



SENIOR MANAGER of ENGINEERING, eBART

JC: 000175
PB: 10
FLSA: Exempt

BU: 95 (Non-Rep)
Created: July 2018

*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

Directs, manages, supervises, monitors and coordinates the design of all systems and infrastructure for the eBART Operations and Maintenance Department; oversees and manages outside technical consultants and vendors supporting eBART systems and infrastructure; coordinates assigned activities with BART departments and outside agencies; provides highly responsible and complex administrative support to Chief Operating Officer, eBART and performs related duties as assigned.

CLASS CHARACTERISTICS

This is a full-scope managerial class responsible for directing and overseeing all technical aspects of eBART Operations and Maintenance including system configuration management and control of eBART train control, wayside signaling, Automatic Train Protection (ATP), Supervisory Control and Data Acquisition (SCADA) systems, and public address (PA) and communication systems. Additionally, this classification is responsible for managing and supporting eBART information technology resources. This classification is distinguished from the Superintendent of Systems in the former's responsibilities related to engineering design and management of systems and the latter's overall responsibility for managing the day-to-day operations and maintenance of systems.

REPORTS TO:

This position reports to the Chief Operating Officer, eBART and/or his or her designee(s).

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

1. Directs and coordinates all eBART systems engineering activities including Train Control engineering, Signaling, Communications, Computer Systems, closed circuit-television (CCTV), Public Address/Display Systems (PA/DSS), Configuration Management, Special Projects, Integration and Test, and Systems Engineering.
2. Oversees, monitors and administers consultant contracts that provide technical support services for eBART systems and infrastructure; develops scopes of work; reviews design proposals; oversees installation and testing phases; reviews and approves final product.

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3. Supports and participates in the development and implementation of eBART Operations and Maintenance goals, objectives, policies and priorities for assigned programs; recommends and administers policies and procedures.
4. Responsible for the establishment and maintenance of technical standards that apply to eBART systems and infrastructure, and the development of the key engineering processes within eBART.
5. Directs investigations of unusual occurrences related to major eBART systems; evaluates findings; presents reports and recommendations as required.
6. Responsible for the establishment and maintenance of configuration management and control of eBART systems including all software and firmware.
7. Monitors developments and legislation related to assigned area of responsibility; evaluates impact upon eBART operations; recommends and implements equipment, policy, and procedural improvements.
8. Responsible for the evaluation of new technologies as they apply to the eBART operational mission.
9. Responsible for all eBART System Reliability, Availability, and Maintainability (RAM) analysis and approval of RAM output for eBART as part of RAM committee; follow up with contractors on all failure fixes and final determinations.
10. Responsible for the development and evolution of the eBART System Architecture.
11. Performs as the technical liaison between eBART and BART System Engineering; interfaces and coordinates with BART Systems Engineering Department and Office of Chief Information Officer on all eBART transfer platform interface and integration work; reviews work plans; assigns projects in programmatic areas of responsibility; reviews and evaluates work methods and procedures; meets with key staff to identify and resolve problems.
12. Serves as the liaison for eBART with other divisions, departments and outside agencies; serves as an expert witness; explains, justifies and defends eBART programs, policies and activities; negotiates, and resolves sensitive and controversial issues.
13. Assists in the development and administration of the department budget.
14. May represent eBART to representatives of manufacturers, vendors, governmental agencies and professional and business organizations; coordinates assigned activities with those of other departments and outside agencies and organizations.
15. On behalf of eBART, participates in various District management committees; prepares and presents staff reports and other necessary correspondence.

16. Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of systems development and engineering communications and electronics.
17. Provides high level staff assistance to Chief Operating Officer, eBART.
18. Additional duties and responsibilities as assigned.

QUALIFICATIONS

Knowledge of:

Operations, services and activities of a comprehensive systems engineering and design including communications, computer, and a comprehensive train control systems engineering.

Principles and practices of communications, electronics, computer and a comprehensive train control systems engineering.

Operational characteristics of train control and signaling systems.

Operational characteristics of analog and digital electronics, electrical circuitry, electro-mechanical mechanisms and mini- and micro-computers.

Computer software and programming languages used in train control engineering.

Terminology, methods, practices, and techniques used in technical engineering report preparation.

Software validation and verification

Principles and practices of system RAMS (reliability, availability, maintainability and Safety)

Principles and practices of project and contract management.

Principles and practices of policy development and administration.

Principles and practices of budget preparation and administration.

Principles and practices of program development and administration.

Principles of supervision, training and performance evaluation.

Related Federal, State and local laws, codes and regulations.

Skill in:

Interdisciplinary skills in the following areas:

- Wayside signal and train control systems including Centralized Traffic Control (CTC) System, Automatic Train Protection (ATP), Positive Train Control (PTC), and cab signal
- Microprocessor-based and relay-based interlocking control
- Data Communications systems including wireless and fiber optic-based media for local and wide area networks
- Radio Frequency (RF) Communications systems (wide area data / voice, microwave, local high-speed data)
- General communication systems such as telecommunications, CCTV, PA/ Variable Message Signs VMS, Ticket Vending machines (TVMs), Add Fare Machines (AFM), etc.
- Solid subsystem / system interface and integration.
- Configuration management system process and implementation
- Low Voltage Power distribution
- Information Technology
- SCADA systems

Assisting in the development of departmental goals, objectives and procedures.

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Analyzing and assessing policies and operational needs and make appropriate adjustments.
Delegating authority and responsibility.
Selecting, supervising, training and evaluating staff.
Interpreting and applying applicable Federal, State and local policies, laws and regulations.
Communicating clearly and concisely, both orally and in writing.
Establishing and maintaining effective working relationships with those contacted in the course of work.
Ability to promote cooperation and working relationships among different teams and multiple technical disciplines
Must be self-directed and self-motivated.

MINIMUM QUALIFICATIONS

Education:

A Bachelor's degree in Engineering Control Systems, Electrical Engineering, Computer Science or a related field from an accredited college or university.

Experience:

Five (5) years of (full-time equivalent) verifiable professional experience in the development, deployment and management of large-scale technology-intensive systems and at least (2) years of supervisory and administrative experience.

Substitution:

Additional professional experience as outlined above may be substituted for the education on a year-for-year basis.

Other Requirements:

Must possess a valid California driver's license and have a satisfactory driving record.
Must possess sufficient physical mobility to inspect construction in progress or run various equipment tests.
Professional Engineering (PE) License in the State of California is preferred.

WORKING CONDITIONS

Environmental Conditions:

Office environment; exposure to computer screens.

Physical Conditions:

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

BART EEO-1 Job Group: 0500 – Executives/Managers
Safety Sensitive: No