

CHAPTER 9

FIRE PROTECTION SYSTEMS

SECTION 901 GENERAL

901.1 Scope. The provisions of this chapter shall specify where fire protection systems are required and shall apply to the design, installation, inspection, operation, testing and maintenance of all fire protection systems.

901.2 Construction documents. The fire code official shall have the authority to require construction documents and calculations for all fire protection systems and to require permits be issued for the installation, rehabilitation or modification of any fire protection system. Construction documents for fire protection systems shall be submitted for review and approval prior to system installation.

901.2.1 Statement of compliance. Before requesting final approval of the installation, where required by the fire code official, the installing contractor shall furnish a written statement to the fire code official that the subject fire protection system has been installed in accordance with approved plans and has been tested in accordance with the manufacturer's specifications and the appropriate installation standard. Any deviations from the design standards shall be noted and copies of the approvals for such deviations shall be attached to the written statement.

901.3 Permits. Permits shall be required as set forth in Section 105.6 and 105.7.

901.4 Installation. Fire protection systems shall be maintained in accordance with the original installation standards for that system. Required systems shall be extended, altered, or augmented as necessary to maintain and continue protection whenever the building is altered, remodeled or added to. Alterations to fire protection systems shall be done in accordance with applicable standards.

901.4.1 Required fire protection systems. Fire protection systems required by this code or the *International Building Code* shall be installed, repaired, operated, tested and maintained in accordance with this code.

901.4.2 Nonrequired fire protection systems. Any fire protection system or portion thereof not required by this code or the *International Building Code* shall be allowed to be furnished for partial or complete protection provided such installed system meets the requirements of this code and the *International Building Code*.

901.4.3 Additional fire protection systems. In occupancies of a hazardous nature, where special hazards exist in addition to the normal hazards of the occupancy, or where the fire code official determines that access for fire apparatus is unduly difficult, the fire code official shall have the authority to require additional safeguards. Such safeguards include, but shall not be limited to, the following: automatic fire detection systems, fire alarm systems, automatic fire-extinguishing systems, standpipe systems, or portable or fixed extinguishers. Fire protection equipment required

under this section shall be installed in accordance with this code and the applicable referenced standards.

901.4.4 Appearance of equipment. Any device that has the physical appearance of life safety or fire protection equipment but that does not perform that life safety or fire protection function, shall be prohibited.

901.5 Installation acceptance testing. Fire detection and alarm systems, fire-extinguishing systems, fire hydrant systems, fire standpipe systems, fire pump systems, private fire service mains and all other fire protection systems and appurtenances thereto shall be subject to acceptance tests as contained in the installation standards and as approved by the fire code official. The fire code official shall be notified before any required acceptance testing.

901.5.1 Occupancy. It shall be unlawful to occupy any portion of a building or structure until the required fire detection, alarm and suppression systems have been tested and approved.

901.6 Inspection, testing and maintenance. Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Nonrequired fire protection systems and equipment shall be inspected, tested and maintained or removed.

901.6.1 Standards. Fire protection systems shall be inspected, tested and maintained in accordance with the referenced standards listed in Table 901.6.1.

**TABLE 901.6.1
FIRE PROTECTION SYSTEM MAINTENANCE STANDARDS**

SYSTEM	STANDARD
Portable fire extinguishers	NFPA 10
Carbon dioxide fire-extinguishing system	NFPA 12
Halon 1301 fire-extinguishing systems	NFPA 12A
Dry-chemical extinguishing systems	NFPA 17
Wet-chemical extinguishing systems	NFPA 17A
Water-based fire protection systems	NFPA 25
Fire alarm systems	NFPA 72
Water-mist systems	NFPA 750
Clean-agent extinguishing systems	NFPA 2001

901.6.2 Records. Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of three years and shall be copied to the fire code official upon request.

901.6.2.1 Records information. Initial records shall include the name of the installation contractor, type of components installed, manufacturer of the components, location

and number of components installed per floor. Records shall also include the manufacturers' operation and maintenance instruction manuals. Such records shall be maintained on the premises.

901.7 Systems out of service. Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service.

Where utilized, fire watches shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

901.7.1 Impairment coordinator. The building owner shall assign an impairment coordinator to comply with the requirements of this section. In the absence of a specific designee, the owner shall be considered the impairment coordinator.

901.7.2 Tag required. A tag shall be used to indicate that a system, or portion thereof, has been removed from service.

901.7.3 Placement of tag. The tag shall be posted at each fire department connection, system control valve, fire alarm control unit, fire alarm annunciator and fire command center, indicating which system, or part thereof, has been removed from service. The fire code official shall specify where the tag is to be placed.

901.7.4 Preplanned impairment programs. Preplanned impairments shall be authorized by the impairment coordinator. Before authorization is given, a designated individual shall be responsible for verifying that all of the following procedures have been implemented:

1. The extent and expected duration of the impairment have been determined.
2. The areas or buildings involved have been inspected and the increased risks determined.
3. Recommendations have been submitted to management or building owner/manager.
4. The fire department has been notified.
5. The insurance carrier, the alarm company, building owner/manager, and other authorities having jurisdiction have been notified.
6. The supervisors in the areas to be affected have been notified.
7. A tag impairment system has been implemented.
8. Necessary tools and materials have been assembled on the impairment site.

901.7.5 Emergency impairments. When unplanned impairments occur, appropriate emergency action shall be taken to minimize potential injury and damage. The impairment coordinator shall implement the steps outlined in Section 901.7.4.

901.7.6 Restoring systems to service. When impaired equipment is restored to normal working order, the impairment coordinator shall verify that all of the following procedures have been implemented:

1. Necessary inspections and tests have been conducted to verify that affected systems are operational.
2. Supervisors have been advised that protection is restored.
3. The fire department has been advised that protection is restored.
4. The building owner/manager, insurance carrier, alarm company and other involved parties have been advised that protection is restored.
5. The impairment tag has been removed.

901.8 Removal of or tampering with equipment. It shall be unlawful for any person to remove, tamper with or otherwise disturb any fire hydrant, fire detection and alarm system, fire suppression system, or other fire appliance required by this code except for the purpose of extinguishing fire, training purposes, recharging or making necessary repairs, or when approved by the fire code official.

901.8.1 Removal of or tampering with appurtenances. Locks, gates, doors, barricades, chains, enclosures, signs, tags or seals which have been installed by or at the direction of the fire code official shall not be removed, unlocked, destroyed, tampered with or otherwise vandalized in any manner.

901.9 Recall of fire protection components. Any fire protection system component regulated by this code that is the subject of a voluntary or mandatory recall under federal law shall be replaced with approved, listed components in compliance with the referenced standards of this code. The fire code official shall be notified in writing by the building owner when the recalled component parts have been replaced.

SECTION 902 DEFINITIONS

902.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ALARM NOTIFICATION APPLIANCE. A fire alarm system component such as a bell, horn, speaker, light, or text display that provides audible, tactile, or visible outputs, or any combination thereof.

ALARM SIGNAL. A signal indicating an emergency requiring immediate action, such as a signal indicative of fire.

ALARM VERIFICATION FEATURE. A feature of automatic fire detection and alarm systems to reduce unwanted alarms wherein smoke detectors report alarm conditions for a minimum period of time, or confirm alarm conditions within a given time period, after being automatically reset, in order to be accepted as a valid alarm-initiation signal.

ANNUNCIATOR. A unit containing one or more indicator lamps, alphanumeric displays, or other equivalent means in