

FIXED FIRE SUPPRESSION AND EXHAUST SYSTEMS – COOKING AND CLEANING

PURPOSE

This interpretation is to clarify the Alberta Building Code 2014 (ABC 2014) and Alberta Fire Code 2014 (AFC 2014) requirements for fixed fire suppression and exhaust systems in non-residential cooking establishments. This interpretation also clarifies the training requirements for kitchen exhaust cleaning personnel within the Province of Alberta.

DISCUSSION

Owners, designers and safety codes officers (SCO) have asked Municipal Affairs for guidance regarding fire suppression and exhaust systems for non-residential cooking installations and cleaning. The following responses are intended to address the most commonly raised questions respecting the appropriate application of the ABC 2014 and AFC 2014.

APPLICATION

When is a kitchen exhaust system required for commercial equipment?

As noted in ABC 2014 Sentence 3.3.1.2.(2), cooking equipment used in processes producing grease-laden vapours shall be designed and installed in conformance with Part 6.

Any food preparation that creates grease laden vapours, odours, smoke, steam or heat in any facility for the cooking of food, other than in an individual residential dwelling unit for the use by the occupants, will require a ventilation system for that facility where the potential for the production of smoke and grease-laden vapours exceeds that expected from normal residential family use.

Where grease laden vapours or smoke are generated outside an enclosed appliance, then the exhaust system must meet the requirements of the ABC 2014 and NFPA 96-2011. This will include a hood meeting the requirements of the referenced standards and welded seamless ductwork and all required labelled access panels. (A listing of appliances/processes automatically deemed to create grease laden vapours is provided in this document). In addition, these systems will require a fire suppression system which complies to the requirements of the ABC 2014, AFC 2014 and the referenced document NFPA 17A-2009.

Where the process or facility for the cooking of food does not create grease laden vapours or smoke but does create odours, steam or heat, the facility will require a hood and ventilation system for that facility which meets the requirements of Sentences 6.2.2.7.(4) to (7) of the ABC 2014.

Issue of this STANDATA is authorized by
the Provincial Fire & Building Administrators

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Does a commercial kitchen exhaust system always require a fixed fire suppression system?

The deciding factor as to whether or not a fire suppression system is required is the potential for the production of smoke and grease-laden vapours to exceed normal residential family use. As noted above there are many appliances that automatically require a NFPA 96-2011 compliant hood with a wet chemical fixed suppression system to protect all of the appliances.

In addition, where a fire suppression system is installed, a K Class extinguisher is required to be installed within 9.15 m of the appliances. NFPA 96–2011, 10.10.2. Portable Fire Extinguishers shall use agents that saponify upon contact with hot grease in accordance with NFPA 10-2010.

**NFPA 10-2010**

Class K extinguishers

NFPA 10 - Sentence 5.5.5.3.

5.5.5.3 A placard shall be conspicuously placed near the extinguisher that states that the fire protection system shall be actuated prior to using the fire extinguisher.

What cooking appliances/processes require the coverage of a fixed fire suppression system? (See Appendix "A")

(While all appliances used in Alberta are required to be certified for use under the *Safety Codes Act*, commercial appliances may also have additional testing/listings to quantify needs for fire suppression system protection).

Appliances and devices (hoods and ducts) that have been tested and require protection of a fixed fire suppression system:

- Fryers
- Pressure Fryers (with lids)
- Ranges (including residential ranges if they are used in a commercial/ institutional cooking operation, when used to sauté or fry foods)
- Griddles (flat top cast iron cooking surface)
- Open and closed top chain broilers
- Char Broilers (includes gas radiant, electric, lava rock, charcoal, mesquite and wood).

Solid fuel fired or supplemented appliances are required to be under a separate exhaust/hood system. This operation is also required to have spark arresters. Refer to sentence 14.1.6. of NFPA 96.

As Water Wash Canopies with a fire cycle have not been tested to ULC ORD 1254.6-1995, this equipment must have a fire suppression system in addition to the water wash system.

As CO₂ systems have not been tested to ULC ORD 1254.6-1995, they do not meet the requirements of the ABC 2014 or AFC 2014.

As Sprinkler Systems have not been tested to ULC ORD 1254.6-1995, these systems do not meet the requirements of the ABC 2014 or AFC 2014 for fire suppression under an exhaust hood.

Exhaust Ducts: where there is a damper at the duct interface with the hood, the first duct nozzle must be installed immediately above the damper and an access door for installation and servicing the nozzle(s) SHALL be provided within 18 inches of the damper. The nozzle must not interfere with the operation of the damper – on many occasions the connection between the duct collar and the duct is distorted (during installation) of the duct and the damper will not close.

Appliances that have not been tested/listed for fire suppression coverage but require protection based upon the production of grease laden vapours are:

- Horizontal Rotisserie (without enclosing doors) with the exception for:
 - equipment that have two or less pre-existing vertical rotisseries used for heating pre-cooked/processed donair/gyro meat. (If any additional vertical rotisseries are added then a protection system is required for all the rotisseries).
 - All new restaurants built to the ABC 2014 that have new donair/gyro cookers, new shawarma cookers and existing shawarma cookers require fire suppression.
- Induction Cookers when used to sauté or fry.

Additional Requirements:

- Type B gas type extinguishers are not permitted in a kitchen.
- Since the adoption of the Alberta Building Code 1997 (ABC 1997), where there is a kitchen fire suppression system installed in a building with a fire alarm system, the suppression system SHALL be tied into the building fire alarm system so that if there is a system discharge the building fire alarm SHALL activate.

What cooking appliances/processes do NOT require the coverage of a fixed fire suppression system? (See Appendix “B”)

Enclosed appliances:

- Ovens, including cook and hold ovens, warming ovens and steam ovens
- Pizza Ovens (pizza decks)
- Chicken Rotisseries with doors
- Tandoori Ovens, Masonry or Cement Pizza Ovens, (see note below)

Other appliances:

- Steamers
- Rice Cookers
- Soup kettles
- Proofers
- Popcorn Machines (Note: Kettle corn poppers come in various shapes, sizes and are gas, propane or electrically powered. The authority having jurisdiction (AHJ) has the authority to determine whether or not these appliances require suppression and ventilation based on the application of the popper).

Note:

Tandoori Ovens, Masonry or Cement Pizza Ovens have not been tested for fire suppression. These appliances are generally constructed of clay or Bakelite material and operate at very high temperatures.

Protecting these ovens with a nozzle directly aimed at the oven opening is not recommended due to the explosion hazard. Installations of these ovens are as per the manufacturer's instructions and the ABC 2014.

While these cooking appliances do not require the coverage of a fixed fire suppression system, an approved ventilation system is required.

What standards apply to kitchen fire suppression and exhaust systems?

The ABC 2014 and AFC 2014 set out the requirements and standards for these systems including:

1. ABC 2014 Sentences 6.2.2.7. (4) to (6). (Refer to page 13 of this document)
Or
2. NFPA 96-2011, NFPA 17A-2009, ANSI/UL 300-2005 and ULC/ORD-C1254.6-1995, "Fire Testing of Restaurant Cooking Area Fire Extinguishing System Units." (Each of these documents reference additional standards that will need to be met regarding the equipment and installation methods used and the ongoing maintenance and cleaning of the systems).

In both cases the requirements of NFPA 96–2011 related to the regular cleaning and maintenance of the ventilation system by qualified persons will also apply.

Why are older systems no longer acceptable for use?

In the 1980s and 1990s health concerns prompted the use of liquid vegetable oils rather than shortening to fry in commercial cooking operations. This resulted in an ability to increase the cooking temperatures to speed up frying processes. At these higher temperatures, the fire protection systems previously used (dry chemical powder and early wet chemical systems) proved to be ineffective in both extinguishing and preventing the re-ignition of the vegetable oils.

Previous kitchen suppression systems fire testing standard UL 300(ULC/ORD 1254.6) used mock ups of appliances with limited or no pre-burn time. Under the ULC/ORD 1254.6 standards, actual appliances are used with fire burning times that activate the auto suppression system. These tests resulted in the development of newer wet chemical (NFPA 17A/UL 300) systems and lead to the withdrawal of manufacturer service support, replacement parts and extinguishing agent for the older wet and dry chemical systems used in cooking applications.

The new UL 300 Standard "Fire Extinguishing Systems for Protection of Restaurant Cooking Areas" came into effect on November 21, 1994 and the ULC/ORD-1254.6 "Fire Testing of Restaurant Cooking Area Fire Extinguishing Systems Units" effective date was July 1, 1995.

What are the maintenance requirements for fixed fire suppression systems and kitchen exhaust systems?

Semi-annual maintenance of the suppression system by a qualified person is required regardless of the cleaning frequency of the exhaust/hood.

Note: Training from other manufacturers on similar systems, or even training from the same manufacturer for a different type of system, is not acceptable training. Training from a public post-secondary institution does not qualify a person to install special suppression systems.

The same premise applies to maintenance of fixed fire suppressions systems. Manufacturer training for a specific type of that manufacturer's equipment (i.e. mobile equipment) is only acceptable for that type of system made by that manufacturer. A person having only mobile

equipment suppression system training from manufacturer “x” shall not work on any other type of system made by that manufacturer and shall not perform maintenance on any systems from another manufacturer.

A person completing an approved course of training at a public post-secondary institution may perform maintenance on all special suppression systems that have been included in the scope of their training.

A person qualified to install and/or maintain systems is expected to provide written certificates of training for examination by owners, designers and the AHJ.

Who is qualified to clean commercial cooking equipment (ventilation hoods, fans, ducts and filters)?

Fire losses can be reduced through appropriate design, installation and maintenance of kitchen exhaust systems. It is important that owners of kitchen systems and the AHJ be aware of the AFC 2014 expectations for maintaining ductwork clean of combustible grease deposits.

It is required that kitchen exhaust system cleaners have recognized training and knowledge in cleaning procedures based on NFPA 96. Training for cleaners may also include a detailed in-shop training program, policies and procedures for the operation of a business, as well as training obtained from outside sources.

Code requirement:

AFC 2014 Sentence 2.2.4.5.(1) of Division C states:

2.2.4. Qualifications

2.2.4.5. Commercial Cooking Equipment Exhaust Systems

1) Only qualified persons shall perform maintenance on commercial cooking equipment exhaust systems when they have obtained a certificate verifying they have completed an *approved* course of training in duct-cleaning procedures.

Currently there are only two organizations recognized and approved by the Provincial Fire Administrator for Alberta to provide the training for the cleaning of commercial cooking equipment exhaust systems. Those organizations are:

- 1) Phil Ackland Kitchen Exhaust Certification and Training; and
- 2) MFS Exhaust Hood Cleaning School

Any organization that wishes to become recognized as an approved training provider for kitchen exhaust and hood cleaning may submit their entire curriculum to the Provincial Fire Administrator for review.

A qualified cleaning contractor will provide owners with a maintenance certificate that can be attached to the kitchen hood or posted in the kitchen area. The maintenance certificate shall detail the following information:

- Name, address and phone number of cleaning company,
- Printed name and signature of the qualified on-site person supervising the cleaning,
- Date of cleaning and/or inspection,
- Next cleaning due date and recommended cleaning frequency,
- Confirmation indicating if the system could not be cleaned in all areas,
- Noting the reasons why any areas could not be cleaned, and
- Name of the recognized training organization from which the supervisor and/or the cleaning crewmembers have received their qualification.

A qualified person shall do exhaust/hood cleaning, at a minimum, annually. The SCO may require an owner to conduct cleaning on a monthly, quarterly, semi-annually or on an annual basis, based on the accumulation of grease, dust or other residue throughout the hood and duct system.

It is not uncommon for the SCO to advise an owner that due to the systems solid fuel cooking operations, the cleaning of the exhaust/hood shall be done on a monthly basis. Nor would it be uncommon for the SCO to advise an owner of a community hall, as an example, that only has an event once or twice a year that their exhaust/hood would only need to be cleaned annually.

Are there allowances in codes and/or standards for limited usage facilities?

Allowances for limited usage facilities may occur by the issuance of a variance (a variance is an alternative solution) by the SCO. Many community halls, lunch rooms at the workplace and similar facilities may only use the kitchen and appliances to cook food infrequently and in many instances these kitchens will be used only to warm or heat previously cooked food for events in the building. A stove may be used to create sauces or a grill may only be used to cook pancakes.

The owner and fire and building officials are required, preferably prior to construction/installation, to evaluate the proposed activities, plans and procedures and to determine the requirements for exhaust and suppression. If, through the consultation, the owner determines that they may be able to achieve an approximately equivalent or higher level of safety through alternative methods to those in the ABC 2014 or AFC 2014, the owner or other person may propose a variance or alternative solution to the SCO. The SCO may issue the variance if the proposal provides for approximately equivalent or greater safety performance to the code requirements including meeting the objectives of the code requirements. Variances are registered on an information system maintained by the Safety Codes Council.

This section does not apply to Mobile Cooking Operations. Refer to STANDATA, 14-FCI-003 Mobile/Temporary Cooking Equipment for further details

<http://www.municipalaffairs.alberta.ca/documents/14-FCI-003-MobileTemporaryCookingEquipment.pdf>

Are there requirements for interconnection of exhaust, suppression, fuel/energy and fire alarm systems?

NFPA 96 - 8.2.3.1 states:

A hood exhaust fan(s) shall continue to operate after the extinguishing system has been activated unless fan shutdown is required by a listed component of the ventilation system or by the design of the extinguishing system.

The forced draft of these fans assists the movement of the fire suppression agent through the ventilating system, thus aiding with fire suppression within the duct system. These fans also remove smoke and provide a cooling effect in the plenum and duct after the fire suppression system has been discharged. The system is ULC listed with or without fan operation.

Food Courts, new teaching/multi-use kitchens in new or recently renovated Alberta Schools.

Where multiple hoods use an interconnected or common duct then all ductwork must be protected, even where one of the hoods has no appliances requiring protection.

All fuels or energy used to heat appliances must automatically disconnect upon activation of the suppression system NFPA 17A-2009 4.4.3.7 Shutoff devices shall require manual resetting prior to fuel or power being restored. In addition, in buildings built, or which have had the fire alarm system upgraded, since the adoption of the ABC 1997, the activation of the suppression system must also put the fire alarm system, when present, into alarm.

Ecologizers, (common terminology) are often mounted in the exhaust systems after the hoods to control odour and further control grease laden vapours. These are generally systems of filters which collect grease. As such they can be a fire hazard and SHALL be protected by a fire protection system if listed with the same, (most are).

NFPA 96–2011 states:

10.3 Simultaneous Operation.

10.3.1 Fixed pipe extinguishing systems in a single hazard area (see 3.3.45 for the definition of single hazard area) shall be arranged for simultaneous automatic operation upon actuation of any one of the systems.

10.3.3 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.

10.4 Fuel and Electric Power Shutoff.

10.4.1 Upon activation of any fire-extinguishing system for a cooking operation, all sources of fuel and electrical power that produce heat to all equipment requiring protection by that system shall automatically shut off.

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

10.4.3 Any gas appliance not requiring protection but located under the same ventilating equipment shall also automatically shut off upon activation of any extinguishing system.

10.4.4 Shutoff devices shall require manual reset.

NFPA 17A–2009 states:

5.1.2 Use.

Hazards and equipment that can be protected using wet chemical extinguishing systems shall include the following:

- (1) Restaurant, commercial, and institutional hoods
- (2) Plenums, ducts, and filters with their associated cooking appliances
- (3) Special grease removal devices
- (4) Odor control devices
- (5) Energy recovery devices installed in the exhaust system

5.1.4 Each protected cooking appliance, individual hood, and branch exhaust duct directly connected to the hood shall be protected by a system or systems designed for simultaneous operation.

5.1.5 Where two or more hazards can be simultaneously involved in fire by reason of their proximity, the hazards shall be protected by either of the following:

- (1) Individual systems installed on each hazard to operate simultaneously.
- (2) A single system designed to protect all hazards that can be simultaneously involved.

5.1.5.1 Any hazard that will allow fire propagation from one area to another shall constitute a single fire hazard.

5.6.2* Protection of Common Exhaust Duct.

5.6.2.1 Common exhaust ducts shall be protected by one of the following methods:

- (1) *Simultaneous operation of all independent hood, duct, and appliance protection systems
- (2) *Simultaneous operation of any hood, duct, and appliance protection system and the system(s) protecting the entire common exhaust duct.

See Appendix A

NFPA 96–2011 Auxiliary Equipment states:

9.3 Other Equipment.

9.3.1 Fume incinerators, thermal recovery units, air pollution control devices, or other devices shall be permitted to be installed in ducts or hoods or to be located in the path of travel of exhaust products where specifically listed for such use.

9.3.1.1 Fume incinerators, thermal recovery units, air pollution control devices, and/or other devices installed in ducts or hoods shall comply with the following:

- (1) The clearance requirements of Section 4.2
- (2) Hood construction requirements in Section 5.1
- (3) Exhaust duct construction complying with Chapter 7
- (4) Simultaneous operation requirements in 10.3.1
- (5) Access panels or doors complying with Chapter 7
- (6) In-line fans complying with 8.1.2.1

Both NFPA 17A and 96 provide information on the Simultaneous Operation and the use of interconnecting of exhaust ducts. Please refer to these documents for further information.

Are there requirements for kitchen suppressions systems to be engineered or have professional involvement by a registered professional member of the Association of Professional Engineers and Geoscientists of Alberta (APEGA)?

Yes. Systems consist of components which are listed and pre-engineered for a specified size, type and location of hazard by the manufacturer and this engineering should be sufficient. Where this engineering has not been provided by the manufacturer for use by the installer, additional engineering will be required by the permitting authority. The verification process can then be completed by the installing technician who would provide documentation to the registered professional member.

If a suppression system is used to protect an appliance that has not been fire tested by a Listing Agency, (protection specified in the Manufacturer's Listed Manual), then the system is no longer Pre-Engineered – it is considered a non-Engineered System requiring site specific drawings and the stamp of a registered professional member. The owner, fire and building officials are required to evaluate the proposed activities, plans and procedures to determine the requirements for exhaust and suppression systems.

What about when appliances are changed or moved, does this require re-engineering?

Movement of appliances under the same hood, and the movement or switching of nozzles by a qualified technician, would not require additional engineering provided there is no addition of new appliances in both number and type.

If this involves changes to energy supplies (new wiring, new piping) then there will be a need for a gas and/or electrical permit. If the fire alarm connection is new or added, contact the local AHJ and inquire as to whether or not they require a registered professional member’s review of the fire alarm system.

What is required when used hoods or appliances are placed into a facility?

Permits for building, electrical and gas will be required. SCOs have the discretion to accept used equipment provided it continues to meet the requirements of codes and standards under the *Safety Codes Act*. As such, fire suppression systems which have not been certified to UL 300 (ULC/ORD 1254.6) are not acceptable.

CODE REFERENCES

ABC 2014 Requirements:

The installation of fire suppression systems and exhaust systems is under the jurisdiction of the ABC 2014. A Building SCO should be consulted for building permit and professional involvement requirements.

ABC 2014 Sentence 3.3.1.2.(2) and Appendix note of Division B states:

3.3.1.2.(2) Hazardous Substances, Equipment and Processes

2) Cooking equipment, not within a dwelling unit, used in processes producing grease-laden vapours shall be designed and installed in conformance with Part 6.
(See Appendix A.)

A-3.3.1.2.(2) Cooking Equipment Ventilation

Cooking equipment manufactured for use in dwelling units and other residential suites is often installed in buildings used for assembly and care, treatment or detention purposes. It is not obvious from the Code requirements or those of NFPA 96, “Ventilation Control and Fire Protection of Commercial Cooking Operations,” whether a ventilation and grease removal system is required in all assembly and care, treatment or detention uses. If the equipment is to be used in a manner that will produce grease-laden vapours that are substantially more than would be produced in a normal household environment, then it would be appropriate to apply the requirements of NFPA 96. If the equipment is used primarily for reheating food prepared elsewhere or is used occasionally for demonstration or educational purposes, there would be no expectation of applying the requirements of NFPA 96. In all cases the circumstances should be reviewed with the authority having jurisdiction.

ABC 2014 Article 6.2.2.7. of Division B states:

6.2.2.7. Commercial Cooking Equipment

1) Systems for the ventilation of commercial cooking equipment shall be designed, constructed and installed to conform to NFPA 96, “Ventilation Control and Fire Protection of Commercial Cooking Operations,” except as required by Sentence 3.6.3.1.(1) and Article 3.6.4.2.

2) Fire protection systems for commercial cooking equipment referred to in Sentence (1) using vegetable oil or animal fat shall conform to a) ANSI/UL 300, “Fire Testing of Fire

Extinguishing Systems for Protection of Commercial Cooking Equipment,” or b) ULC/ORD-C1254.6, “Fire Testing of Restaurant Cooking Area Fire Extinguishing System Units.”

- 3) A ventilation system for a food establishment shall not have components that allow drips to fall onto surfaces where food is prepared or into food.
- 4) A ventilation system for a food establishment shall have all openings to the exterior of the building located and protected to prevent the entry of vermin, dust, dirt and other contaminating material into the food establishment.
- 5) Canopies, hoods and ductwork for a ventilation system exposed within a food establishment shall be constructed of stainless steel.
- 6) A food establishment in which food is prepared and the process generates odours, smoke, steam or heat shall have a mechanical ventilation system that includes canopies, ductwork and fans to remove odours, smoke, steam or heat to the exterior of the building.

ABC 2014 Sentence 9.10.1.4.(1) and Appendix note of Division B states:

9.10.1.4.(1) Items under Part 6 Jurisdiction

1) In kitchens containing commercial cooking equipment used in processes producing grease-laden vapours, the equipment shall be designed and installed in conformance with Article 6.2.2.7. (See Appendix A.)

A-9.10.1.4.(1) Commercial Cooking Equipment. Part 6 refers to NFPA 96, “Ventilation Control and Fire Protection of Commercial Cooking Operations,” which in turn references “Commercial Cooking Equipment.” However, the deciding factor as to whether or not NFPA 96 applies is the potential for production of grease-laden vapours and smoke, rather than the type of equipment used. While NFPA 96 does not apply to domestic equipment for normal residential family use, it should apply to domestic equipment used in commercial, industrial, institutional and similar cooking applications where the potential for the production of smoke and grease-laden vapours exceeds that for normal residential family use.

ABC 2014 Items from Part 10 only apply to Relocatable Industrial Accommodation

ABC 2014 Sentence 10.6.4.1.(1) of Division B states:

10.6.4.1. Cooking Equipment Ventilation System

1) Except as provided in Article 10.6.4.2., every kitchen containing commercial cooking equipment used in processes producing smoke or grease-laden vapours shall be equipped with a mechanical exhaust system conforming to NFPA 96, “Ventilation Control and Fire Protection of Commercial Cooking Operations.”

ABC 2014 Article 10.6.4.2. of Division B states:

10.6.4.2. Kitchen Hoods, Canopies and Exposed Exhaust Ducts

- 1) Ducts for a kitchen exhaust system shall be constructed of 0.84 mm minimum thickness stainless steel.
- 2) A demountable exhaust extension may be used if the connection is exposed and is grease-tight.

- 3) The airflow in and around a canopy or hood shall be in accordance with good engineering practice and each design shall be submitted to the *authority having jurisdiction* for review.
- 4) The required clearance from the *exhaust duct* to *combustible* material may be waived if a 25 mm air space, having no materials in it, separates the *exhaust duct* from a *noncombustible* material backed by not less than 25 mm of mineral wool insulation which protects the *combustible* material.
- 5) The required clearance from the hood or canopy to *combustible* material may be waived if a 50 mm air space, having no materials in it, separates the hood from a *noncombustible* material backed by not less than 25 mm of mineral wool insulation which protects the *combustible* material.
- 6) A sidewall fan may be used.
- 7) A fan shall be rated for continuous use as a commercial exhaust fan.

AFC 2014 Requirements:

The use, inspection and maintenance of suppression systems and exhaust systems are under the jurisdiction of the AFC 2014. A Fire SCO should be consulted with regards to the verification of use, inspection and maintenance of these systems.

AFC 2014 Article 2.6.1.9. and Appendix note of Division B states:

2.6.1.9. Commercial Cooking Equipment

- 1) Commercial cooking equipment exhaust and fire protection systems shall be designed and installed in conformance with the ABC.
- 2) Except as required in Sentences (3) to (5), the use, inspection and maintenance of commercial cooking equipment exhaust and fire protection systems shall be in conformance with NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations."
- 3) Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned at frequent intervals to prevent surfaces from becoming heavily contaminated with grease or other residues. (See Appendix A.)
- 4) Flammable cleaning materials or solvents shall not be used for the cleaning of exhaust systems.
- 5) Instructions for manually operating the fire protection systems shall be posted conspicuously in the kitchen as part of the fire safety plan.
- 6) Commercial cooking equipment that is certified shall be installed and maintained in conformance with its certification.
- 7) Uncertified commercial cooking equipment shall be installed and maintained so as not to create a fire hazard.

AFC- A-2.6.1.9.(3)

Depending on the amount of cooking equipment usage, the entire exhaust system, including grease extractors, should be inspected at intervals not greater than 7 days to determine if grease or other residues have been deposited within. When grease or other residues are in evidence as deposits within the hood, grease removal devices, or ducts, the system should be cleaned. In general, exhaust systems should be cleaned at intervals not greater than 12

months, but in the case of deep fat cooking, char broiling or similar cooking operations, the systems should be cleaned at intervals not greater than 3 months.

Referenced Documents:

NFPA 10-2010, Portable Fire Extinguishers
NFPA 17A-2009, Dry Chemical Extinguishing Systems
NFPA 96-2011, Ventilation Control and Fire Protection of Commercial Cooking Operations
ANSI/UL 300 -2005, Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment
ULC/ORD-C1254.6-1995, Fire Testing of Restaurant Cooking Area Fire Extinguishing System Units

This INTERPRETATION is applicable throughout the province of Alberta.

This INTERPRETATION replaces the following documents:

FCI-09-04 Maintenance of Commercial Cooking equipment
FCI-14-02 Fixed Fire Suppression & Exhaust Systems – Cooking
97 FCB 023 Cleaning Commercial Cooking Equipment

APPENDIX "A"

Examples of appliances that do require the coverage of a fixed fire suppression system.

Commercial Broiler Open and closed top chain broilers



Mini Donut Fryer



APPENDIX "B"

Examples of appliances that do not require the coverage of a fixed fire suppression system.

Enclosed Pizza Oven (Pizza Deck)**Brick Pizza Oven**