including CADD.
Principles of lead supervision and training.
Related building codes, regulations and provisions.
Related Federal, State and local laws, codes and regulations.
Related IEE, ANSI, NFPA, IESNA and other codes/design guidelines.

Skill in:
Developing, reviewing, and modifying complex electrical engineering plans, designs, and specifications.
Leading, organizing and reviewing the work of lower level engineering staff.
Interpreting and explaining District policies and procedures.
Preparing clear and concise reports.
Managing and administering electrical engineering contracts.
Analyzing complex electrical engineering problems, evaluating alternatives, and recommending solutions.
Performing field inspections and taking measurements.
Developing engineering project work scopes, criteria, budgets and schedules.
Understanding and following oral and written instructions.
Interpreting and preparing revisions to engineering plans, drawings, and specifications.
Communicating clearly and concisely, both orally and in writing.
Establishing and maintaining effective working relationships with those contacted in the course of work.

MINIMUM QUALIFICATIONS

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

Experience:
Three (3) years of (full-time equivalent) verifiable professional electrical engineering experience.

License or Certificate:
Registration as a professional electrical engineer.

Other Requirements:
Must possess a valid California driver's license and have a satisfactory driving record.

Must be physically able to conduct field inspections and testing as assigned.

WORKING CONDITIONS

Environmental Conditions:
Office environment; field environment; construction site environment; exposure to noise, dust, grease, smoke, fumes, gases, heat, cold, and inclement weather conditions when conducting field inspections and investigations.

Physical Conditions:
Requires maintaining physical condition necessary for walking, standing or sitting for prolonged periods of time.

EEOC Code: 02
Safety Sensitive Designation: No