



PRINCIPAL VEHICLE SYSTEMS ENGINEER

JC: TF236
PB: 8
FLSA: Exempt

BU: 95 (NR)
Created: November 2001
Revised: June 2019

*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

Under supervision, manages and administers the design, repair, overhaul, evaluation, and reliability of District transit vehicles including electrical, mechanical and electro-mechanical systems and components and their operating relationships; investigates and determines the cause of major transit vehicle equipment failures; performs related duties as assigned.

CLASS CHARACTERISTICS

This is the highest level of the professional in the Rail Vehicle Systems Engineer series. Classifications perform the highly and technical work and have a full understanding of the operating procedures and policies of the work unit. This classification is distinguished from the Manager of Vehicle Systems Engineer in the latter is a division head with overall responsibility for division goals and objectives, staff evaluations, and overall auditing activities for the Vehicle Systems Engineering Division within the Rolling Stock and Shops department.

REPORTS TO

Manager of Vehicle Systems Engineering or designee.

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

1. Develops and integrates plans, budgets, and implements the large-scale rail vehicle electrical or mechanical engineering and procurement projects for the District; may serve as the resident engineer on assigned electrical or mechanical engineering projects.
2. Establishes schedules and methods for providing rail vehicle engineering project services; ensures adherence to specifications; identifies resource needs; monitors the progress of Rolling Stock and Shop maintenance and overhaul; reviews needs with appropriate management staff; allocates resources accordingly.
3. Administers consultant contracts; reviews work to ensure compliance with specifications; recommends change orders; maintains records and processes expenditures.

Principal Vehicle Systems Engineer

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4. Participates in the development of policies and procedures; monitors work activities to ensure compliance with established policies and procedures; makes recommendations for changes and improvements to existing standards and procedures.
5. Recommends and assists in the implementation of goals and objectives; implements approved policies and procedures.
6. Oversees, reviews, and approves the preparation of electrical or mechanical engineering designs, drawings, and specifications; coordinates work with other divisions and departments; may sign and stamp design drawings; monitors the activities of engineering design staff.
7. Coordinates work with other divisions, departments and outside agencies; administers control of required documentation for contracts; identifies technical engineering issues and ensures compliance with District and industry engineering standards.
8. Participates in the review of consultant proposals and designs and recommends awards; conducts or participates in the pre-bid conferences prior to procurement contract awards.
9. Initiates and evaluates design and field engineering changes during fabrication; recommends approval of and submits contractor's progress payments; recommends retention levels as appropriate; participates in intermediate and final inspections.
20. Prepares or reviews a variety of reports and correspondence on assigned rail vehicle electrical or mechanical engineering projects including Inspector's Daily Reports, monthly and final completion reports, contract negotiations and modifications, and field and design engineering changes.
11. Participates in the preparation and administration of Rolling Stock and Shops project budgets; submits budget recommendations; monitors expenditures.
12. Prepares analytical and statistical reports on assigned electrical or mechanical engineering operations and activities.
13. Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of electrical or mechanical engineering.

QUALIFICATIONS

Knowledge of:

- Principles and practices of electrical or mechanical engineering design, mechanical engineering and construction
- Design principles and practices for rail and transit vehicles
- Principles and practices of project scheduling and management
- Methods and techniques of conducting equipment inspection and investigation
- Principles and practices of contract administration and management
- Principles and practices of engineering cost estimating
- Modern office procedures, methods, and equipment including computers
- Related Federal, State and local laws, codes and regulations

Skill/Ability in:

- Analyzing complex engineering problems, evaluating alternatives and recommending solutions
- Interpreting and explaining District policies and procedures
- Directing and coordinating complex engineering projects
- Negotiating consultant design and vehicle maintenance contracts
- Managing and administering consultant engineering contracts
- Interpreting and preparing revisions to engineering plans, drawings, and specifications
- Conducting and overseeing vehicle maintenance equipment inspections, investigations, measurements, and testing
- Preparing clear and concise reports
- 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:

Bachelor's degree in Electrical Engineering, Mechanical Engineering or a closely related field from an accredited college or university.

Experience:

The equivalent of five (5) years of full-time verifiable professional electrical or mechanical transit vehicle systems engineering or related experience.

License or Certificate:

Registration as a professional engineer in the State of California.

Other Requirements:

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

Substitution:

Additional experience as outlined above may be substituted for the education on a year-for-year basis. A college degree is preferred.

WORKING CONDITIONS

Environmental Conditions:

Shop environment; exposure to electrical energy; travel from site to site.

Physical Conditions:

May require maintaining physical condition necessary for walking, standing or sitting for prolonged periods of time; operating motorized equipment and vehicles; work or inspect in confined spaces; work around heavy construction equipment.

BART EEO-1 Job Group: 3000 - Engineers
Census Code: 1530 – Miscellaneous Managers
Safety Sensitive: No