

Fire And Life Safety System Demonstration Tests

The following is an outline of procedures to be followed for the inspection and demonstration of fire alarm systems and other life safety systems such as elevator operation, fan shutdowns, fire pumps, smoke control systems, generators, etc. The purpose of this inspection and demonstration test is to provide the design and construction team the opportunity to demonstrate to the City the operation of fire and life safety systems. To adequately demonstrate this operation a minimum of 10% of devices should be activated and all auxiliary equipment connected to or monitored by the fire alarm system should be operated.

INSPECTION REQUESTS

When Are They Required

All new buildings that require a fire alarm system, or any significant modification of existing buildings that have a fire alarm system, are to have a demonstration test of the fire and life safety systems before final inspection and approval will be granted by the Building Division.

How Are They Arranged

A Fire and Life Safety System Demonstration Test is to be arranged through the Electrical Section clerical staff (591-4155) and will be scheduled for 1:15 p.m. unless specific alternate arrangements are made. Group Occupancy Inspections should not be scheduled at the same time as the Demonstration Test. Separate arrangements through the building section must be made for group final occupancy inspections.

Who Calls for the Inspection

The inspection request is to be made by the Co-ordinating Registered Professional (through the Certified Professional when appropriate) when satisfied the work has been completed and tested and that no further construction activity will effect the operation of any fire and life safety system. **Under Building Code requirements the Co-ordinating Registered Professional (CRP) is responsible, through consultation with the design Professionals, for determining when the fire and life safety systems are completed and ready for demonstration to the City. The CRP in conjunction with the design professionals is to design a test procedure that is appropriate for the building systems incorporated. The testing procedures are to be submitted with the documentation and discussed with the group inspection team prior to commencing the test.**

INSPECTION/TEST PROCEDURES

Documentation

All testing documentation is to be submitted two working days prior to the Demonstration Test date.

The following original documentation is to be submitted to the Electrical Section:

- Fire alarm verification report complete with Appendix "C"(CAN/ULC S537),
- Generator test documentation as per CAN/CSA C282,
- ULC Certificate for Protective Signalling Service
- Test procedures prepared by the CRP and Design Professionals

The following original documentation is to be submitted to the City Fire Protection Engineer :

- Contractor's Materials and Test Certificate for the Sprinkler System,
- Fire pump flow test certificate,
- Back flow prevention test report,
- Test documentation of smoke control system performance,
- Fire suppression system designers "Schedule C-B".

Attendance

The Certified Registered Professional must arrange to have the appropriate persons from the Design and Construction teams attend the Demonstration Test:

- Electrical Contractor (two persons required)
- Sprinkler System Contractor
- General Contractor
- Electrical Engineer
- Mechanical Engineer
- Co-ordinating Registered Professional
- Architect
- Certified Professional
- Equivalency Engineer (if effects fire & life safety systems)
- Fire Alarm Verification Company (if requested by the Electrical Inspector)
- Mechanical Controls Contractor (if requested by the Electrical Inspector or Fire Prot. Eng.)

The Electrical Contractor is to provide personnel for activating fire alarm devices as well as resetting the Fire Alarm panel. The Mechanical Contractor is to provide personnel for tripping and resetting all sprinkler system devices and operating other mechanical systems.

The following persons from the City will be attending the group inspection/demonstration test:

- Area Electrical Inspector
- Area Building Inspector
- Fire Department Inspector
- Area Plumbing Inspector (for sprinkler system)
- City Fire Protection Engineer (for complex building systems)

Depending on the complexity of the fire and life safety systems other persons from the City may attend to witness/participate in the Demonstration Test.

Materials and Equipment Required

The following materials and equipment must be available on site :

- canned smoke
- ladder(s)
- complete set of permit drawings
- keys for all rooms of the building
- keys for fire phones, annunciator, fire alarm cabinets and 2-stage pull stations.
- source of artificial smoke (where smoke control systems are incorporated and the City Fire Protection Engineer determines a site demonstration is appropriate)
- radios must be provided if requested (three minimum)