



**ANCHORAGE FIRE DEPARTMENT
FIRE PREVENTION
4700 Elmore Anchorage, Alaska 99507
(907) 267-4900**

...

Policy #08-014 PERMITTING REQUIREMENTS FOR FIRE SYSTEMS

References: 2006 INTERNATIONAL FIRE CODE 105.7

This bulletin presents a summary and explanation of the International Fire and Building Codes regarding permit requirements of the IFC

- 105.7.1 Automatic fire-extinguishing systems
- 105.7.4 Fire alarm and detection systems and related equipment
- 105.7.5 Fire pumps and related equipment
- 105.7.12 Standpipe systems

Maintenance to a fire system does not require a permit. Maintenance is a like for like change out of devices.

Fire system modification tracking is the responsibility of the building owner; all modification documentation shall be provided to the service company so they can determine if they are required to get a fire systems permit. Failure to get a permit when required by the below requirements, shall result in a full permit with drawings showing all devices on a fire system.

1. Plan review requirements for fire systems.
 - a. A plan review can be required by the plan reviewer any time a fire system is changed or modified if the plan reviewer determines a special circumstance exists which brings the system changes or modifications into question for compliance with the controlling standard.
 - b. A fire systems permit is required on all new fire systems whether the system is required or not.
 - c. A fire systems permit is required for fire sprinkler and water based systems under the following conditions:
 - i. When there is a relocation of 15 or more or an addition of 6 or more sprinkler heads to a system riser
 - ii. Anytime 4 or more conventional sprinklers and piping are replaced with flexible piping and sprinklers
 - iii. Changes to piping that require seismic bracing
 - iv. Anytime there are changes to areas that are considered the most demanding design density flow area
 - v. Increase of building area and/or an increase to the system design density

- vi. High pile/rack storage sprinkler system modifications
- vii. Any Additions to a in rack sprinkler system or a new in rack sprinkler system
- viii. Any change to a ESFR sprinkler system
- ix. Any changes to a sprinkler system that has a 0.2 gpm/sf or greater density
- x. At the discretion of the fire official considering that there may be sufficient changes to the system and that the minimum design density requirements and/or seismic bracing requirements must be verified
- xi. Pipe schedule systems must be plan reviewed if the changes will affect pipe size anywhere other than on a branch line or any of the above requirements

Note: Sprinkler head addition limitation to a system is cumulative. This means that if 6 sprinklers require a permit or plan review and 5 sprinklers are added one month and 1 sprinkler a month later, it does not negate the need to obtain a permit or plan review. As soon as 6 sprinklers, (cumulative) are modified or added, then a plan review and construction permit shall be required.

- d. A fire system permit with full drawings and hydraulic calculations shall be required for installation of a Backflow Prevention Device under the following conditions.
 - i. New backflow prevention device installed on a water-based fire system that previously did not have a backflow installed
 - ii. New backflow prevention device installed on a water-based fire system that is in addition to the backflow prevention devices that were previously approved for installation
 - iii. Changing a backflow prevention device from a double check to a reduce pressure backflow device
 - iv. New sprinkler installations

- e. A fire system permit is required for fire alarm systems under the following conditions:
 - i. Fire alarm control panel is replaced or upgraded-Full visual upgrade is required per the IFC.
 - a. Provide: battery calculations, verification that sound pressure level measured in dBA are adequate, system components are compatible
 - ii. Any changes to a networked fire alarm system
 - iii. Addition of a Booster Power Supply
 - iv. Additional of 11 or more initiating devices on any fire alarm system. All changes must be documented on the plans with corrected voltage drops, battery calculations, etc.
 - a. Provide: battery calculations, verification that sound pressure level measured in dBA are adequate, system components are

compatible, that circuit capacities are not exceeded with new devices, wiring diagram showing the connection between new and existing systems.

- v. Addition of 6 or more fire alarm indicating devices on any fire alarm system. All changes must be documented on the plans with corrected voltage drops, battery calculations, etc.
 - a. Provide: battery calculations, verification that sound pressure level measured in dBA are adequate, system components are compatible, line voltage calculations for lines with new devices, wiring diagram showing the connection between new and existing systems.
- vi. If a permit is not required, provide a system certification form and a basic as-built plan showing the location of the new devices and which circuit was augmented.

Note: The device addition limitation to a system is cumulative. This means that if 7 devices require a permit or plan review and 6 devices are added one month and 6 devices are added a month later, it does not negate the need to obtain a permit or plan review. As soon as 7 devices (cumulative) are reached then a plan review and construction permit shall be required.

- f. A fire systems permit is required for kitchen hood fire system under the following conditions:
 - i. Addition of 4 or more nozzles flow points to a system not exceeding maximum allowable nozzle flow point for the cylinder.
 - ii. Additional agent cylinders
 - iii. If the system is relocated

Note: The device addition limitation to a system is cumulative; this means that if 4 flow points require a permit or plan review and 3 flow points are added one month and 1 flow point are added a month later, it does no negate the need to obtain a permit or plan review. As soon as 4 flow points (cumulative), are reached, then a plan review and construction permit shall be required.

- g. A fire systems permit is required for special hazard fire systems under the following conditions:
 - i. If there is any addition or deletion to the system
 - ii. If the system is relocated
- h. A fire systems permit is required for fire standpipe systems under the following conditions:
 - i. If there is any addition or modification to the system

- i. A fire systems permit is required for fire pumps under the following conditions:
 - i. If there is any addition to the system
 - ii. Change out of the fire pump
 - iii. Change out of the fire pump controller
 - iv. Modifications to piping arrangements
 - v. Change out or rebuilding of electric motor/diesel engine
 - vi. Changes to electrical service
2. In cases where changes are made to fire systems and a plan review is not required, the following actions will be required by the company/individual making the changes:
 - a. Design must be performed by a person holding a Level C State of Alaska Fire Systems Permit.
 - i. Exception: Sprinkler addition can be documented by a Level B State of Alaska Fire Systems Permit hold if the repairs are done per the pipe schedule parameters set in NFPA 13. Additions must be indicated in requirement (2d) that it was done per pipe schedule and does not exceed the limitations of a pipe schedule system.
 - b. A person holding a Level B or C State of Alaska Fire Systems permit must make the changes.
 - c. The person making the changes shall submit a letter to the permanent building fire system file per 2006 IFC 901.6.2.1 and 907.19, after the changes are made explaining what was changed, a simple diagram on 8 ½ x 11 paper of the changes, a statement verifying that the changes are in compliance with the appropriate standard/code, the permit number of the person who actually made the changes, and the signature of the person who performed the repairs.
 - i. A fire system as built cabinet is highly recommended if there is none. The cabinet shall be located in the following areas: Next to the fire system or maintenance office.
 - d. The person who designed the changes must provide a letter to the Fire Marshal's Office no later than thirty (30) days after the changes are made explaining the following: What was changed; a statement verifying that the changes are in compliance with the appropriate standard/code; the permit number of the person who actually made the changes; and the permit number and signature of the person who performed the design.