

**Subject:** job description for a FPE with a FD  
**From:** pcaron\_peng@ville.montreal.qc.ca  
**Date:** Tue, 20 Jan 2004 17:52:35 -0500  
**To:** ss60@eng.umd.edu  
**CC:** mhurley@sfpe.org

As requested,

Take care,

Pascal Caron, P. Eng.  
Montreal Fire Department

## **FIRE PROTECTION ENGINEER FIRE DEPARTMENT POSITION**

### **A) Nature of duties performed**

Under the general direction of the Fire Marshal, the incumbent through his/her professionalism and knowledge provides technical and analytical support in the development and implementation of safe fire protection and personnel safety practices employed by the department.

### **b) Details of tasks performed**

1. Receives, evaluates and revises the plans and technical specifications of construction and development projects submitted for approval and ensures that they conform to the applicable regulations, standards and codes.
2. Reviews, evaluates and revises if necessary, the plans and technical specification of fire protection systems (fire suppression, detection and alarm systems, smoke control systems, etc.) and ensures that they conform to applicable fire and building codes, and are compatible with fire department standard operation procedures.
3. Coordinates and ensures that plan revisions required by various regulations are completed within a reasonable delay.
4. Provides technical assistance to architects, engineers, developers, contractors and building owners by responding to their specific questions pertaining to applicable regulations.
5. Provides technical and practical assistance in applying and overseeing the application of various codes and regulations, and when required interprets these codes for fire department staff.
6. Identifies the interests and concerns of the city regarding fire protection and life safety, and present these concerns to various standards organizations and technical committees reviewing or drafting pertinent codes or regulations.
7. Works in close collaboration with other government agencies federal, state/provincial and municipal to ensure that codes and regulations are applied in a uniform manner.

8. Inspects various existing buildings and buildings under construction to ensure various fire codes and regulations are being met; reviews and evaluates complex or specialized systems.
9. Provides technical support to fire investigators in matters pertaining to flammability, fire spread and fire safety equipment performance; represents the Fire department as an expert witness in cases of criminal or civil litigation resulting from the performance of its duties.
10. Provides expertise in carrying out studies and fire investigations as well as producing technical reports evaluating amongst other things, the level of building fire safety and the degree of fire resistance of various building materials and components under varying conditions.
11. Assists in the evaluation of current construction methods and materials in order to improve fire safety.
12. At major fires or other unusually complex incidents such as those involving hazardous materials, provides technical support to incident commanders regarding structural stability and the building fire prevention components.
13. Assists and participates in training Fire department personnel in all aspects of fire protection and inspection; advises and assists in the acquisition of fire suppression and control equipment.
14. Prepares and makes presentations at conferences, attends seminars on fire protection and represents the department on various committees and at various technical associations.
15. Disseminates up to date information, regarding new technological developments which may impact on Fire department activities and procedures, in order to maintain high technical standards within the department.
16. Advises the fire marshal, when required, on the technical aspects and means of fire protection, and makes recommendations aimed at improving the quality of services offered.
17. Does research and development in the fields of risk analysis and the concepts of safety.
18. Evaluates briefs submitted by engineers seeking equivalent to code approval for substitutions being proposed, prepares and presents his findings and recommendations to the fire marshal.
19. Occasionally supervises and coordinates the activities of various teams or workgroups.
20. Executes any other related work or task assigned to him by the fire marshal.

### **academic knowledge**

Academic knowledge as outlined in the engineering program modules.

### **basic knowledge**

- 1) Fire fundamentals (physics and chemistry of fire)
- 2) Dynamic aspects of fire containment
- 3) Active fire protection
- 4) Passive fire protection
- 5) Human and fire behavior (interaction between individuals and fire).

## **fundamental engineering sciences related to fire protection**

- 1) Fluid mechanics
- 2) Thermodynamics
- 3) Heat transfer between masses.

## **specific modules**

- 1) Risk management (fire - explosion)
- 2) Industrial fire protection.

## **skills required**

- 1) Ability to identify fire risks

Must possess a thorough knowledge of principals of heat transfer: the chemistry of fire, the dynamics of fire, containment of fire, building construction and the interaction between humans and fire (human and fire behavior).

- 2) Ability to identify fire protection strategies

Posses a thorough knowledge of fire prevention, fire detection, fire spread, evacuation systems design, fire control and fire resistance.

- 3) Ability to devise solutions factoring in costs/efficiency

Posses a thorough knowledge of fire modeling, be able to analyze cost/benefits and the ability to present them.

**Steve Spivak <ss60@eng.umd.edu>**

2004-01-19 17:31

Pour : Morgan Hurley <mhurley@sfpe.org>

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Objet : Resend or mail FPE description from Caron/Montreal

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