PRINCIPAL FIRE PROTECTION ENGINEER

JC: 000314
PB: 8
FLSA: Exempt

BU: 95 (Non-Rep)
Created: February 2020
Revised: April 2021

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 direction, responsible for analyzing, understanding and interpreting fire and building codes, standards and regulations; reads, reviews and interprets engineering schematic diagrams and plans and computer fire modeling, fire suppression and life safety systems designs including but not limited to fire sprinkler and fire pump systems, fire alarm systems, smoke removal systems, fire resistive construction, means of egress, etc.); inspects buildings and fire protection systems for fire hazard analysis and mitigation and to ensure compliance with laws, codes and regulations; performs related duties as assigned.

CLASS CHARACTERISTICS

This professional level classification is the highest level within the Fire Protection Engineering series. Classifications at this master level perform the most technical and complex duties assigned to the series and have a full understanding of the operating procedures and policies of the work unit. Master level classes such as this are an extension of the advanced journey level class representing the highest non-supervisory principal tier or specialized advanced journey level. This classification is distinguished from the Group Manager, Engineering in that the latter is responsible for planning, directing, managing and overseeing the design and construction activities and operations within the Maintenance and Engineering Department including engineering design and maintenance for all existing BART structures, managing major special engineering projects throughout the District including contracted professional engineering, construction and maintenance services, and coordinating assigned activities with other departments and outside agencies.

REPORTS TO

Group Manager, Engineering or designee

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

1. Responsible for leading and overseeing the District's comprehensive fire life safety engineering activities including developing, implementing and maintaining effective protocols and procedures for testing and maintenance of fire and life safety systems in buildings and facilities.

2. Reviews building designs and plans related to BART projects to ensure compliance with fire laws, codes and regulations; reviews sites to assess compliance and identify deficiencies; prepare fire system commissioning plans, specifications, checklists and functional test documentation based on BART facilities Standards (BFS).

3. Perform National Fire Protection Association (NFPA) 130 egress requirements analysis considering vertical flow and common path issues; perform hazard analysis for projects considering all elements of NFPA Standards, CBC, and BFS as defining criteria.

4. Inspects and reviews buildings and site development plans and fire extinguishing systems related to BART projects to protect life and property from fire loss; interprets fire codes and ensures compliance with fire code requirements; consults with District fire inspectors on plan review issues; delivers solution-based approach to station modernization efforts; evaluate and troubleshoot operational issues with fire alarm and fire suppression systems.

5. Manages the District's fire life safety data; prepares technical reports and records for inspections and plan reviews required by the District.

6. Creates curriculum and conducts Districtwide and fire life safety exercises and trainings related to BART facilities and fire life safety systems; reviews design, equipment submittals, operation and maintenance manuals, start-up reports, checklists, and training programs.

7. Provides direction on all applicable fire codes and respond to inquiries from the public regarding fire protection codes, regulations and systems; regularly communicates with the Office of the State Fire Marshal (OFSM), CPUC, and local fire agencies on fire life safety related issues.

8. Investigates fire related incidents and determines source in order to mitigate future occurrence; develops and participates in the District's inspection process including documenting findings and resolution.

9. Establishes schedules and methods for providing fire life safety design project services; ensures adherence to codes, standards and specifications; identifies resource needs; monitors the progress of large=scale fire life safety and protection design projects; reviews needs with appropriate management staff; allocates resources accordingly.

10. 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.

11. Provides budget management oversight to ensure compliance with project schedule and budget.

12. Performs additional duties as assigned.

QUALIFICATIONS

Knowledge of:

- Operational characteristics, services and activities of a transportation safety program
- Principles and practices of fire protection engineering
- Principles and practices of fire protection program development and administration
- Principles and practices of fire life safety construction
- Principles of National Fire Protection Association Codes (i.e. NFPA 4, 10, 101, 130, etc.)
- California Fire Codes (CFC)
- California Building Codes (CBC)
- CPUC General Order 164-D
- Incident Command System (ICS)
- National Incident Management Systems (NIMS)
- Methods and techniques of safety inspection and investigation
- Principles and practices of budget preparation and administration
- Principles and practices of contract preparation and administration
- Methods and techniques of accident investigation
- Operating principles of rail transportation systems
- Functions and authority of regulatory agencies in relation to operations safety
- Emergency response policies and procedures
- Advanced working knowledge of CADD and related computer software applications
- Related building codes, regulations, and provisions
- Related Federal, State and local laws, codes and regulations

Skill/Ability in:

- Overseeing and participating in the management of a comprehensive transportation fire life safety program
- Reading and interpreting schematic diagrams and plans
- Conducting fire life safety inspections
- Investigating and analyzing fire life safety accident and incidents
- Preparing and administering large program budgets
- Reading and interpreting schematic diagrams and plans
- Preparing clear and concise administrative and financial reports
- Analyzing problems, identifying alternative solutions, projecting consequences of proposed actions and implementing recommendations in support of goals
- Researching, analyzing and evaluating new service delivery methods and techniques
- Interpreting and applying Federal, State and local policies, laws and regulations
- Preparing and administering large program budgets
- 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 fire protection engineering or a closely related field from an accredited college or university.

Experience:

The equivalent of four (4) years of (full-time equivalent) verifiable professional experience in fire engineering, fire protection/fire life safety programs including fire alarm systems, fire suppression systems (automatic sprinkler systems, fire pumps, foam, cleaning agents or related experience.

Other Requirements:

Must possess a valid California driver's license and have a satisfactory driving record
Must possess a valid California Professional Engineer (PE) License
Must respond to after-hours, weekend and holiday incidents and perform related field activities

Substitution:

Additional professional safety programs 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:

Office environment; exposure to computer screens; field or construction site environment; exposure to noise, dust, grease, smoke, fumes, heat, cold, and inclement weather conditions when conducting field inspections and investigations.

Physical Conditions:

Must be physically able to physically able to conduct field inspections and investigations, to walk, stand, or sit for prolonged periods of time, conduct field activities which may include (but are not limited to) accessing the BART operating right-of-way, climbing on and off rail equipment, climbing ladders, walking on uneven surfaces, visiting construction sites and operating a motor vehicle.

BART EEO-1 Job Group: 3000 – Engineers
Census Code: 0565 – Compliance Officers
Safety Sensitive: No