



# NATIONAL FIRE PROTECTION ASSOCIATION

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## MEMORANDUM

**TO:** Correlating Committee on Fire Code

**FROM:** Joe Yee, *Committee Administrator*

**DATE:** June 18, 2026

**SUBJECT:** NFPA 1 Proposed Tentative Interim Amendment (TIA) No. 1932

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The Technical Committee on Special Equipment, Processes and Hazardous Materials is being balloted on proposed TIA Log No. 1932, submitted by Robert Davidson of Davidson Code Concepts, LLC. We have received written agreement to the processing of the submitted TIA from Mike Snyder, Dekra Process Safety. A copy of the proposed TIA is attached.

This proposed TIA is being submitted to you for ballot. In accordance with Section 5 of the *Regulations Governing the Development of NFPA Standards*, you are balloted on any **correlation issues** resulting from the proposed TIA. A “disagree” vote is limited to subjects within the purview of the Correlating Committee. Opposition on a strictly technical basis is not sufficient grounds for substantiating a “disagree” vote.

This proposed TIA has been published on the NFPA website for public review and submission of comments in support and/or opposition with a closing date of July 8, 2026. Any comments received will be circulated to the committee. The Standards Council will review and consider final ballot results, and all comments received in determining issuance of this TIA.

The ballot can be accessed through the NFPA online ballot system at the following link: [NFPA Ballot Link](#).

Please complete the ballot on or before **June 29, 2026, by 11:59 pm ET.**

**The return of ballots and attendance at committee meetings are required in accordance with the *Regulations Governing the Development of NFPA Standards*.**

**NFPA 1-Proposed 2027 Edition**

***Fire Code***

**TIA Log No.: 1932**

**Reference:** (NFPA 96 extracts)

**Comment Closing Date: July 8, 2026**

**Submitter:** Robert Davidson, Davidson Code Concepts, LLC

[www.nfpa.org/1](http://www.nfpa.org/1)

*See attached for proposed changes.*

**Substantiation:** NFPA documents are updated to the most current edition to comply with the NFPA Extract Policy. This TIA updates the extracted language and makes other adjustments as necessary for the changes to the updated extract text. For technical substantiation on any changes, see the first and second draft reports for the source document.

**Emergency Nature:** The standard contains an error or an omission that was overlooked during the regular revision process.

The second draft report was not available at the time of the NFPA 1 second draft technical committee meeting. Therefore, to ensure accuracy in extracted material, the updates were done after the second draft report for the source document was posted. By waiting to update the extracts the extracted sections will be more closely aligned to what is in the source document and ensure the most up to date information is contained in NFPA 1.

## 96-24 for NFPA 1 to be updated to 96-27

### Chapter 50 Commercial Cooking

#### 50.1 General.

##### 50.1.1 Application.

##### 50.1.1.1\*

The design, installation, operation, inspection, and maintenance of all public and private commercial cooking equipment and mobile and temporary cooking operations shall comply with this chapter and NFPA 96.

##### A.50.1.1.1

These requirements include, but are not limited to, all manner of cooking equipment, exhaust hoods, grease removal devices, exhaust ductwork, exhaust fans, dampers, fire-extinguishing equipment, and all other auxiliary or ancillary components or systems that are involved in the capture, containment, and control of grease-laden cooking effluent. [96:A.1.1.1]

##### 50.1.1.2

This chapter shall apply to residential cooking equipment used for commercial cooking operations. [96:1.1.2]

##### 50.1.1.3\*

Cooking equipment used in fixed, mobile, or temporary concessions, such as trucks, buses, trailers, pavilions, tents, or any form of roofed enclosure, shall comply with NFPA 96. [96:1.1.3]

##### A.50.1.1.3

The AHJ can exempt temporary facilities, such as a tent, upon evaluation for compliance to the applicable portions of NFPA 96 or this code. [96:A.1.1.3]

Although it might not be practical to enforce all requirements of NFPA 96 in temporary facilities, the AHJ should determine that all necessary provisions that affect the personal safety of the occupants are considered. [96:A.1.1.3]

##### 50.1.1.4

This chapter shall not apply to cooking equipment located in a single dwelling unit. [96:1.1.4]

##### 50.1.1.5\*

This chapter shall not apply to facilities where all of the following are met:

- (1) Only residential equipment is used.
- (2) Fire extinguishers are located in all kitchen areas in accordance with Section 13.6.
- (3) The facility is not an assembly occupancy.
- (4) The AHJ has approved the installation.

[96:1.1.5]

##### A.50.1.1.5

This judgment should take into account the type of cooking being performed, the items being cooked, and the frequency of cooking operations. Examples of operations that might not require compliance with Chapter 50 include the following:

- (1) Day care centers warming bottles and lunches
- (2) Therapy cooking facilities in health care occupancies
- (3) Churches and meeting operations that are not cooking meals that produce grease-laden vapors
- (4) Employee break rooms where food is warmed

[96:A.1.1.5]

In non-assembly occupancies where residential equipment is utilized, the AHJ may consider requiring protection of the cooking surface with a listed residential range top extinguishing unit as an alternative to no protection or requiring full protection in accordance with this code.

[96:A.1.1.5]

## **50.2 General Requirements for Cooking Operations in Buildings and Mobile and Temporary Cooking Operations.**

### **50.2.1 General.**

#### **50.2.1.1**

Cooking equipment used in processes producing smoke or grease-laden vapors shall be equipped with an exhaust system that complies with all the equipment and performance requirements of this chapter. [96:4.1.1]

##### **50.2.1.1.1\***

Cooking equipment that has been listed in accordance with UL 197 [and the reduced grease emissions test of UL 710B or an equivalent standard for reduced emissions](#) shall not be required to ~~be provided with~~[have](#) an exhaust system. [96:4.1.1.1]

##### **A.50.2.1.1.1**

As referenced in UL 197, some products evaluated using the emission test procedure EPA 202, as described in UL 710B, are listed in the UL directory under the category KNLZ, Commercial, with Integral Systems for Limiting the Emission of Grease-laden Air. [96:A.4.1.1.1]

#### **50.2.1.1.2**

The listing evaluation of cooking equipment covered by 50.2.1.1.1 shall demonstrate that the grease discharge at the exhaust duct of a test hood placed over the appliance shall not exceed 0.00018 oz/ft<sup>3</sup> (5 mg/m<sup>3</sup>) when operated with a total airflow of 500 cfm (0.236 m<sup>3</sup>/sec). [96:4.1.1.2]

##### **50.2.1.1.3**

[Recirculating systems listed in accordance with UL 710B shall not be required to be provided with an exhaust system.](#) [96:4.1.1.3]

#### **50.2.1.2**

All such equipment and its performance shall be maintained in accordance with the requirements of this chapter during all periods of operation of the cooking equipment. [96:4.1.2]

##### **50.2.1.3**

The following equipment shall be kept in working condition:

- (1) Cooking equipment
- (2) Hoods
- (3) Ducts
- (4) Fans
- (5) Fire-extinguishing equipment
- (6) Special effluent or energy control equipment

[96:4.1.3]

##### **50.2.1.3.1**

Maintenance and repairs shall be performed on all components at intervals necessary to maintain good working condition. [96:4.1.3.1]

##### **50.2.1.4**

All airflows shall be maintained. [96:4.1.4]

##### **50.2.1.5 Responsibility.**

###### **50.2.1.5.1\***

The responsibility for inspection, testing, maintenance, and cleanliness of the ventilation control~~\_, and~~ fire protection, and cooking appliances of the commercial cooking operations~~;~~ shall be that of the equipment owner. [96:4.1.5.1]

###### **A.50.2.1.5.1**

Inspection of exhaust systems for compliance with the design, fabrication, and installation requirements of this standard, including the hood, duct, fan, auxiliary equipment, and clearance to combustible construction, should be performed by properly trained and qualified persons familiar with the commercial kitchen exhaust system design and installation requirements of this standard and acceptable to the [authority having jurisdiction \(AHJ\)](#). Inspection of existing installations should occur when changes in ownership, tenants, or cookline arrangements occur. [96:A.4.1.5.1]

###### **50.2.1.5.2\***

Where the equipment owner is not the commercial cooking operator, the equipment owner shall be permitted to delegate the authority and responsibility for inspection, testing, maintenance, and cleanliness of the ventilation control, fire protection, and cooking appliances to the commercial cooking operator, management firm, or managing individual through specific provisions in the lease, written use agreement, or management contract. [96:4.1.5.250:2.1.5.2]

#### **A.50.2.1.5.2**

Entities with limited access to the equipment, such as the exhaust system cleaner and fire extinguishing system contractor, do not assume this responsibility. [96:A.4.1.5.2]

#### **50.2.1.6\***

All solid-fuel cooking equipment shall comply with the requirements of Chapter 15 of NFPA 96. [96:4.1.6]

##### **A.50.2.1.6**

When solid fuel is burned in cooking operations, increased quantities of carbon, creosote, and grease-laden vapors are produced that rapidly contaminate surfaces, produce airborne sparks and embers, and are subject to significant flare-ups. Also, solid-fuel cooking requires fuel storage and handling and produces ash that requires disposal. For these reasons, solid-fuel cooking operations are required to comply with Chapter 15 of NFPA 96. [96:A.4.1.6]

#### **50.2.1.76**

Multitenant applications shall require the concerted cooperation of design, installation, operation, and maintenance responsibilities by tenants and by the building owner. [96:4.1.7]

##### **50.2.1.7.1**

The requirement of 50.2.1.7 shall not apply to mobile and temporary cooking operations. [96:4.1.7.1]

##### **50.2.1.87**

All interior surfaces of the exhaust system shall be accessible for cleaning and inspection purposes. [96:4.1.8]

##### **50.2.1.9**

Where a fire resistance rating is required in this standard, it shall be determined in accordance with ASTM E119 or UL 263. [96:4.1.9]

#### **50.2.2 Clearance.**

##### **50.2.2.1\***

Where enclosures are not required, hoods, grease removal devices, exhaust fans, and ducts shall have a clearance of at least 18 in. (457 mm) to combustible material, 3 in. (76 mm) to limited-combustible material, and 0 in. (0 mm) to noncombustible material. [96:4.2.1]

##### **A.50.2.2.1**

The measurement of clearance to combustible or limited-combustible material is intended to be measured from the closest point of the exhaust system component to that material. Example: The clearance where ceramic tile is installed over gypsum board that extends behind the hood should be measured from the hood to the gypsum board. Placing a noncombustible material over a combustible or limited-combustible material does not permit a zero clearance installation. [96:A.4.2.1]

##### **50.2.2.2**

Where a hood, duct, or grease removal device is listed for clearances less than those required in 50.2.2.1, the listing requirements shall be permitted. [96:4.2.2]

#### **50.2.3 Drawings.**

##### **50.2.3.1**

Where inspections are required, notice shall be given to the AHJ on completion of the installation, or as otherwise directed. [96:4.6.3]

##### **50.2.3.2**

For cooking operations in buildings, a drawing(s) of the exhaust system installation along with copies of operating instructions for subassemblies and components used in the exhaust system, including electrical schematics, shall be kept on the premises and made available on request to the AHJ and maintenance persons. [96:4.6.4]

##### **50.2.3.3**

For mobile and temporary cooking operations, drawing(s) of the exhaust system installation along with copies of operating instructions for subassemblies and components used in the exhaust system, including electrical schematics, shall be kept in the mobile and temporary cooking operation unit and made available on request to the AHJ and maintenance persons. [96:4.6.5]

#### **50.2.4 AHJ Notification.**

If required by the AHJ, notification in writing shall be given of any alteration, replacement, or relocation of any exhaust or extinguishing system or part thereof or cooking equipment. [96:4.7]

#### **50.3 Protection of Coverings and Enclosure Materials.**

##### **50.3.1**

Measures shall be taken to prevent physical damage to any covering or enclosure material. [96:7.7.3.1]

##### **50.3.2**

Any damage to the covering or enclosure shall be repaired, and the covering or enclosure shall be restored to meet its intended listing and fire resistance rating and to be acceptable to the AHJ. [96:7.7.3.2]

#### **50.3.3**

In the event of a fire within a kitchen exhaust system, the duct, the enclosure, and the covering directly applied to the duct shall be inspected by qualified personnel to determine whether the duct, the enclosure, and the covering directly applied to the duct are structurally sound, capable of maintaining their fire protection functions, suitable for continued operation, and acceptable to the AHJ. [96:7.7.3.3]

#### **50.3.4**

Listed grease ducts shall be installed in accordance with the terms of the listing and the manufacturer's instructions. [96:7.7.3.4]

### **50.4 Fire-Extinguishing Equipment for Cooking Operations in Buildings.**

#### **50.4.3 General Requirements.**

##### **50.4.3.1**

Fire-extinguishing equipment for the protection of grease removal devices, hood exhaust plenums, and exhaust duct systems shall be provided. [96:10.1.1]

##### **50.4.3.2\***

Cooking equipment that produces grease-laden vapors and that might be a source of ignition of grease in the hood, grease removal device, or duct shall be protected by fire-extinguishing equipment. [96:10.1.2]

#### **A.50.4.3.2**

Examples of cooking equipment that produce grease-laden vapors include, but are not limited to, deep fat fryers, ranges, griddles, broilers, woks, tilting skillets, and braising pans. [96:A.10.1.2]

##### **50.4.3.3**

Fume incinerators, thermal recovery units, air pollution control devices, or other devices installed in the exhaust duct, shall be protected by an automatic fire-extinguishing system. [96:10.1.3]

#### **50.4.4 Types of Equipment.**

##### **50.4.4.1**

Fire-extinguishing equipment shall include both automatic fire-extinguishing systems as primary protection and portable fire extinguishers as secondary backup. [96:10.2.1]

##### **50.4.4.2\***

A placard shall be conspicuously placed near each Class K extinguisher that states that the fire protection system shall be activated prior to using the fire extinguisher. [96:10.2.2]

#### **A.50.4.4.2**

NFPA 10, Annex A, provides recommendations for placards. [96:A.10.2.2]

##### **50.4.4.2.1**

The language and wording for the placard shall be approved by the AHJ. [96:10.2.2.1]

##### **50.4.4.3\***

Automatic fire-extinguishing systems shall ~~comply be listed in accordance~~ with [ANSI/CAN/UL/ULC 1254 and ANSI/CAN/UL/ULC 300](#) or other equivalent standards and ~~shall be~~ installed in accordance with the requirements of the listing. [96:10.2.3]

#### **A.50.4.4.3**

ANSI/CAN/UL/ULC 300 primarily addresses the method of fire testing for self-contained chemical extinguishing systems commonly referred to as pre-engineered systems. ANSI/CAN/UL/ULC 300 has been identified as a baseline for testing fire-extinguishing systems intended for the protection of commercial cooking-related hazards. Additional equivalent testing standards for other types of fire-extinguishing systems not considered pre-engineered that demonstrate equivalent fire testing severity to the ANSI/CAN/UL/ULC 300 test standard include ANSI/CAN/UL/ULC 199, UL 199B, UL 199E, and UL 710B. [96:A.10.2.3]

##### **50.4.4.3.1\***

In existing dry or wet chemical systems not in compliance with ANSI/CAN/UL/ULC 300, the fire-extinguishing system shall be made to comply with 50.4.4.3 when any of the following occurs:

- (1) The cooking medium is changed from animal oils and fats to vegetable oils.
- (2) The positioning of the cooking equipment is changed.
- (3) Cooking equipment is replaced.

(4) The equipment is no longer supported by the manufacturer.

[96:10.2.3.1]

#### **A.50.4.4.3.1**

A change from rendered animal fat to cooking oil likely will increase autoignition temperatures, and a change to insulated energy-efficient cooking equipment that does not allow ease of cooling likely will result in difficulties sustaining extinguishment with systems not complying with ANSI/CAN/UL/ULC 300, ANSI/CAN/UL/ULC 199, UL 199B, UL 199E, or UL 710B. [96:A.10.2.3.1]

#### **50.4.4.3.2\***

All existing fire-extinguishing systems shall meet the requirements of 50.4.4.3 [96:10.2.3.2]

#### **A.50.4.4.3.2**

The provision became a requirement for all systems effective January 1, 2014. [96:A.10.2.3.2]

#### **50.4.4.4**

Grease removal devices, hood exhaust plenums, exhaust ducts, and cooking equipment that are not addressed in ANSI/CAN/UL/ULC 300 or other equivalent test standards shall be protected with an automatic fire-extinguishing system(s) in accordance with the applicable NFPA standard(s), all local building and fire codes, and the fire-extinguishing system's manufacturer's recommendations and shall be approved by the AHJ. [96:10.2.4]

#### **50.4.4.5**

Automatic fire-extinguishing equipment provided as part of listed recirculating systems shall comply with UL 710B. [96:10.2.5]

#### **50.4.4.6**

Automatic fire-extinguishing systems shall be installed in accordance with the terms of their listing, the manufacturer's instructions, and the following standards where applicable:

- (1) NFPA 12
- (2) NFPA 13
- (3) NFPA 17
- (4) NFPA 17A
- (5) NFPA 750
- (6) NFPA 770

[96:10.2.6]

#### **50.4.4.7 Modifications to Existing Hood Systems.**

##### **50.4.4.7.1**

Any abandoned pipe or conduit from a previous installation shall be removed from within the hood, plenum, and exhaust duct. [96:10.2.7.1]

##### **50.4.4.7.2**

Penetrations and holes resulting from the removal of conduit or piping shall be sealed with listed or equivalent liquidtight sealing devices. [96:10.2.7.2]

##### **50.4.4.7.3**

The addition of obstructions to spray patterns from the cooking appliance nozzle(s) such as baffle plates, shelves, or any modification shall not be permitted. [96:10.2.7.3]

##### **50.4.4.7.4**

Changes or modifications to the hazard area including cooking appliances after installation of the fire-extinguishing systems shall result in re-evaluation of the system design by a properly trained, qualified, and certified person(s). [96:10.2.7.4]

#### **50.4.4.8 Hoods with Water Wash.**

##### **50.4.4.8.1**

Areas requiring protection in accordance with 50.4.3.1 shall be permitted to be protected by a water-wash system that is listed as a fire-extinguishing system in compliance with ANSI/CAN/UL/ULC 300 or other equivalent standards and installed in accordance with the requirements of its listing. [96:10.2.8.1]

##### **50.4.4.8.2**

Each such area not provided with a listed water-wash fire-extinguishing system shall be provided with a fire-extinguishing system listed for the purpose. [96:10.2.8.2]

##### **50.4.4.8.3**

The water supply for water-wash fire-extinguishing systems shall be permitted to be supplied from the domestic water supply when the minimum water pressure and flow are provided in accordance with the terms of the listing. [96:10.2.8.3]

#### **50.4.4.8.4**

The water supply for water-wash fire-extinguishing systems shall be controlled by a listed indicating valve. [96:10.2.8.4]

#### **50.4.4.8.5**

Where a separate fire-extinguishing system is used for protection of cooking equipment only, a water-wash fire-extinguishing system listed for protection of the grease removal device(s), hood exhaust plenum(s), exhaust duct(s), or combination thereof shall be provided with instructions and appropriate means for electrical interface for simultaneous actuation. [96:10.2.8.5]

#### **50.4.4.8.6**

A water-wash system approved to be used for protection of the grease removal device(s), hood exhaust plenum(s), exhaust duct(s), or combination thereof shall include instructions and appropriate electrical interface for simultaneous actuation of the water-wash system from an automatic fire-extinguishing system, where the automatic fire-extinguishing system is used for cooking equipment protection only. [96:10.2.8.6]

#### **50.4.4.8.7**

Where the automatic fire-extinguishing system in accordance with NFPA 17A provides protection for the hood and duct in a hood containing a water-wash system, the water-wash system shall be made inoperable or delayed for a minimum of 60 seconds upon operation of the automatic fire-extinguishing system. [96:10.2.8.7]

#### **50.4.4.8.8**

Grease removal devices, hood exhaust plenums, and exhaust ducts on hoods with water wash shall be permitted to be protected by a sprinkler system with an individual control valve if the design of the hood prevents the water from reaching the cooking appliances. [96:10.2.8.8]

### **50.4.4.9 Water-Based Fire-Extinguishing System.**

#### **50.4.4.9.1**

The water required for listed automatic fire-extinguishing systems shall be permitted to be supplied from the domestic water supply where the minimum water pressure and flow are provided in accordance with the terms of the listing. The water supply shall be controlled by a supervised water supply control valve. [96:10.2.9.1]

#### **50.4.4.9.2**

Where the water supply is from a dedicated fire protection water supply in a building with one or more fire sprinkler systems, separate indicating control valves and drains shall be provided and arranged so that the hood system and sprinkler systems can be controlled individually. [96:10.2.9.2]

#### **50.4.4.10 Water Valve Supervision.**

Valves controlling the water supply to listed water-wash fire-extinguishing systems, automatic fire-extinguishing systems, or both shall be listed indicating type of valve and shall be supervised open by one of the following methods:

- (1) Central station, proprietary, or remote station alarm service
- (2) Local alarm service that will cause the sounding of an audible signal at a constantly attended point
- (3) Locking valves open
- (4) \*Sealing of valves and approved weekly recorded inspection

[96:10.2.10]

#### **A.50.4.4.10(4)**

An approved weekly recorded inspection could consist of a log of entries that would display the date and time of each inspection and the initials of the person(s) conducting the visual inspection. Attaching the log to a clipboard and mounting it near the valve in question serves as a convenient reminder of the need to conduct the inspection. [96:A.10.2.10(4)]

### **50.4.5 Simultaneous Operation.**

#### **50.4.5.1**

Fixed pipe extinguishing systems in a single hazard area (see 3.3.454 of NFPA 96 for the definition of single hazard area) shall be arranged for simultaneous automatic operation upon actuation of any one of the systems. [96:10.3.1]

#### **50.4.5.1.1**

Hoods installed end to end, back to back, or both, or sharing a common ductwork, not exceeding 75 ft (22.9 m) in distance from the farthest hood, and having a grease-producing appliance(s) located under one or more of the hoods, shall be considered a single hazard area requiring simultaneous automatic fire protection in all hoods and ducts. [96:10.3.1.1]

#### **50.4.5.1.1.1**

In hoods that are installed end to end, back to back, or both, and that share a common ductwork, the ductwork beyond 75 ft (22.9 m) from the farthest hood shall be protected by an independent fire-extinguishing system with its own detection system or by a fire-extinguishing system that activates simultaneously with the fire-extinguishing system(s) protecting the hoods. [96:10.3.1.1.1]

#### **50.4.5.1.2**

Hoods installed end to end, back to back, or both that do not share a common exhaust duct and are separated by a wall(s) or other means to ensure that grease-laden vapors exhausted under one hood cannot propagate to the other hoods, the hoods' fire-extinguishing system(s) shall be independent and shall not be required to simultaneously discharge. [96:10.3.1.2]

#### **50.4.5.1.3**

~~Fume incinerators, thermal recovery units, air pollution control devices, or other devices installed in the exhaust duct shall not be required to comply with 50.4.5.1.1. [96:10.3.1.3]~~

#### **50.4.5.2**

Simultaneous operation shall not be required where the one fixed pipe extinguishing system is an automatic sprinkler system. [96:10.3.2]

#### **50.4.5.2.1**

Where an automatic sprinkler system is used in conjunction with a water-based fire-extinguishing system served by the same water supply, hydraulic calculations shall consider both systems operating simultaneously. [96:10.3.2.1]

#### **50.4.5.3**

Simultaneous operation shall be required where a dry or wet chemical system is used to protect common exhaust ductwork by one of the methods specified in NFPA 17 or NFPA 17A. [96:10.3.3]

#### **50.4.6 Fuel and Electric Power Shutoff.**

##### **50.4.6.1**

Upon actuation of any fire-extinguishing system for a cooking operation, all sources of fuel and electric power that produce heat to all equipment protected by the system shall automatically shut off. [96:10.4.1][17A:4.4.4.1]

##### **50.4.6.2**

Steam supplied from an external source shall not be required to automatically shut off. [96:10.4.2]

##### **50.4.6.3**

Gas appliances not requiring protection but located under the same ventilation equipment where protected appliances are located shall also be automatically shut off upon actuation of the extinguishing system. [96:10.4.3][17A:4.4.4.2]

##### **50.4.6.4**

Shutoff devices shall require manual resetting prior to fuel or power being restored. [96:10.4.4]

##### **50.4.6.4.1**

Where an electrical gas valve is used for shutting off gas to appliances, a manually reset relay shall be used to restore electrical power to the gas valve. [96:10.4.4.1]

##### **50.4.6.5**

Solid-fuel cooking operations shall not be required to be shut down. [96:10.4.5]

#### **50.4.7 Manual Actuation.**

##### **50.4.7.1**

All systems shall have both automatic and manual methods of actuation. [96:10.5.1]

##### **50.4.7.1.1\***

At least one manual actuator shall be located in a means of egress or at a location acceptable to the AHJ. [96:10.5.1.1]

##### **A.50.4.7.1.1**

Mounting location is recommended to be a minimum of 10 ft (3 m) and a maximum of 20 ft (6 m) from the protected hood. [96:A.10.5.1.1]

##### **50.4.7.1.2**

The manual actuator shall clearly identify the hazard protected and be provided with instructions for its use. [96:10.5.1.2]

##### **50.4.7.1.3\***

Manual actuators installed in locations where accidental operation could occur shall be provided with a guard where required by the AHJ. [96:10.5.1.3]

##### **A.50.4.7.1.3**

Installing a guard should reduce the likelihood of an unwanted discharge of the fire-extinguishing system. [96:A.10.5.1.3]

##### **50.4.7.2**

An automatic sprinkler system shall not require a method of manual actuation. [96:10.5.2]

#### **50.4.8 System Annunciation.**

#### **50.4.8.1**

Upon actuation of an automatic fire-extinguishing system, an audible alarm or visual indicator shall be provided to show that the system has actuated. [96:10.6.1]

#### **50.4.8.2**

Where a fire alarm ~~signaling~~-system is serving the occupancy where the extinguishing system is located, the actuation of the automatic fire-extinguishing system shall actuate the fire alarm ~~signaling~~-system in accordance with the requirements of NFPA 72. [96:10.6.2]

#### **50.4.9 Special Design and Application.**

##### **50.4.9.1**

Hoods containing automatic fire-extinguishing systems are protected areas; therefore, these hoods shall not be considered obstructions to overhead sprinkler systems and shall not require additional sprinkler coverage underneath. [96:10.7.1]

#### **50.4.10 Review and Certification.**

##### **50.4.10.1**

Where required, complete drawings of the system installation, including the hood(s), exhaust duct(s), and appliances, along with the interface of the fire-extinguishing system detectors, piping, nozzles, fuel and electric power shutoff devices, agent storage container(s), and manual actuation device(s), shall be submitted to the AHJ. [96:10.8.1]

##### **50.4.10.2\* Installation Requirements.**

###### **A.50.4.10.2**

Although training and qualification might be available elsewhere, the manufacturer of the equipment being installed should be considered an appropriate source of training and qualification. [96:A.10.8.2]

##### **50.4.10.2.1**

Installation of systems shall be performed only by persons properly trained and qualified to install the specific system being provided. [96:10.8.2.1]

##### **50.4.10.2.2**

The installer shall provide certification to the AHJ that the installation is in agreement with the terms of the listing and the manufacturer's instructions and/or approved design. [96:10.8.2.2]

#### **50.4.11 Portable Fire Extinguishers.**

##### **50.4.11.1\***

Portable fire extinguishers shall be selected and installed in kitchen cooking areas in accordance with Section 13.6 and shall be specifically listed for such use. [96:10.9.1]

###### **A.50.4.11.1**

The system used to rate extinguishers for Class B fires (flammable liquids in depth) does not take into consideration the special nature of heated grease fires. Cooking-grease fires are a special hazard requiring agents that saponify (make a soap foam layer to seal the top surface of the grease) for this application. [96:A.10.9.1]

##### **50.4.11.2**

Class K fire extinguishers shall be provided for cooking appliance hazards that involve combustible cooking media (vegetable oils and animal oils and fats). [96:10.9.2]

##### **50.4.11.3**

Portable fire extinguishers shall be provided for other hazards in kitchen areas and shall be selected and installed in accordance with Section 13.6. [96:10.9.3]

##### **50.4.11.4**

Carbon dioxide--type extinguishers shall not be permitted. [96:10.9.4]

##### **50.4.11.5**

Portable fire extinguishers shall be inspected, tested, and maintained in accordance with Section 13.6. [96:10.9.5]

#### **50.5 Fire-Extinguishing Equipment for Mobile and Temporary Cooking Operations.**

##### **50.5.1 General Requirements.**

###### **50.5.1.1**

Fire-extinguishing equipment for the protection of grease removal devices, hood exhaust plenums, and exhaust duct systems shall be provided. [96:11.1.1]

###### **50.5.1.2\***

Cooking equipment that produces grease-laden vapors shall be protected by a fire-extinguishing system for the protection of grease removal devices, hood exhaust plenums, and exhaust duct systems. [96:11.1.2]

###### **A.50.5.1.2**

Examples of cooking equipment that produce grease-laden vapors include, but are not limited to, deep fat fryers, ranges, griddles, broilers, woks, tilting skillets, and braising pans. [96:A.11.1.2]

## **50.5.2 Types of Equipment.**

### **50.5.2.1**

Fire-extinguishing equipment shall include automatic fire-extinguishing systems as the primary form of protection and portable fire extinguishers as a secondary form of protection. [96:11.2.1]

### **50.5.2.21\***

A placard shall be conspicuously placed near each Class K extinguisher that states that the fire protection system shall be activated prior to using the fire extinguisher. [96:11.2.21]

### **A.50.5.2.21**

NFPA 10, Annex A, provides recommendations for placards. [96:A.11.2.21]

### **50.5.2.21.1**

The language and wording for the placard shall be approved by the AHJ. [96:11.2.21.1]

### **50.5.2.32\***

Automatic fire-extinguishing systems shall comply with ANSI/CAN/UL/ULC 300 or other equivalent standards and shall be installed in accordance with the terms of their listing and NFPA 17A. [96:11.2.32]

### **A.50.5.2.32**

ANSI/CAN/UL/ULC 300 primarily addresses the method of fire testing for self-contained chemical extinguishing systems commonly referred to as pre-engineered systems. ANSI/CAN/UL/ULC 300 has been identified as a baseline for testing fire-extinguishing systems intended for the protection of commercial cooking-related hazards. Additional equivalent testing standards for other types of fire-extinguishing systems not considered pre-engineered that demonstrate equivalent fire testing severity to the ANSI/CAN/UL/ULC 300 test standard include ANSI/CAN/UL/ULC 199, UL 199B, UL 199E, and UL 710B. [96:A.11.2.32]

## **50.5.2.43 Modifications to Existing Hood Systems.**

### **50.5.2.43.1**

Any abandoned pipe or conduit from a previous installation shall be removed from within the hood, plenum, and exhaust duct. [96:11.2.43.1]

### **50.5.2.43.2**

Penetrations and holes resulting from the removal of conduit or piping shall be sealed with listed or equivalent liquidtight sealing devices. [96:11.2.43.2]

### **50.5.2.43.3**

The addition of obstructions to spray patterns from the cooking appliance nozzle(s) such as baffle plates, shelves, or any modification shall not be permitted. [96:11.2.43.3]

### **50.5.2.43.4**

Changes or modifications to the hazard after installation of the fire-extinguishing systems shall result in re-evaluation of the system design by a properly trained, qualified, and certified person(s). [96:11.2.3.4]

## **50.5.3 Fuel and Electric Power Shutoff.**

### **50.5.3.1**

Upon actuation of any fire-extinguishing system for a cooking operation, all sources of fuel and electric power that produce heat to all equipment protected by the system shall automatically shut off. [96:11.3.117A:4.4.4.1]

### **50.5.3.2**

Gas appliances not requiring protection but located under the same ventilation equipment where protected appliances are located shall also be automatically shut off upon actuation of the extinguishing system. [96:11.3.217A:4.4.4.2]

### **50.5.3.3**

Shutoff devices shall require manual resetting prior to fuel or power being restored. [96:11.3.3]

### **50.5.3.3.1**

Where an electrical gas valve is used for shutting off gas to appliances, a manually reset relay shall be used to restore electrical power to the gas valve. [96:11.3.3.1]

## **50.5.4 Manual Actuation.**

### **50.5.4.1**

All systems shall have both automatic and manual methods of actuation. [96:11.4.1]

### **50.5.4.1.1\***

At least one manual actuation device~~actuator~~ shall be located in a means of egress or at a location acceptable to the AHJ. [96:11.4.1.1]

### **A.50.5.4.1.1**

Mounting location is recommended to be a minimum of 10 ft (3 m) and a maximum of 20 ft (6 m) from the protected hood. [96:A.11.4.1.1]

#### **50.5.4.1.2**

The manual ~~actuation device~~actuator shall clearly identify the hazard protected and be provided with instructions for its use. [96:11.4.1.2]

#### **50.5.4.1.3\***

Manual ~~actuation devices~~actuators installed in locations where accidental operation could occur shall be provided with a guard where required by the AHJ. [96:11.4.1.3]

#### **A.50.5.4.1.3**

Installing a guard should reduce the likelihood of an unwanted discharge of the fire-extinguishing system. [96:A.11.4.1.3]

#### **50.5.4.2**

An automatic sprinkler system shall not require a method of manual actuation. [96:11.4.2]

### **50.5.5 System Annunciation.**

#### **50.5.5.1**

Upon actuation of an automatic fire-extinguishing system, an audible alarm or visual indicator shall be provided to show that the system has actuated. [96:11.5.1]

#### **50.5.5.2**

At least one listed audible and visual notification appliance shall be installed on the exterior surface of the vehicle readily audible and visible to the public. [96:11.5.2]

### **50.5.6 Review and Certification.**

#### **50.5.6.1**

Where required, complete drawings of the system installation, including the hood(s), exhaust duct(s), and appliances, along with the interface of the fire-extinguishing system detectors, piping, nozzles, fuel and electric power shutoff devices, agent storage container(s), and manual actuation device(s), shall be submitted to the AHJ and located within the mobile cooking operation. [96:11.6.1]

#### **50.5.6.2\* Installation Requirements.**

#### **A.50.5.6.2**

Although training and qualification might be available elsewhere, the manufacturer of the equipment being installed should be considered an appropriate source of training and qualification. [96:11.6.2]

#### **50.5.6.2.1**

Installation of systems shall be performed only by persons properly trained and qualified to install the specific system being provided. [96:11.6.2.1]

#### **50.5.6.2.2**

The installer shall provide certification to the AHJ that the installation is in agreement with the terms of the listing and the manufacturer's instructions and/or approved design. [96:11.6.2.2]

### **50.5.7 Portable Fire Extinguishers.**

#### **50.5.7.1\***

Portable fire extinguishers shall be selected and installed in kitchen cooking areas in accordance with Section 13.6 and shall be specifically listed for such use. [96:11.7.1]

#### **A.50.5.7.1**

The system used to rate extinguishers for Class B fires (flammable liquids in depth) does not take into consideration the special nature of heated grease fires. Cooking-grease fires are a special hazard requiring agents that saponify (i.e., make a soap foam layer to seal the top surface of the grease) for this application. [96:A.11.7.1]

#### **50.5.7.2**

Class K fire extinguishers shall be provided for cooking appliance hazards that involve combustible cooking media (vegetable oils and animal oils and fats). [96:11.7.2]

#### **50.5.7.3**

Portable fire extinguishers shall be provided for solid-fuel cooking operations in accordance with 15.7.5 of NFPA 96. [96:11.7.3]

#### **50.5.7.4**

Portable fire extinguishers shall be provided for other hazards in kitchen areas and shall be selected and installed in accordance with Section 13.6. [96:11.7.4]

#### **50.5.7.5**

Where internal combustion engine power sources are provided, at least one portable fire extinguisher [rated](#) 20-B:C shall be provided. [96:11.7.5]

#### **50.5.7.6**

Carbon dioxide-type extinguishers shall not be permitted. [96:11.7.6]

#### **50.5.7.7**

Portable fire extinguishers shall be maintained in accordance with Section 13.6. [96:11.7.7]

### **50.6 Procedures for the Use, Inspection, Testing, and Maintenance of Equipment.**

#### **50.6.1 Operating Procedures.**

##### **50.6.1.1**

Exhaust systems shall be operated whenever cooking equipment is turned on. [96:12.1.1]

##### **50.6.1.2**

Filter-equipped exhaust systems shall not be operated with filters removed. [96:12.1.2]

##### **50.6.1.3**

Openings provided for replacing air exhausted through ventilating equipment shall not be restricted by covers, dampers, or any other means that would reduce the operating efficiency of the exhaust system. [96:12.1.3]

##### **50.6.1.4\***

Instructions shall be provided to new employees on hiring and to all employees annually on the use of portable fire extinguishers and the manual actuation of the fire-extinguishing system. [96:12.1.4]

#### **A.50.6.1.4**

It is important that all kitchen employees be instructed that the fire-extinguishing system is the primary protection and how to respond appropriately to a fire. If the fire cannot be extinguished by shutting off the fuel source to a pan of burning grease and covering the pan, then employees should perform the following:

- (1) Operate the manual actuation device for the fire-extinguishing system to suppress the fire and automatically shut off fuel to the appliances.
- (2) Call the fire department and report the fire.
- (3) Evacuate personnel and guests, as needed.
- (4) Stand by with a Class K fire extinguisher to be used if the fire is not fully extinguished by the fire-extinguishing system.

[96:A.12.1.4]

##### **50.6.1.4.1**

Responsibility for compliance with 50.6.1.4 shall be that of management of the commercial cooking operation. [96:12.1.4.1]

##### **50.6.1.4.2**

Records of compliance with 50.6.1.4 shall be maintained and shall be available to the AHJ. [96:12.1.4.2]

##### **50.6.1.4.3**

Instructions for manually operating the fire-extinguishing system shall be posted conspicuously in the kitchen and shall be reviewed with employees by the management. [96:12.1.4.3]

##### **50.6.1.5**

Listed exhaust hoods shall be operated in accordance with the terms of their listings and the manufacturer's instructions. [96:12.1.5]

##### **50.6.1.6**

Cooking equipment shall not be operated while its fire-extinguishing system or exhaust system is nonoperational or impaired. [96:12.1.6]

##### **50.6.1.6.1**

Where the fire-extinguishing system or exhaust system is nonoperational or impaired, the system shall be tagged as noncompliant, the system owner or the owner's representative shall be notified in writing of the impairment, and, where required, the AHJ shall be notified. [96:12.1.6.1]

##### **50.6.1.7**

Secondary filtration and pollution control equipment shall be operated in accordance with the terms of its listing and the manufacturer's recommendations. [96:12.1.7]

##### **50.6.1.7.1**

The requirement of 50.6.1.7 shall not apply to mobile and temporary cooking operations. [96:12.1.7.1]

##### **50.6.1.8**

Inspection and maintenance of "other equipment" as allowed in 9.3.1 of NFPA 96 shall be conducted by properly trained and qualified persons at a frequency determined by the manufacturer's instructions or the equipment listing. [96:12.1.8]

### **50.6.2 Inspection, Testing, and Maintenance of Fire-Extinguishing Systems.**

#### **50.6.2.1\***

Maintenance of the fire-extinguishing systems and listed exhaust hoods containing a constant or fire-activated water system that is listed to extinguish a fire in the grease removal devices, hood exhaust plenums, and exhaust ducts shall be made by properly trained, qualified, and certified person(s) acceptable to the AHJ at least every 6 months. [96:12.2.1]

#### **A.50.6.2.1**

It is recommended that such training and qualification be performed by the manufacturer of the equipment being inspected and serviced. The various electrical, mechanical, and filtration components of the systems should be inspected and tested as required to ensure that they continue to function according to original design. [96:A.12.2.1]

#### **50.6.2.2\***

All actuation and control components, including remote manual pull stations, mechanical and electrical devices, detectors, and actuators, shall be tested for proper operation during the inspection in accordance with the manufacturer's procedures. [96:12.2.2]

#### **A.50.6.2.2**

It is not intended that actual discharge of agent occur to test all components, but where pressure from the discharging agent or from compressed gas actuators is needed to actuate control components, an alternate means for testing those components should be provided and used. [96:A.12.2.2]

#### **50.6.2.2.1**

Where the fire-extinguishing system is connected to a building fire alarm system, proper functioning of the system shall be verified in accordance with NFPA 72. [96:12.2.2.1]

#### **50.6.2.3**

The specific inspection and maintenance requirements of the extinguishing system standards as well as the applicable installation and maintenance manuals for the listed system and service bulletins shall be followed. [96:12.2.3]

#### **50.6.2.4\***

Fusible links of the metal alloy type and automatic sprinklers of the metal alloy type shall be replaced at least semiannually. [96:12.2.4]

#### **A.50.6.2.4**

The date of manufacture marked on fusible metal alloy sensing elements does not limit when they can be used. These devices have unlimited shelf life. The intent of 50.6.2.4 is to require semiannual replacement of fusible metal alloy sensing elements that have been installed in environments that subject them to contaminant loading, such as grease in restaurant hoods and ducts, that could adversely affect their proper operation. [96:A.12.2.4]

#### **50.6.2.5**

The year of manufacture and the date of installation of the fusible links shall be marked on the system inspection tag. [96:12.2.6]

#### **50.6.2.5.1**

The tag shall be signed or initialed by the installer. [96:12.2.6.1]

#### **50.6.2.5.2**

The fusible links shall be destroyed when removed. [96:12.2.6.2]

#### **50.6.2.6**

Detection devices that are bulb-type automatic sprinklers and fusible links other than the metal alloy type shall be examined and cleaned or replaced annually. [96:12.2.7]

#### **50.6.2.7**

Fixed temperature-sensing elements other than the fusible metal alloy type shall be permitted to remain continuously in service, provided they are inspected and cleaned or replaced if necessary in accordance with the manufacturer's instructions, every 12 months or more frequently to ensure proper operation of the system. [96:12.2.8]

#### **50.6.2.8**

Where required, certificates of inspection and maintenance shall be forwarded to the AHJ. [96:12.2.9]

#### **50.6.2.8.1**

Records, including certificates of inspection and maintenance, shall be permitted to be forwarded to or shared with the AHJ either by hard copy or electronically. [96:12.2.9.1]

#### **50.6.3 Inspection of Fire Dampers.**

#### **50.6.3.1**

The requirements in 50.6.3 shall not apply to mobile and temporary cooking operations. [96:12.3.1]

#### **50.6.3.2**

Actuation components for fire dampers shall be inspected for proper operation in accordance with the manufacturer's listed procedures. [96:12.3.2]

#### **50.6.3.3 Replacement of Fusible Links.**

##### **50.6.3.3.1**

Fusible links on fire damper assemblies shall be replaced at least semiannually or more frequently as necessary. [96:12.3.3.1]

##### **50.6.3.3.2**

Replacement shall be made by a certified person acceptable to the AHJ. [96:12.3.3.2]

#### **50.6.3.4\* Documentation Tag.**

##### **A.50.6.3.4**

See A.50.6.2.4. [96:A.12.3.4]

##### **50.6.3.4.1**

The year of manufacture and the date of installation of the fusible links shall be documented. [96:12.3.4.1]

##### **50.6.3.4.2**

The tag shall be signed or initialed by the installer. [96:12.3.4.2]

#### **50.6.4\* Inspection for Grease Buildup.**

The entire exhaust system shall be inspected for grease buildup by a properly trained, qualified, and certified person(s) acceptable to the AHJ and in accordance with Table 50.6.4. [96:12.4]

**Table 50.6.4 Schedule of Inspection for Grease Buildup**

| Type or Volume of Cooking                          | Inspection Frequency |
|----------------------------------------------------|----------------------|
| Systems serving solid-fuel cooking operations      | Monthly              |
| *Systems serving high-volume cooking operations    | Quarterly            |
| Systems serving moderate-volume cooking operations | Semiannually         |
| †Systems serving low-volume cooking operations     | Annually             |

\*High-volume cooking operations include 24-hour cooking, charbroiling, and wok cooking.

†Low-volume cooking operations include churches, day camps, seasonal businesses, and senior centers.

[96:Table 12.4]

##### **A.50.6.4**

The primary focus of an inspection for cleanliness is to establish whether the volume of grease buildup within the exhaust system warrants cleaning and to determine whether adequate access is available throughout the exhaust system to remove the grease buildup. [96:A.12.4]

ANSI/IKECA I10 provides guidance for inspection of the exhaust system. [96:A.12.4]

##### **50.6.4.1**

A grease depth gauge comb, as shown in Figure 50.6.4.1, shall be placed on the surface to measure grease depth. [96:12.4.1]

#### **Figure 50.6.4.1 Depth Gauge Comb. [96:Figure 12.4.1]**

\*\*\*INSERT FIGURE\*\*\*

##### **50.6.4.2**

Where a measured depth of 0.078 in. (2000 µm) is observed on a surface other than in fan housings, the surfaces shall be cleaned in accordance with 50.6.6.1. [96:12.4.2]

##### **50.6.4.3**

Where a measured depth of 0.125 in. (3175 µm) is observed in a fan housing, the surfaces shall be cleaned in accordance with 50.6.6.1. [96:12.4.3]

#### **50.6.5 Inspection, Testing, and Maintenance of Listed Hoods Containing Mechanical, Water Spray, or Ultraviolet Devices.**

Listed hoods containing mechanical or fire-actuated dampers, internal washing components, or other mechanically operated devices shall be inspected and tested by properly trained, qualified, and certified persons every 6 months or at frequencies recommended by the manufacturer in accordance with their listings. [96:12.5]

#### **50.6.6 Cleaning of Exhaust Systems.**

##### **50.6.6.1\***

If, upon inspection, the exhaust system is found to be contaminated with deposits from grease-laden vapors, the contaminated portions of the exhaust system shall be cleaned by a properly trained, qualified, and certified person(s) acceptable to the AHJ. [96:12.6.1]

##### **A.50.6.6.1**

ANSI/IKECA C10 provides guidance for cleaning the exhaust system. [96:A.12.6.1]

A good operating practice is for cleaning personnel of commercial kitchen exhaust systems to have personal protective equipment (PPE) and height access equipment. The following items should be considered as a minimum:

- (1) Eye protection
- (2) Hand protection
- (3) Head protection
- (4) Foot protection
- (5) Respiratory protection
- (6) Fall protection
- (7) Ladders
- (8) Lock-out/tag-out kit

[\[96:A.12.6.1\]](#)

*Preparation.* The fan should be turned off, locked out, and tagged out. Open flames should be extinguished, and switches/breakers serving the appliance and cooking area outlets should be locked out. If the switches/breakers are not capable of being locked out and tagged out, any solid-fuel cooking appliances should be extinguished and the solid fuel removed. [\[96:A.12.6.1\]](#)

*Removal or Covering of Equipment.* Food products, cookware, and cooking support equipment that can be removed should be removed from the cleaning area. Equipment that cannot be removed should be covered. [\[96:A.12.6.1\]](#)

*Cleaning Methods.* The following methods for cleaning surfaces covered with grease and contaminants have been proved to be effective:

- (1) Manual cleaning by scraping, grinding, or scrubbing
- (2) Chemical cleaning with agents and water
- (3) Pressure washing with pressurized water or pressurized water and agents
- (4) Steam cleaning with pressurized steam

[\[96:A.12.6.1\]](#)

*Waste Water and Solid Waste.* Water and agents used in the cleaning process and solid waste should be collected for disposal. [\[96:A.12.6.1\]](#)

[ANSI/IKECA M10 provides guidance for maintaining the exhaust system. \[96:A.12.6.1\]](#)

#### 50.6.6.1.1

A measurement system of deposition shall be established to trigger a need to clean when the exhaust system is inspected at the frequencies in Table 50.6.4. [\[96:12.6.1.1\]](#)

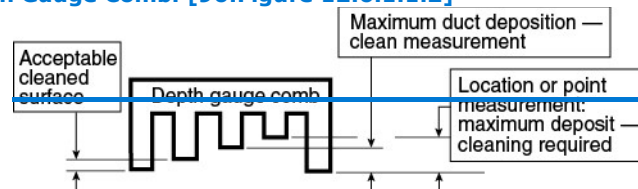
##### 50.6.6.1.1.1

Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to remove combustible contaminants to a maximum of 0.002 in. (50 µm). [\[96:12.6.1.1.1\]](#)

##### 50.6.6.1.1.2

~~A grease depth gauge comb as shown in Figure 50.6.6.1.1.2 shall be placed upon the surface to measure grease depth. [96:12.6.1.1.2]~~

##### **Figure 50.6.6.1.1.2 Depth Gauge Comb. [96:Figure 12.6.1.1.2]**



##### 50.6.6.1.1.3

~~Where a measured depth of 0.078 in. (2000 µm) is observed, the surfaces shall be cleaned in accordance with 50.6.6.1. [96:12.6.1.1.3]~~

##### 50.6.6.1.1.4

~~Where a measured depth of 0.125 in. (3175 µm) is observed in a fan housing, the surfaces shall be cleaned in accordance with 50.6.6.1. [96:12.6.1.1.4]~~

#### **50.6.6.2**

Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to remove combustible contaminants prior to surfaces becoming heavily contaminated with grease or oily sludge. [96:12.6.2]

#### **50.6.6.3**

At the start of the cleaning process, electrical switches that could be activated accidentally shall be locked out. [96:12.6.3]

#### **50.6.6.4**

Components of the ~~fire suppression~~fire-extinguishing system shall not be rendered inoperable during the cleaning process except as permitted by 50.6.6.5. [96:12.6.4]

#### **50.6.6.5**

Fire-extinguishing systems shall be permitted to be rendered inoperable during the cleaning process where serviced by properly trained and qualified persons. [96:12.6.5]

#### **50.6.6.6**

Flammable solvents or other flammable cleaning aids shall not be used. [96:12.6.6]

#### **50.6.6.7**

Cleaning chemicals shall not be applied on fusible links or other detection devices of the automatic extinguishing system. [96:12.6.7]

#### **50.6.6.8**

After the exhaust system is cleaned, it shall not be coated with powder or other substance. [96:12.6.8]

#### **50.6.6.9**

~~When cleaning procedures are completed~~Upon completion of exhaust system inspection or cleaning, all access panels (doors) and cover plates shall be restored to their normal operational condition. [96:12.6.9]

#### **50.6.6.10**

When an access panel is removed and reinstalled, a service company label or tag preprinted with the name of the company and giving the date of inspection or cleaning shall be affixed near the affected access panels. [96:12.6.10]

#### **50.6.6.11**

Dampers and diffusers shall be positioned for proper airflow. [96:12.6.11]

#### **50.6.6.12**

~~When cleaning procedures are completed~~Upon completion of exhaust system inspection or cleaning, all electrical switches and system components shall be returned to an operable state. [96:12.6.12]

#### **50.6.6.13**

After an exhaust system is inspected or cleaned, an adhesive label shall be securely attached to the hood. [96:12.6.13]

#### **50.6.6.13.1**

The label required by 50.6.6.13 shall provide a record of the following information:

- (1) \*Date service was performed indicated by a perforation
- (2) Name of person performing the work
- (3) Name, address, and phone number of service provider

[96:12.6.13.1]

#### **50.6.6.13.2**

The label required by 50.6.6.13 shall remain affixed until the next inspection or cleaning event. [96:12.6.13.2]

#### **50.6.6.14**

After an inspection for grease buildup is complete, a written report shall be provided to the system owner or owner's agent (see 50.2.1.5) within 2 weeks. [96:12.6.14]

#### **50.6.6.14.1**

The report required by 50.6.6.14 shall provide a record of the following information:

- (1) Areas in need of cleaning where grease is found to exceed the limits specified in 50.6.6.1
- (2) Areas that are inaccessible and were not inspected
- (3) Areas that are accessible but were not inspected
- (4) Location(s) of duct access panel(s)
- (5) Location(s) of visible leakage(s) from ductwork
- (6) Location(s) of leaking access panel(s)

[96:12.6.14.1]

#### **50.6.6.15**

After cleaning is complete, a written report shall be provided to the system owner or owner's agent (see 50.2.1.5) within 2 weeks. [96:12.6.15]

#### **50.6.6.15.1**

The report required by 50.6.6.15 shall provide a record of the following information:

- (1) Date cleaning was performed
- (2) Name of person who performed the cleaning
- (3) Name, address, and phone number of service provider

[96:12.6.15.1]

#### **50.6.6.15.2**

The report required by 50.6.6.15 shall detail the following information:

- (1) Areas that are inaccessible and were not cleaned
- (2) Areas that are accessible but were not cleaned
- (3) Location(s) of duct access panel(s)
- (4) Location(s) of visible leakage(s) from ductwork
- (5) Location(s) of leaking access panel(s)

[96:12.6.15.2]

#### **50.6.6.16**

Where required, the reports required by 50.6.6.14 and 50.6.6.15 shall be submitted to the AHJ.

[96:12.6.16]

#### **50.6.6.17**

Metal containers used to collect grease drippings shall be inspected or emptied at least weekly. [96:12.6.17]

#### **50.6.6.17.1**

Metal containers used to collect grease drippings that are missing, broken, distorted, or leaking shall be replaced.

[96:12.6.17.1]

#### **50.6.6.18**

Grease removal devices that are broken, distorted, or missing components shall be replaced. [96:12.6.18]

### **50.6.7 Cooking Equipment Maintenance.**

#### **50.6.7.1**

Inspection and servicing of the cooking equipment shall be made at least annually by properly trained and qualified persons. [96:12.7.1]

#### **50.6.7.2\***

Cooking equipment that collects grease below the surface, behind the equipment, or in cooking equipment flue gas exhaust, such as griddles, deep-fat fryers, or charbroilers, shall be inspected and, if found with grease accumulation, cleaned by a properly trained, qualified, and certified person(s) acceptable to the AHJ. [96:12.7.2]

#### **A.50.6.7.2**

Once the agent has fully discharged and if the fire has not been extinguished, the fire can continue to burn and spread. This can occur if the fire starts in or before system discharge and spreads to an area outside the protected area. Examples of areas outside the zone of protection include the flue of a gas-fired fryer, the area below the cooking surface of a griddle, inside the grease drip collectors, and any area behind or below an appliance. To minimize the probability of a fire spreading out of control, it is important that these areas outside the zone of protection be kept clean of grease and other combustible cooking residues. [96:A.12.7.2]

### **50.7 Minimum Safety Requirements for Cooking Equipment.**

#### **50.7.1 Cooking Equipment.**

#### **50.7.1.1\***

Cooking equipment shall be approved based on one of the following criteria:

- (1) Listings by a testing laboratory
- (2) Test data acceptable to the AHJ

[96:13.1.1]

#### **A.50.7.1.1**

Cooking appliances that are designed for permanent installation, including, but not limited to, ranges, ovens, stoves, broilers, grills, fryers, griddles, and barbecues, should be installed in accordance with the manufacturer's installation instructions, as well as the following:-

- (1) Commercial electric cooking appliances should be listed and labeled in accordance with UL 197.
- (2) Microwave cooking appliances should be listed and labeled in accordance with UL 923.
- (3) Oil-burning stoves should be listed and labeled in accordance with UL 896.
- (4) Wood-fired cooking appliances should be listed and labeled in accordance with ~~UL 737 or~~ UL 2162, depending on the exact appliance type.
- (5) Gas-fired cooking appliances should be listed and labeled in accordance with ANSI Z83.11.
- (6) Gas-wood-fired cooking appliances should be listed and labeled in accordance with ANSI Z83.11, ~~UL 737,~~ and/or UL 2162, depending on the exact appliance type.

[96:A.13.1.1]

#### **50.7.1.2 Installation.**

##### **50.7.1.2.1\***

All listed appliances shall be installed in accordance with the terms of their listings and the manufacturer's instructions. [96:13.1.2.1]

##### **A.50.7.1.2.1**

Gas-fueled appliances should be installed to the requirements of NFPA 54 or NFPA 58. Electric appliances should be installed to the requirements of NFPA 70. Solid-fuel-fired appliances should be installed to the requirements of NFPA 211. [96:A.13.1.2.1]

##### **50.7.1.2.1.1**

~~Solid~~-fuel used for flavoring within a gas-operated appliance shall be in a solid fuel holder (smoker box) that is listed with the equipment. [96:13.1.2.1.1]

##### **50.7.1.2.2\***

Cooking appliances requiring protection shall not be moved, modified, or rearranged without prior re-evaluation of the fire-extinguishing system by the system installer or servicing agent, unless otherwise allowed by the design of the fire-extinguishing system. [96:13.1.2.2]

##### **A.50.7.1.2.2**

The effectiveness of an automatic extinguishing system is affected by the placement of the nozzles. For this reason, it is essential that cooking appliances be situated in the area in which they were when the extinguishing equipment was designed and installed. If an appliance is moved from under the equipment for cleaning or any other reason, it should be returned to its original position prior to initiation of a cooking operation. [96:A.13.1.2.2]

When appliances are on wheels or casters for ease of cleaning, it is important that the appliance be placed in its design position to ensure that the fire-extinguishing system will be effective. An approved method should ensure that the appliance is returned to its appropriate position before cooking takes place. Channels, markings, or other approved methods assist in ensuring proper placement. [96:A.13.1.2.2]

##### **50.7.1.2.2.1**

A ~~solid~~-fuel holder shall not be added to an existing appliance until the fire-extinguishing system has been evaluated by the fire-extinguishing system service provider. [96:13.1.2.2.1]

##### **50.7.1.2.3**

The fire-extinguishing system shall not require re-evaluation where the cooking appliances are moved for the purposes of maintenance and cleaning, provided the appliances are returned to approved design location prior to cooking operations, and any disconnected fire-extinguishing system nozzles attached to the appliances are reconnected in accordance with the manufacturer's listed design manual. [96:13.1.2.3]

##### **50.7.1.2.3.1\***

An approved method shall be provided that will ensure that the appliance is returned to an approved design location. [96:13.1.2.3.1]

##### **A.50.7.1.2.3.1**

Wheel chocks that can be fastened to the floor should be installed to ensure that an appliance with casters is returned to its approved design location. [96:A.13.1.2.3.1]

#### **50.7.1.2.4**

All deep-fat fryers shall be installed with at least a 16 in. (406 mm) space between the fryer and surface flames from adjacent cooking equipment. [96:13.1.2.4]

#### **50.7.1.2.5**

Where a steel or tempered glass baffle plate is installed at a minimum 8 in. (203 mm) in height between the fryer and surface flames of the adjacent appliance, the requirement for a 16 in. (406 mm) space shall not apply.

[96:13.1.2.5]

#### **50.7.1.2.5.1**

If the fryer and the surface flames are at different horizontal planes, the minimum height of 8 in. (203 mm) shall be measured from the higher of the two. [96:13.1.2.5.1]

#### **50.7.2 Operating Controls.**

Deep-fat fryers shall be equipped with a separate high-limit control in addition to the adjustable operating control (thermostat) to shut off fuel or energy when the fat temperature reaches 475°F (246°C) at 1 in. (25.4 mm) below the surface. [96:13.2]

#### **50.7.3 Commercial Kitchen Cooking Oil Storage Tank Systems.**

~~Commercial kitchen cooking oil storage tank systems shall comply with 66.19.7.~~

### **50.8 Mobile and Temporary Cooking Operations.**

#### **50.8.1 General.**

##### **50.8.1.3**

Cooking equipment that is powered on during transit shall be listed as installed for such use. [96:17.1.2]

#### **50.8.2 Location of Mobile and Temporary Cooking Operations.**

##### **50.8.2.1\* Relative to Buildings.**

Mobile or temporary cooking operations shall be separated from the entrances and other exits of buildings or structures, combustible materials, vehicles, and other cooking operations by a clear space distance of 10 ft (3 m) or as prescribed by the AHJ. [96:17.2.1]

#### **A.50.8.2.1**

Although 10 ft (3 m) clearance is considered reasonable to accommodate most fire departments, the AHJ should be allowed to determine if local fire service operations can accommodate vehicles parked closer than 10 ft (3 m). [96:A.17.2.1]

##### **50.8.2.2 Relative to Other Mobile or Temporary Cooking.**

Mobile or temporary cooking operations shall be separated from other mobile or temporary cooking operations by a clear distance of 10 ft (3 m). [96:17.2.2]

##### **50.8.2.3**

When the mobile unit is parked, the vehicle shall be stabilized so that it will not move, either by jacking the vehicle or placing wheel chocks around the wheels. [96:17.2.3]

#### **50.8.3 Tents.**

##### **50.8.3.1**

Temporary cooking operations conducted in tents shall comply with NFPA 102 and Chapter 25. [96:17.3.1]

#### **50.8.4 Appliance Installation on Vehicles.**

##### **50.8.4.1**

Cooking equipment shall be approved based on one of the following criteria:

- (1) Listings by a testing laboratory
- (2) Test data acceptable to the ~~AHJ~~authority having jurisdiction

[96:17.4.1]

##### **50.8.4.1.1**

Cooking equipment shall be installed in accordance with the manufacturer's instructions. [96:17.4.1.1]

##### **50.8.4.2**

Space and water heating appliances shall be listed and installed in accordance with the manufacturer's instructions. [96:17.4.2]

##### **50.8.4.3**

Any appliance originally manufactured for operation with a gaseous fuel other than LP-Gas shall not be used with LP-Gas unless it is converted for use in accordance with the manufacturer's instructions. [96:17.4.3]

##### **50.8.4.4**

Catalytic heating appliances shall be equipped with an approved automatic device to shut off the flow of gas in the event of combustion failure. [96:17.4.4]

##### **50.8.4.5**

Gas-fired appliances shall be provided with combustion air, flue outlets, and cooking exhaust systems in accordance with the manufacturer's instructions. [96:17.4.5]

#### **50.8.5 LP-Gas Cooking Appliances.**

##### **50.8.5.1**

Gas-fired cooking appliances shall be equipped with shutoffs in accordance with 5.23.8(A) of NFPA 58. [96:17.5.1]

##### **50.8.5.2**

Cooking appliances installed on vehicles shall be readily accessible under all conditions. [96:17.5.2]

##### **50.8.5.3**

To minimize possible damage and impaired operation due to items shifting in transit, cooking appliances shall be constructed and secured in place or otherwise protected. [96:17.5.3]

##### **50.8.5.4**

~~Appliances shall be located such that a fire at any appliance will not block egress of persons from the vehicle. [96:17.5.4]~~

##### **50.8.5.5**

A permanent caution plate shall be installed in a location visible to operational personnel. [96:17.5.5]

##### **50.8.5.6**

~~The caution plate shall be in accordance with Figure 50.8.5.6 and comply with the following specifications:~~

- ~~(1) The triangle shall be black with a yellow Pantone 109 C exclamation mark.~~
- ~~(2) The word "CAUTION" shall be in black font on a yellow Pantone 109 C background.~~
- ~~(3) The fire symbol shall be black within a red Pantone 186 C diamond shape.~~
- ~~(4) All other text shall be in black Arial font.~~

~~[96:17.5.6]~~

~~Figure 50.8.5.6 Appliance Caution Plate. [96:Figure 17.5.6]~~



##### **50.8.5.7**

Gas-fired cooking appliances shall be equipped with automatic devices designed to shut off the flow of gas to the main burner and the pilot in the event the pilot flame is extinguished. [96:17.5.7]

#### **50.8.6 Internal Combustion Engine Power Sources.**

##### **50.8.6.3**

An internal combustion engine shall be permitted to be used to operate an electric power generator. [96:17.6.1]

##### **50.8.6.4**

Generator units that are not vehicle-mounted while in use shall meet the ~~requirement~~requirements of 50.8.6.4.1 through 50.8.6.4.3. [96:17.6.2]

##### **50.8.6.4.1**

Internal combustion engine power sources shall be located at least 12 ft (4 m) from mobile or temporary cooking operations. [96:17.6.2.1]

##### **50.8.6.4.2**

Internal combustion engine power sources shall be isolated from physical contact by the installation of physical guards, fencing, or an enclosure. [96:17.6.2.2]

##### **50.8.6.4.3**

Internal combustion engine power sources shall be positioned so that the exhaust complies with the following:

- (1) Located at least 12 ft (4 m) from openings, air intakes, and means of egress
- (2) In a position pointed away from any building
- (3) In a position pointed away from any mobile or temporary cooking operations

[96:17.6.2.3]

#### **50.8.7 Vehicle-Mounted Generators.**

##### **50.8.7.1**

Vehicle-mounted generators shall meet the requirements of 50.8.7.2 through 50.8.7.5. [96:17.7.1]

##### **50.8.7.2**

Internal combustion engine-driven generator units (subject to the provisions of NFPA 1192) shall be listed and installed in accordance with the manufacturer's instructions and shall be vapor resistant to the interior of the vehicle. ~~[96:17.7.2]~~

#### **50.8.7.3**

Where a generator compartment is used to isolate the installed generator from the vehicle's interior, or a compartment is provided for the future installation of a generator and is intended to isolate the future generator from the vehicle interior, the generator compartment shall be lined with galvanized steel not less than 26 MSG thick. ~~[96:17.7.3]~~

#### **50.8.7.3.1**

Seams and joints shall be lapped, mechanically secured, and made vapor resistant to the interior of the vehicle. ~~[96:17.7.3.1]~~

#### **50.8.7.3.2**

Alternative materials and methods of construction shall be permitted in accordance with Section 1.4. ~~[96:17.7.3.2]~~

#### **50.8.7.4**

Liquid fuel lines and exhaust systems shall not penetrate into the living area. ~~[96:17.7.4]~~

#### **50.8.7.5**

Holes into the living area shall be sealed. ~~[96:17.7.5]~~

### **50.8.8 LP-Gas Systems.**

#### **50.8.8.1**

LP-Gas systems for mobile cooking operations shall comply with NFPA 58 and NFPA 96. ~~[96:17.8.1]~~

#### **50.8.8.1.1**

LP-Gas cylinders shall be secured so that the relief valve is in communication with the vapor space of the cylinder. ~~[96:17.8.1.1]~~

#### **50.8.8.2 LP-Gas System Leak Detection.**

#### **50.8.8.2.1**

All mobile and temporary cooking operations equipped with a propane appliance and an electrical system shall be equipped with a propane detector listed and marked on the device as being suitable for use in the vehicles under the requirements of UL 1484, and installed according to the terms of its listing. ~~[96:17.8.2.1]~~

#### **50.8.8.2.2**

The LP-Gas leak detection system shall be tested monthly. ~~[96:17.8.2.2]~~

#### **50.8.8.2.3\***

LP-Gas systems shall be visually inspected daily for damage and proper operation prior to each use. ~~[96:17.8.2.3]~~

#### **A.50.8.8.2.3**

The phrase "each use" is intended to mean that a visual inspection is needed each day, prior to the cooking appliances being used. Visually inspecting for a leak can be done using a soapy solution and looking for bubbles. ~~[96:A.17.8.2.3]~~

#### **50.8.8.2.4**

Where problems are detected, the system shall not be used until immediate corrective action is taken. ~~[96:17.8.2.4]~~

#### **50.8.8.3 LP-Gas Systems on Vehicles (Other Than Engine Fuel Systems).**

#### **50.8.8.3.1 LP-Gas Container Installation Requirements.**

#### **50.8.8.3.1.1**

LP-Gas containers installed on vehicles shall not exceed 200 gal (0.8 m<sup>3</sup>) aggregate water capacity. ~~[96:17.8.4.1.3]~~

#### **50.8.8.3.2**

Disconnected LP-Gas containers and LP-Gas cylinders for purposes other than engine fuel systems shall not be transported or stored inside the vehicle. ~~[96:17.8.4.2]~~

#### **50.8.8.3.3**

All other LP-Gas containers and LP-Gas cylinders shall comply with 17.8.4.7 of NFPA 96 and Chapter 69. ~~[96:17.8.4.3]~~

#### **50.8.8.3.4**

~~Where equipment such as a cargo heater or cooler is designed to be in operation while the vehicle is in transit, means such as an excess flow valve to stop the flow of gas in the event of a line break shall be installed. [96:17.7.3.6]~~

#### **50.8.8.3.5**

~~Cylinders shall be retested every 5 to 12 years in accordance with the manufacturer's recommendations and 49 CFR 180.205:~~

~~(1) No letter after the requalification date means the cylinder must be retested within 12 years.~~

~~(2) "S" means the cylinder must be retested within 7 years.~~

~~(3) "E" means the cylinder must be retested within 5 years.~~

~~[96:17.7.3.7]~~

## **50.8.9 Electrical Wiring.**

### **50.8.9.1**

Vehicle-mounted generators shall comply with the provisions of *NFPA 70*, Article 551, Part III. [96:17.9.1]

### **50.8.9.2**

The manufacturer of an engine generator unit intended for installation in a recreational vehicle shall provide instructions for the safe and effective installation, operation, and servicing of the generator. [96:17.9.2]

### **50.8.9.3**

Refueling of internal combustion engine power sources shall be permitted only when the electric generators and internal combustion power sources are not in use. [96:17.9.3]

#### **50.8.9.3.1**

Refueling of internal combustion engines shall not be allowed during mobile or temporary cooking operations. [96:17.9.3.1]

#### **50.8.9.3.2**

Refueling of internal combustion engine power sources from a container shall be permitted when the engine is shut down and the surface temperature of the engine and fuel tank is below the autoignition temperature of the fuel. [96:17.9.3.2]

## **50.8.10 Carbon Monoxide Detectors.**

### **50.8.10.1\***

If the heat source is nonelectric and open flames are used, at least one listed carbon monoxide [alarm or](#) detector shall be installed [in the kitchen area](#). [96:17.10.1]

#### **A.50.8.10.1**

Listing requirements for carbon monoxide alarms are contained in UL 2034, *Single or Multiple Station Carbon Monoxide Alarms*, and listing requirements for carbon monoxide detectors are contained in UL 2075, *Gas and Vapor Detectors and Sensors*. Installations should be in accordance with the product's installation instructions and NFPA 72. Due to the nature of the mobile and temporary cooking operations, at a minimum, a battery-powered CO alarm should be considered. [96:A.17.10.1]

## **50.8.11 Training.**

### **50.8.11.1**

Prior to performing cooking operations, one worker shall be provided with initial training in emergency response procedures including the following:

- (1) Using portable fire extinguishers and extinguishing systems
- (2) Shutting off fuel sources
- (3) Notifying the local fire department
- (4) Refueling internal combustion engine power sources and LP-Gas container change-out
- (5) Performing leak detection of LP-Gas
- (6) Understanding fuel properties

[96:17.11.1]

### **50.8.11.2**

During the time of cooking operation at least one person in the vehicle shall be trained to provide the functions listed in 50.8.11.1. [96:17.11.2]

### **50.8.11.3**

The provision of training shall be the responsibility of the owner, and the training program and materials shall be acceptable to the AHJ. [96:17.11.3]

### **50.8.11.4**

Refresher training shall be provided annually. [96:17.11.4]

### **50.8.11.5**

Initial and refresher training shall be documented, and the documentation shall be held in the mobile unit and made available to the AHJ upon request. [96:17.11.5]

### **50.8.11.6\***

The address of the current operational location shall be posted and accessible to all employees. [96:17.11.6]

#### **A.50.8.11.6**

The address required to be posted in 50.8.11.6 is so that anyone helping with the operation of the mobile or temporary cooking operation can quickly and correctly share their location with the 911 operator or emergency responders if assistance is needed. A suggested method for a vehicle with a regular route would be to create a flip chart with the regularly visited locations on durable pages that can be fastened in a prominent location. [96:A.17.11.6]

## **50.8.12 Parking, Servicing, and Repair.**

**50.8.12.1**

Wheel chocks shall be provided to prevent mobile and temporary cooking units from moving. [96:17.12.7]