

**NOTICE OF PROPOSED CLASSIFICATION ACTIONS BY
THE HUMAN RESOURCES DIRECTOR**

The following actions are being posted in accordance with Civil Service Rule 109. In the absence of a protest addressed to the Human Resources Director, the proposed changes will become final seven (7) calendar days from the posting date.

Posting No: 2
Fiscal Year: 2024/2025
Posted Date: 07/19/2024
Reposted Date: N/A

AMEND THE FOLLOWING JOB SPECIFICATION(S):
(Job specification(s) attached)

Item #	Job Code	Title	Bargaining Unit
1	5215	Fire Protection Engineer	7

Protests on an item should be addressed to the Human Resources Director and can be submitted by mail to the City and County of San Francisco, Department of Human Resources, 1 South Van Ness Ave, 4th Floor, San Francisco, CA 94103 or by email to DHR.ClassificationActionPostings@sfgov.org. All protests must be received in writing no later than close of business seven (7) calendar days from the posting date, and must include the posting and item number(s), the basis on which the protest is submitted and identify the affected parties.

Copies of this notice may be obtained from the Department of Human Resources or from the website at: <http://sfdhr.org/index.aspx?page=109>. Copies of Civil Service Rule 109 may be obtained from the Department of Human Resources, the office of the Civil Service Commission at 25 Van Ness Ave, Suite 720, San Francisco, CA 94102 or from the website at: [Rule 109 Position Classification and Related Rules | Civil Service Commission](#).

- cc: All Employee Organizations
All Departmental Personnel Officers
DHR – Class and Comp Unit
DHR – Client Services Unit
DHR – Employee Relations Unit
DHR – Recruitment and Assessment Unit
DHR – Client Services Operations
Carol Isen, DHR
Sandra Eng, CSC
Erik Rapoport, SFERS
Theresa Kao, Controller/ Budget Division
E-File

**CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES**

**Title: Fire Protection Engineer
Job Code: 5215**

DEFINITION

Under general direction, performs challenging and responsible professional engineering review and inspection work in the specialized field of fire prevention and safety, and advises fire inspection personnel engaged in fire prevention work.

DISTINGUISHING FEATURES

5215 Fire Protection Engineer is distinguished from classes 6331 Building Inspector, 6333 Senior Building Inspector, 6334 Chief Building Inspector, 6281 Fire Safety Inspector II, and class H4 Inspector, Fire Department in that the former is a licensed professional engineer specializing in fire protection and safety standards and procedures and possesses the expertise to inspect and test fire protection and suppression systems.

SUPERVISION EXERCISED

None.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Reviews fire protection plans and systems, equivalency proposals, permit applications, subdivision and parcel maps, etc., to ensure compliance with applicable codes, ordinances, and standards; reviews site permits, architectural, mechanical, electrical, and plumbing plans and specifications for code compliance; ensures that fire code provisions are included where hazardous processes and/or dangerous chemicals or radioactive materials are involved; and submits recommendations to the Fire Marshal for approval or disapproval of plans or specifications.
2. Advises and provides training to Fire Department personnel regarding applicable codes, technical engineering aspects of fire prevention work, plan review, and technical research; prepares technical documents as appropriate; and assists the Chief, Division of Fire Prevention and Investigation (Fire Marshal) in the training of Fire Department Personnel.
3. Inspects and witnesses acceptance tests for fire protection systems; and participates in inspections of buildings and other structures periodically during the course of construction to ensure compliance with approved fire protection plans and testing procedures.
4. Interacts with members of the public (contractors, architects, engineers, building managers, and owners, etc.) and other government agencies regarding fire code, standard, and ordinance issues; gives lectures and arranges life-safety demonstrations; and represents the Fire Department on fire code and technical issues as necessary.
5. Reviews codes, ordinances, and fire protection standards from other jurisdictions for possible local applications; assists in the development of new codes and ordinances; assists in the revision of codes, ordinances, standards, and Fire Department Administrative Bulletins; and reviews new products, listings, materials, fire protection systems and equipment for use in local fire prevention applications.
6. Provides professional, technical guidance and assistance to the department in the design,

**CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES**

**Title: Fire Protection Engineer
Job Code: 5215**

testing, and potential of proposed new fire-fighting apparatus and equipment as well as fire-retardant materials.

7. Investigates sites of fires and makes determinations regarding possible structural, mechanical, alarm, fire extinguishing, or other safety system failures; prepares reports as required.
8. Evaluates performance-based analysis to determine whether proposed fire protection systems are acceptable with regard to the intent of codes, standards, and ordinances; evaluates conditions as necessary to ensure that a proposed performance-based design is acceptable; communicates acceptability of performance-based designs to Fire Department officials; and performs and analyzes results of hydraulic water flow tests.
9. May act for the Senior Mechanical Engineer in his/her absence.

KNOWLEDGE, SKILLS, AND ABILITIES

Knowledge of: fire protection engineering methods and practices; installed fire extinguishing/alarm and other fire protection systems; safety practices to be followed in structures where hazardous solids, liquids, or gases are to be manufactured, used or stored; firefighting equipment, its uses, capabilities, and limitations; the California Building Code as it relates to fire protection and life safety; National Fire Protection Association Codes and Standards; the California Fire Code; the Health and Safety Code and Title 19 as each relates to fire protection; effective methods of training; correct grammar, spelling, and syntax to write coherent reports and correspondence; computer modeling and engineering analyses to evaluate proposed performance-based designs; the principles of hydraulics related to water supply delivery; computer software such as Microsoft Word, Microsoft Excel, Microsoft Access, PowerPoint, etc.; statistics regarding testing and performance of fire protection and life safety systems; structural fire protection; the nature and characteristics of fire and related hazards; how fires originate, develop, and spread; fire prevention practices; different types of elevator systems; manual and automatic fire detection systems; fire protection systems and practices; the effects of fire and fire effluents on buildings, fire prevention and detection systems, and human behavior; the practical difficulties faced in implementing the provisions of codes, standards, and regulations; the hazards and risks associated with fire; the methods and practices of performance-based analysis; engineering standards, calculation methods, and other forms of scientific information appropriate for performance-based application and methodology; the sources, methodologies, and data used in fire-modeling analysis and performance-based design; the extent of acceptance in the professional community of system/ performance evaluations; the correct documentation of methods of mathematical modeling; and statistics regarding performance-based design.

Ability or Skill to: evaluate engineering, sprinkler, architectural, mechanical, electrical, and plumbing plans, designs, and specifications to ensure compliance with applicable codes, ordinances, and standards; evaluate construction materials to ensure compliance with applicable codes, ordinances, and standards; evaluate smoke control analysis reports to ensure compliance with applicable codes, ordinances, and standards; perform hydraulic water flow test and analyze the results of the test; work effectively with engineering and fire protection professionals; make critical decisions in stressful situations; communicate effectively with peers, supervisors, and members of the public from different cultures and backgrounds; make public presentations regarding fire protection, inspection, and investigation; write technical reports, memos, and letters using correct grammar, spelling, and syntax; analyze and creatively resolve conflicts

**CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES**

**Title: Fire Protection Engineer
Job Code: 5215**

between code and operational and economic concerns; be tactful in dealings with higher authorities regardless of whether the authority is technically or organizationally higher; interpret federal, state, and local codes, ordinances, and standards pertaining to fire protection; work efficiently with minimal supervision to complete assigned tasks expeditiously; establish and maintain effective working relationships with other governmental agencies; understand and articulate the goals and objectives of the Department regarding building construction and alteration; identify fire hazards and risks in order to take corrective action; identify regulatory compliance issues; perform and communicate with Department personnel regarding the acceptability of performance-based analyses; verify the implementation of performance-based designs via construction documents and field observations; evaluate conditions necessary to ensure that a performance-based design will function effectively over the life of the building; correctly document methods of mathematical modeling, and recognize the limitations of modeling and calculation, and to understand resulting implications; determine whether various methods of performance-based design are based on sound scientific principles; determine whether proposed applications are within the scope and limitations of the supporting information, including the range of applicability for which documented validation exists; evaluate the performance criteria that will be used to judge trial designs; and evaluate fire design scenarios; and assess whether a particular design meets the a priori performance criteria.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

Possession of a baccalaureate degree in fire protection, mechanical, electrical, chemical, or civil engineering, or a related engineering field, from an accredited college or university.

Experience:

Six~~Two~~ **(62)** years of professional experience in fire protection analysis including building design, specification writing, construction inspection, and plan review (including reading and interpreting architectural plans, computer fire modeling, and review of fire protection and life safety systems such as sprinkler and fire pump systems, smoke removal systems, fire resistive construction, means of egress, etc.)

License and Certification:

- 1.** A valid California Driver License.
- 2.** Possession of a valid Fire Protection Engineer license issued by the California Board of Registration for Professional Engineers.

Substitution:

A degree in fire protection engineering from an accredited college or university may be substituted for one (1) year of the required experience.

A valid registration as a Fire Protection Engineer from another state (which is transferable to the State of California) may substitute for the required Fire Protection Engineer license.

**CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES**

**Title: Fire Protection Engineer
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SUPPLEMENTAL INFORMATION

PROMOTIVE LINES

ORIGINATION DATE: 10/15/1973

AMENDED DATE: 11/05/1979; 04/25/01; 09/01/17; XX/XX/XX

REASON FOR AMENDMENT: *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S): COMMN