VEHICLE SYSTEMS ENGINEER

JC: TF233 **BU:** 92 (NR)
PB: 6 **FLSA:** Exempt

*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, performs a variety of technical and engineering duties in support of the repair, overhaul, evaluation, reliability and maintenance of District transit vehicles including the electrical, mechanical and electro-mechanical systems and components; investigates and determines the cause of major transit vehicle equipment failures, and performs related duties as assigned.

CLASS CHARACTERISTICS

This is the full journey level class within the Vehicle Systems Engineer series. Classifications at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. This classification is distinguished from the Senior Vehicle Systems Engineer in that the latter possesses a specialized, technical or functional expertise within the area of assignment or may act as lead over assigned lower level staff.

REPORTS TO

Manager of Vehicle Systems Engineering or designee.

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

1. Performs a variety of vehicle systems engineering duties in support of the design repair, overhaul, evaluation, reliability and maintenance of District transit vehicles.

2. Designs and specifies special testing and servicing equipment to troubleshoot and maintain transit vehicle subsystems.

3. Investigates and determines cause of major transit vehicle equipment failures and provides required corrections or equipment design changes.

4. Provides a variety of technical information in support of transit vehicle repair, engineering and design.

5. Provides technical assistance in the location and disposition of transit vehicle parts and equipment.

6. Participates in the analysis of vehicle equipment failures; develops, implements and documents resulting maintenance procedures and equipment design changes.

7. Creates a variety of technical engineering drawings, specifications and documents; ensures contract compliance, the use of proper engineering methods and compatibility with other systems.

8. Provides technical assistance in developing new advanced transit vehicle systems for use on District transit vehicles.

9. Defines quality assurance criteria and inspection procedures for the maintenance and repair of transit vehicles; audits maintenance staff to ensure compliance with standards.

10. Operates a variety of mechanical equipment in a safe and effective manner including electrical, mechanical and electro-mechanical test equipment.

11. Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of transit vehicle systems engineering.

12. Provides expert testimony in personal injury lawsuits against the District, as assigned.

QUALIFICATIONS

Knowledge of:

- Operations, services and activities of a comprehensive transit vehicle engineering program
- Principles and practices of mechanical or electrical engineering as they relate to transit vehicles
- Transit vehicle electrical and mechanical equipment and subsystems
- Computers and applications utilized in vehicle diagnostics
- Principles and practices of engineering specification preparation and review
- Materials and equipment utilized in testing and repairing transit vehicles
- Operational characteristics of various mechanical testing equipment and tools
- Occupational hazards and standard safety practices
- Related Federal, State and local codes, laws and regulations

Skill/Ability in:

- Performing a variety of transit vehicle inspections, maintenance and repair engineering duties
- Operating a variety of vehicle testing equipment in a safe and effective manner
- Providing a variety of technical information in support of transit vehicle operations
- Analyzing vehicle equipment failures and developing equipment design changes
- Preparing a variety of complex engineering drawings and specifications
- Writing technical safety reports
- Defining quality assurance criteria and inspection procedures for maintenance and repair of transit vehicles
- Understanding and following oral and written instructions
- 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:
Possession of a bachelor's degree in electrical engineering, mechanical engineering or a closely related field from an accredited college or university.

Experience:
The equivalent of two (2) years of (full-time equivalent) verifiable electrical or mechanical transit vehicle systems engineering experience, or related experience.

Other Requirements:
Must possess sufficient mobility to perform field inspections and investigations.

Substitution:
Additional professional 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:
Requires maintaining physical condition necessary for walking, standing or sitting for prolonged periods of time; operating motorized equipment and vehicles; working or inspecting in confined spaces; working around heavy construction equipment; must be physically able to conduct field inspections and testing as assigned.

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

CLASSIFICATION HISTORY
Created: June 2002
Revised: July 2023
Reviewed: