

# BROWARD COUNTY BOARD OF RULES AND APPEALS

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[www.broward.org/codeappeal](http://www.broward.org/codeappeal)

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Structural Engineer

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Mechanical Engineer

#### **Vacant**

Representative Disabled Community

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#### **Board Attorney**

Charles M. Kramer, Esq.

#### **Board Administrative Director**

James DiPietro

—ESTABLISHED 1971—

**To:** Members of the Mechanical/Smoke Control Committee

<b>Steven Feller, P.E. Chair</b>	<b>Robert Kamm, P.E.</b>	<b>Robert Taylor, F.M.</b>
<b>Gregg D'Attile</b>	<b>Chip Lafferty, P.E.</b>	<b>Phil London</b>
<b>Jack Mitchell, P.E.</b>	<b>Jack Walsh</b>	<b>Eric Jenison</b>
<b>Julio Briceno</b>	<b>Alex Hernandez</b>	<b>Roman Sanchez</b>
<b>Peter McGinnis</b>	<b>Michael Charnin</b>	<b>Wesley Neely</b>

**From:** Rolando Soto, P.E. Chief Mechanical Code Compliance Officer

**Date:** April 18, 2019

**Time:** 9:00am-12:00pm

**Location:** Fire Department Plantation - 550 NW 65<sup>th</sup> Avenue Plantation, FL 33317

The Chair, Mr. Steven Feller, P.E. has called for a meeting of the Board of Rules and Appeals, Mechanical/Smoke and Committee.

### AGENDA

#### Roll Call

#### Regular Meeting

- Item 1** Review and approval of 3/29/2018 Mechanical/Smoke Control Committee meeting minutes.
- Item 2** Review of proposed "Broward County Uniform Data Form for Residential and Light Commercial Air Conditioning Replacements".
  - a) Staff Presentation
  - b) Committee Discussion
  - c) Public comments
  - d) Committee Action
- Item 3** Review of proposed change to Broward County Administrative Provisions for the 2017 FBC (6th Edition) Section 105.2 Work exempt from permit.
  - a) Staff Presentation
  - b) Committee Discussion
  - c) Public comments
  - d) Committee Action
- Item 4** Review of proposed draft of FORMAL INTERPRETATION (#22) "Direct venting of solid fuel pizza ovens".
  - a) Staff Presentation
  - b) Committee Discussion
  - c) Public comments
  - d) Committee Action
- Item 5** Review of staff opinion regarding section M1506.3 Exhaust openings of the 2017 FBC Residential (6th Edition)
  - a) Staff Presentation
  - b) Committee Discussion
  - c) Public comments
  - d) Committee Action

#### General discussion.

#### Adjournment.

*Sunshine Law Reminder: Advisory Board members cannot communicate with each other on a possible committee or Board topic outside of a public meeting, per State statute.*



BROWARD COUNTY

# Board of Rules & Appeals

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## MECHANICAL AND SMOKE CONTROL COMMITTEE

**MARCH 29, 2018**

### **MINUTES**

#### **Call to order:**

Acting Chair Robert Kamm called a published meeting of the Mechanical and Smoke Control Committee to order at 9:05 a.m. The roll was called, and the following members were present:

#### **Present:**

Robert Kamm  
Julio Briceno  
Jack Mitchell, P.E.  
Eric Jenison

Steven Feller, Chair (arrived momentarily)

Phil London  
Jack Walsh  
Wesley E. Neely  
Michael Charnin

After the roll call, the presence of a quorum was announced.

#### **Approval of Minutes**

**MR. MITCHELL MADE A MOTION AND MR. JENISON SECONDED THE MOTION TO APPROVE THE JANUARY 16, 2018 MEETING MINUTES. THE MOTION CARRIED BY UNANIMOUS VOTE OF 8-0. MR. STEVEN FELLER WAS NOT PRESENT.**

#### **Discussion Items**

**1. DRAFT OF FORMAL INTERPRETATION (#21) ALTERATION OF EXISTING SMOKE EVACUATION OR SMOKE CONTROL SYSTEM.**

Acting Chairman Kamm summarized that staff was requested to draft language for altering existing smoke evacuation and smoke control systems so that the existing building code would not be violated but at the same time possibly easing some requirements on buildings today that do not require such systems. Mr. Rolando Soto, Chief Mechanical Code Compliance Officer, went over the Formal Interpretation (#21), Item 1. He noted that the designer will complete Table 1401.7 Summary Sheet-Existing Building Code (Page 18) to help the Building Official in reaching a decision. This table provides a point system for the various features in a building.

Concerning Item 2, Mr. Soto explained if the building/structure is short on some safety feature because of the alteration, the designer may choose to add smoke detectors, fire sprinklers, for example. Concerning Item 3 from the Formal Interpretation (#21), Mr. Soto indicated this simply specifies that the work must be permitted and inspected.

Chairman Feller arrived after Mr. Soto's presentation.

Mr. Jenison felt Table 1401.7 should require that it be specified whether the system is operational. Mr. Kamm noted that the number of floors that have to be addressed in a multi-story building differs today

therefore the capacity of a fan might be altogether different. Chairman Feller pointed out that when the design professional presents an evaluation to the building and fire departments, there may be a possibility that some buildings no longer require any system. Feature trade-offs, such as distance between exit stairs or exit width, could have resulted in a system no longer being required. In other words, it is a total evaluation of the building from a total life safety perspective as if starting from scratch. He did not see that there are any rules.

Mr. Jenison asked about how building owners may opt from an ongoing maintenance cost perspective that may change their decision on what to provide. Chairman Feller felt it boils down to whether testing shows that there is equal to greater life safety, so an existing system might be acceptable.

Mr. Soto proposed Item 2 be changed to delete "current" and continue with "degree of public safety at the time of certificate of occupancy (CO) of the building". In other words, the objective would be to allow for the original level of safety system when the building received its CO.

Chairman Feller agreed it has to be based upon what was permitted.

Mr. Briceno disagreed with the term, "registered architect" in Item 1. He felt the evaluation should be performed by an engineer. Chairman Feller agreed with this amendment. Mr. Soto referred to the building code, Section 1401.4, and explained that it specifies registered architect or engineer. Chairman Feller referred to 1401.1, Scope, and Section 909, Smoke Control Systems, to emphasize that design of such systems is the work of engineers. Mr. Kamm pointed out that the language does not say that the architect can re-design; it is speaking about the investigation and evaluation. Chairman Feller agreed and went on to say that hopefully the governmental officials will make such distinctions. Mr. Soto pointed out that the Board of Rules and Appeals does not have jurisdiction over who can do what with respect to distinguishing between architect and engineer which belongs to the licensing board. This is why the language is inclusive. Mr. Kamm pointed out that a mechanical engineer and architect together could perform the evaluation.

Chairman Feller pointed out that with the effort to provide flexibility and concerns of building departments in making those decisions, more appeals may be generated as to equivalency. In response to Mr. Walsh's question about replacement of a component, Mr. Jenison explained he secured an interpretation to allow for replacement of a component provided the performance is the same. Chairman Feller indicated that the building department has the authority to handle something of this nature. Mr. Charnin added that normally it is tested, evaluated and signed off by the engineer. Mr. Soto indicated there are two situations: 1) trying to keep the system to perform as originally designed and upgrades might include repairs; and 2) changing the system to perform differently. Often in the first example, the building department is not involved because repairs and maintenance do not require a permit. However, the fire department performs the annual inspections and they may have issues.

Mr. Soto suggested he provide the revised language by email negating the need for another meeting of the Committee. It will be submitted to the Board for their approval.

Mr. London asked if an additional narrative should be attached to the form Table 1401.7 Summary Sheet-Existing Building Code. Mr. Soto confirmed that it would be a full report on the building safety attached to the summary.

Further discussion ensued relating to removal of "current" in Item 2 because Mr. Kamm did not want there to be any misunderstanding about use of today's building code and not the code when the building was constructed. Chairman Feller felt it should be tied to a standard by which life safety will be improved. A trend as to what will be approved will need to be established.

In response to Mr. Jenison, Mr. Soto advised that removal is considered alteration according to the code. He referred to Section 504.1 of the code and indicated it is implied. He suggested "or removal" be added after "alteration" in Item 2.

**A MOTION WAS MADE BY MR. FELLER AND SECOND BY MR. LONDON TO REVISE ITEM 1: ADDING "AND/OR" BEFORE ENGINEER, ITEM 2: REMOVING "CURRENT" AND FINALLY ADDING "OR REMOVAL" AFTER "ALTERATION". MOTION PASSED BY UNANIMOUS VOTE OF 9-0.**

**Public Comment** – none

Having no further business, the meeting adjourned at 9:55 a.m.

**Proposed “Broward County Uniform Data Form for Residential and Light Commercial Air Conditioning Replacements”.**

*This will promote uniformity throughout the county in the a/c replacement process.*

**DRAFT**

**Broward County Uniform Data Form for Residential and Light Commercial Air Conditioning Replacements.**

**All others, including cooling towers, chillers, refrigeration units, etc. must provide plans.**

**Each system requires a form.**

Job Name:				
Address:				
Unit #		City		FL ZIP Code

**Fill in applicable information**

Data	Existing Unit (1)		New Unit	
Manufacturer				
SEER (2)/EER (2)				
Package/Heat Pump Model #				
Condensing Unit Model #				
AHU Model #				
Model #				
KW Strip Heat				
Minimum Circuit Amps	c/u	ahu/pkg	c/u	ahu/pkg
Maximum Overcurrent Protection	c/u	ahu/pkg	c/u	ahu/pkg
Size of Disconnect	c/u	ahu/pkg	c/u	ahu/pkg

(1) Provide equipment sizing calculations if existing unit data is not available (ACCA Manual N, J, etc)

(2) Provide AHRI Certificate

Will a new stand, curb or curb adapter be installed?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Will a duct smoke detector be installed or reconnected?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Is the duct s/d connected to an Fire Alarm Panel?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Will the A/C location will be the same ?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>

Company name			
FL. State or Co. Licence #			
Qualifier's signature			

**FOR BUILDING DEPARTMENT USE ONLY**

Process or Permit #		Jurisdiction	
Approved by		Date	

Disclaimer:

1. This form does not relieve the applicant from compliance with all applicable sections of the Florida Building Codes.
2. Additional local regulations might be applicable, i.e. zoning, flood and fire prevention, etc.

**Review of proposed change to Ch. 1, Broward County Administrative Provisions for the 2017 FBC (6th Edition)**

*The change will exempt the replacement of thermostats from permit requirements.*

**105.2 Work exempt from permit.** Exemptions from permit requirements of this Code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this Code. Permits shall not be required for the following:

**F. Mechanical:**

1. Portable heating appliance.
2. Portable ventilation equipment.
3. Portable cooling unit.
4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this Code.
5. Replacement of any part which does not alter its approval or make it unsafe, **including replacement of thermostats.**
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.
8. The installation, replacement, removal or metering of any load management control device.
9. Portable air compressors, dust collectors and their correspondent distributions systems.
10. Pool heating equipment. Plumbing and electrical permits are required.

## **Review of proposed drafts of: FORMAL INTERPRETATION (#22) “Direct venting of solid fuel pizza ovens”.**

2017 Florida Building Code - Mechanical, Sixth Edition  
SECTION507 COMMERCIAL KITCHEN HOODS

507.2 Type I hoods.

Type I hoods shall be installed where cooking appliances produce grease or smoke as a result of the cooking process. Type I hoods shall be installed over medium-duty, heavy-duty and extra-heavy-duty cooking appliances.

Exception: A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5 mg/m<sup>3</sup> or less of grease when tested at an exhaust flow rate of 500 cfm (0.236 m<sup>3</sup>/s) in accordance with UL 710B.

### CHAPTER2 DEFINITIONS

**EXTRA-HEAVY-DUTY COOKING APPLIANCE.** Extra-heavy-duty cooking appliances are those utilizing open flame combustion of solid fuel at any time.

## Ch. 1, Broward County Administrative Provisions for the 2017 FBC (6<sup>th</sup> Edition)

**104.32 Alternative materials, design and methods of construction and equipment.** The provisions of the technical codes are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this Code, provided any such alternative has been reviewed and approved by the Building Official and/or Fire Marshal/Fire Code Official (according to the Fire Protection Provisions of this Code and FFPC). An alternative material, design or method of construction shall be approved where the Building Official and/or Fire Marshal/Fire Code Official (according to the Fire Protection Provisions of this Code and FFPC) finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method of construction offered for the purpose intended; is at least the equivalent of that prescribed in the technical codes in quality, strength, effectiveness, fire resistance, durability and safety. Where alternate life safety systems are designed, the “SFPE Engineering Guide to Performance-Based Fire Protection Analysis and Design of Buildings,” or other methods approved by the Building Official and/or Fire Marshal/Fire Code Official (according to the Fire Protection Provisions of this Code and FFPC) may be used. The Building Official and/or Fire Marshal/Fire Code official (according to the Fire Protection Provisions of this Code and FFPC) shall require that sufficient evidence or proof be submitted to substantiate any claim made regarding the alternative. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved.

**104.32.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this Code, shall consist of valid research reports from approved sources.

**104.32.2 Tests:** Whenever there is insufficient evidence of compliance with the provisions of this Code, or evidence

that a material or method does not conform to the requirements of this Code, or in order to substantiate claims for alternative materials or methods, the Building Official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this Code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the Building Official for the period required for retention of public records.

**104.32.3 Accessibility.** Alternate designs and technologies for providing access to and usability of a facility for persons with disabilities shall be in accordance with provisions of the FBC, Accessibility.

**104.33 Standards:** The types of construction or materials or methods of design referred to in this Code shall be considered as standards of quality and strength. New types of construction or materials or methods of design shall be at least equal to these standards for the corresponding use intended.

**104.34 Approved materials and equipment.** Materials, equipment and devices approved by the Building Official shall be constructed and installed in accordance with such approval.

**104.34.1** Used materials and equipment. The installation of used materials which meet the requirements of this Code for new materials is permitted. Used equipment and devices shall not be installed unless approved by the Building Official

**104.35 Application for the use of alternative methods and materials.**

**104.35.1** Any person desiring to use types of construction or materials or methods of design not specifically mentioned in this Code shall file with the Building Official and/or Fire Marshal/Fire Code Official, in writing, authentic proof in support of claims that may be made regarding the sufficiency of such types of construction or materials or methods of design and request approval and permission for their use. Such documentation shall be attached to and be made a part of the permit documents.

**104.35.2** The Building Official and/or Fire Marshal/Fire Code Official shall approve such alternate types of construction or materials or methods of design if it is clear that the standards of this Code are at least equaled. If, in the opinion of the Building Official and/or Fire Marshal/Fire Code Official, the standards of this Code will not be satisfied by the requested alternate, he or she shall refuse approval.



**3.3.50\* Trained.** A person who has become proficient in performing a skill reliably and safely through instruction and practice/field experience acceptable to the AHJ.

**3.3.51 Trap.** A cuplike or U-shaped configuration located on the inside of a duct system component where liquids can accumulate.

## Chapter 4 General Requirements

### 4.1 General.

**4.1.1** 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 standard.

**4.1.1.1\*** Cooking equipment that has been listed in accordance with ANSI/UL 197 or an equivalent standard for reduced emissions shall not be required to be provided with an exhaust system.

**4.1.1.2** The listing evaluation of cooking equipment covered by 4.1.1.1 shall demonstrate that the grease discharge at the exhaust duct of a test hood placed over the appliance shall not exceed  $5 \text{ mg/m}^3$  ( $0.00018 \text{ oz/ft}^3$ ) when operated with a total airflow of  $0.236 \text{ m}^3/\text{s}$  ( $500 \text{ cfm}$ ).

**4.1.2** All such equipment and its performance shall be maintained in accordance with the requirements of this standard during all periods of operation of the cooking equipment.

**4.1.3** The following equipment shall be kept in working condition:

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

**4.1.3.1** Maintenance and repairs shall be performed on all components at intervals necessary to maintain good working condition.

**4.1.4** All airflows shall be maintained.

**4.1.5** The responsibility for inspection, testing, maintenance, and cleanliness of the ventilation control and fire protection of the commercial cooking operations shall ultimately be that of the owner of the system, provided that this responsibility has not been transferred in written form to a management company, tenant, or other party.

**4.1.6\*** All solid fuel cooking equipment shall comply with the requirements of Chapter 14.

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

**4.1.8** All interior surfaces of the exhaust system shall be accessible for cleaning and inspection purposes.

### 4.2\* Clearance.

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

**4.2.2** Where a hood, duct, or grease removal device is listed for clearances less than those required in 4.2.1, the listing requirements shall be permitted.

#### 4.2.3 Clearance Reduction.

**4.2.3.1** Where a clearance reduction system consisting of 0.33 mm (0.013 in.) (28 gauge) sheet metal spaced out 25 mm (1 in.) on noncombustible spacers is provided, there shall be a minimum of 229 mm (9 in.) clearance to combustible material.

**4.2.3.2** Where a clearance reduction system consisting of 0.69 mm (0.027 in.) (22 gauge) sheet metal on 25 mm (1 in.) mineral wool batts or ceramic fiber blanket reinforced with wire mesh or equivalent spaced 25 mm (1 in.) on noncombustible spacers is provided, there shall be a minimum of 76 mm (3 in.) clearance to combustible material.

**4.2.3.3** Where a clearance reduction system consisting of a listed and labeled field-applied grease duct enclosure material, system, product, or method of construction specifically evaluated for such purpose in accordance with ASTM E 2336, the required clearance shall be in accordance with the listing.

**4.2.3.4** Zero clearance to limited-combustible materials shall be permitted where protected by one of the following:

- (1) Metal lath and plaster
- (2) Ceramic tile
- (3) Quarry tile
- (4) Other noncombustible materials or assembly of noncombustible materials that are listed for the purpose of reducing clearance
- (5) Other materials and products that are listed for the purpose of reducing clearance

#### 4.2.4 Clearance Integrity.

**4.2.4.1** In the event of damage, the material or product shall be repaired and restored to meet its intended listing or clearance requirements and shall be acceptable to the AHJ.

**4.2.4.2\*** In the event of a fire within a kitchen exhaust system, the duct and its enclosure (rated shaft, factory-built grease duct enclosure, or field-applied grease duct enclosure) shall be inspected by qualified personnel to determine whether the duct and protection method are structurally sound, capable of maintaining their fire protection function, and in compliance with this standard for continued operation.

**4.2.4.3** Protection shall be provided on the wall from the bottom of the hood to the floor, or to the top of the noncombustible material extending to the floor, to the same level as required in 4.2.1.

**4.2.4.4** The protection methods for ducts to reduce clearance shall be applied to the combustible or limited-combustible

airflow.

**11.6.12** When cleaning procedures are completed, all electrical switches and system components shall be returned to an operable state.

**11.6.13** When an exhaust cleaning service is used, a certificate showing the name of the servicing company, the name of the person performing the work, and the date of inspection or cleaning shall be maintained on the premises.

**11.6.14** After cleaning or inspection is completed, the exhaust cleaning company and the person performing the work at the location shall provide the owner of the system with a written report that also specifies areas that were inaccessible or not cleaned.

**11.6.15** Where required, certificates of inspection and cleaning and reports of areas not cleaned shall be submitted to the authority having jurisdiction.

### **11.7 Cooking Equipment Maintenance.**

**11.7.1** Inspection and servicing of the cooking equipment shall be made at least annually by properly trained and qualified persons.

**11.7.2** Cooking equipment that collects grease below the surface, behind the equipment, or in cooking equipment flue gas exhaust, such as griddles or charbroilers, shall be inspected and, if found with grease accumulation, cleaned by a properly trained, qualified, and certified person acceptable to the authority having jurisdiction.

## **Chapter 12 Minimum Safety Requirements for Cooking Equipment**

### **12.1 Cooking Equipment.**

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

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

#### **12.1.2 Installation.**

**12.1.2.1\*** All listed appliances shall be installed in accordance with the terms of their listings and the manufacturer's instructions.

**12.1.2.1.1** 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.

**12.1.2.2\*** 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.

**12.1.2.2.1** 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.

When hoses attached to the appliances are disconnected in accordance with the manufacturer's listed design manual.

**12.1.2.3.1** An approved method shall be provided that will ensure that the appliance is returned to an approved design location.

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

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

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

**12.2 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 246°C (475°F) at 25.4 mm (1 in.) below the surface.

## **Chapter 13 Recirculating Systems**

**13.1 General Requirements.** Recirculating systems containing or for use with appliances used in processes producing smoke or grease-laden vapors shall be equipped with components complying with the following:

- (1) The clearance requirements of Section 4.2
- (2) A hood complying with the requirements of Chapter 5
- (3) Grease removal devices complying with Chapter 6
- (4) The air movement requirements of 8.2.1.2 and 8.2.2.3
- (5) Auxiliary equipment (such as particulate and odor removal devices) complying with Chapter 9
- (6) Fire-extinguishing equipment complying with the requirements of Chapter 10 with the exception of 10.1.1 and 10.5.1, which shall not apply
- (7) The use and maintenance requirements of Chapter 11
- (8) The minimum safety requirements of Chapter 12
- (9) All the requirements of Chapter 13

**13.2 Design Restrictions.** All recirculating systems shall comply with the requirements of Section 13.2.

**13.2.1** Only gas-fueled or electrically fueled cooking appliances shall be used.

**13.2.2** Listed gas-fueled equipment designed for use with specific recirculating systems shall have the flue outlets connected in the intended manner.

**13.2.3** Gas-fueled appliances shall have a minimum 457 mm (18 in.) clearance from the flue outlet to the filter inlet in accordance with 6.2.2 and shall meet the installation requirements of NFPA 54 or NFPA 58.

## Chapter 14 Solid Fuel Cooking Operations

**14.1 Venting Application.** Venting requirements of solid fuel cooking operations shall be determined in accordance with 14.1.1 through 14.1.7.

**14.1.1** Where solid fuel cooking equipment is required by the manufacturer to have a natural draft, the vent shall comply with Section 14.4.

**14.1.2** Where the solid fuel cooking equipment has a self-contained top, is the only appliance to be vented in an isolated space (except for a single water heater with its own separate vent), has a separate makeup air system, and is provided with supply and return air (not supplied or returned from other spaces), the system shall comply with Sections 14.4 and 14.6.

**14.1.3** Where the solid fuel cooking equipment is located in a space with other vented equipment, all vented equipment shall have an exhaust system interlocked with a makeup air system for the space per Section 14.6.

**14.1.4** Natural draft ventilation systems and power-exhausted ventilation systems shall comply with Sections 14.3, 14.4, and 14.6.

**14.1.5** Where a solid fuel cooking appliance allows effluent to escape from the appliance opening, this opening shall be covered by a hood and an exhaust system that meets the requirements of Sections 14.3, 14.4, and 14.6.

**14.1.6** Solid fuel cooking operations shall have spark arresters to minimize the passage of airborne sparks and embers into plenums and ducts.

**14.1.7** Where the solid fuel cooking operation is not located under a hood, a spark arrester shall be provided to minimize the passage of sparks and embers into flues and chimneys.

### 14.2 Location of Appliances.

**14.2.1** Every appliance shall be located with respect to building construction and other equipment so as to permit access to the appliance.

**14.2.2\*** Solid fuel cooking appliances shall not be installed in confined spaces.

**14.2.3** Solid fuel cooking appliances listed for installation in confined spaces such as alcoves shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

**14.2.4** Solid fuel cooking appliances shall not be installed in any location where gasoline or any other flammable vapors or gases are present.

### 14.3 Hoods for Solid Fuel Cooking.

**14.3.1** Hoods shall be sized and located in a manner capable of capturing and containing all the effluent discharging from the appliances.

**14.3.2** The hood and its exhaust system shall comply with the requirements of Chapters 5 through 10.

**14.3.3** Except as permitted in 14.3.4, exhaust systems serving solid fuel cooking equipment, including gas or electrically operated equipment, shall be separate from all other exhaust systems.

**14.3.4\*** Gas-operated equipment utilizing solid fuel for flavoring that meets all the following conditions shall not be required to have a separate exhaust system:

- (1)\*The solid fuel holder (smoker box) shall be listed with the gas-operated equipment.
- (2) The solid fuel holder shall be located underneath the gas burners.
- (3) Spark arresters conforming with 14.1.6 shall be provided.
- (4)\*The maximum quantity of solid fuel consumed shall not exceed 2 kg (4.5 lb) per hour per 29.3 kW (100,000 Btu/hr) of gas burner capacity.
- (5) The gas-operated equipment shall be protected by a fire suppression system listed for the equipment, including the solid fuel holder.
- (6) Gas-operated equipment with integral solid fuel holder(s) intended for flavoring, such as radiant charbroiler(s), shall comply simultaneously with the requirements of ANSI/UL 300 that address that gas radiant charbroiler(s) and mesquite wood charbroiler(s).
- (7) A fire suppression system nozzle(s) shall be installed to protect the solid fuel holder.
- (8) The fire suppression system shall be designed and installed to protect the entire cooking operation.
- (9) Each solid fuel holder shall be limited to a size of 32.8 L (2000 in.<sup>3</sup>), with no dimension to exceed 51 cm (20 in.).
- (10) A maximum of one solid fuel holder for each 29.3 kW (100,000 Btu/hr), or portion thereof, of burner capacity shall be permitted.
- (11) The inspection frequency shall be the same as for solid fuel cooking operations in Table 11.4.

**14.3.4.1** Gas-operated equipment utilizing solid fuel for flavoring that meets 14.3.4 shall be inspected, cleaned, and maintained in accordance with Section 14.8.

**14.3.5** Cooking equipment not requiring automatic fire-extinguishing equipment (per Chapter 10) shall be permitted to be installed under a common hood with solid fuel cooking equipment that is served by a duct system separate from all other exhaust systems.

**14.4 Exhaust for Solid Fuel Cooking.** Where a hood is not required, in buildings where the duct system is three stories or less in height, a duct complying with Chapter 7 shall be provided.

**14.4.1** If a hood is used in buildings where the duct system is three stories or less in height, the duct system shall comply with Chapter 7.

**14.4.2** A listed or approved grease duct system that is four stories in height or greater shall be provided for solid fuel cooking exhaust systems.

**14.4.3** Where a hood is used, the duct system shall conform with the requirements of Chapter 7.

**14.4.4** Wall terminations of solid fuel exhaust systems shall be prohibited.

### 14.5 Grease Removal Devices for Solid Fuel Cooking.

**14.5.1** Grease removal devices shall be constructed of steel or stainless steel or be approved for solid fuel cooking.

**14.5.2** If airborne sparks and embers can be generated by the solid fuel cooking operation, spark arrester devices shall be used prior to using the grease removal device, to minimize the



entrance of these sparks and embers into the grease removal device and into the hood and the duct system.

**14.5.3** Filters shall be a minimum of 1.2 m (4 ft) above the appliance cooking surface.

**14.6 Air Movement for Solid Fuel Cooking.**

**14.6.1** Exhaust system requirements shall comply with Chapter 8 for hooded operation or shall be installed in accordance with the manufacturer's recommendations for unhooded applications.

**14.6.2** A replacement or makeup air system shall be provided to ensure a positive supply of replacement air at all times during cooking operations.

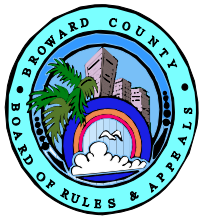
**14.6.3** Makeup air systems serving solid fuel cooking operations shall be interlocked with the exhaust air system and powered, if necessary, to prevent the space from attaining a negative pressure while the solid fuel appliance is in operation.

**14.7.9.2** The system shall have a minimum operating pressure of 275.8 kPa (40 psi) and shall provide a minimum of 19 l./min (5 gpm).

**14.7.10** Fire suppression for fuel storage areas shall comply with Section 14.9 of this standard.

**14.7.11** In addition to the requirements of 14.7.8 through 14.7.10, where any solid fuel cooking appliance is also provided with auxiliary electric, gas, oil, or other fuel for ignition or supplemental heat and the appliance is also served by any portion of a fire-extinguishing system complying with Chapter 10, such auxiliary fuel shall be shut off on actuation of the fire-extinguishing system.

**14.8 Procedures for Inspection, Cleaning, and Maintenance for Solid Fuel Cooking.** Solid fuel cooking appliances shall be inspected, cleaned, and maintained in accordance with the procedures outlined in Chapter 11 and with 14.8.1 through 14.8.5.



# BROWARD COUNTY BOARD OF RULES AND APPEALS

**DRAFT 1**

## FBC 6<sup>th</sup> Edition (2017) FORMAL INTERPRETATION (#22)

1 N. University Drive Suite 3500B  
Plantation, Florida 33324

Phone: 954-765-4500  
Fax: 954-765-4504

broward.org/CodeAppeals

**DATE:** [REDACTED], 2019.

**TO:** All Building Officials  
**FROM:** James DiPietro, Administrative Director

**SUBJECT:** Direct venting of solid fuel pizza ovens.

At its meeting of [REDACTED], 2019, the Board approved an interpretation of the 6<sup>th</sup> Edition FBC, Mechanical.

**Formal Interpretation of the following sections:**

2017 Florida Building Code - Mechanical, Sixth Edition, SECTION 507  
COMMERCIAL KITCHEN HOODS;

**Formal Interpretation.**

The installation of solid fuel or combination gas and solid fuel pizza ovens without a Type 1 (grease) hood direct using venting as allowed in NFPA 96-2014 is acceptable if the oven is listed to be vented directly. The venting system shall be constructed and installed per the listing conditions of the oven and of the duct or chimney used for venting. This applies to ovens listed with natural draft or forced draft venting.

**EFFECTIVE DATE:** [REDACTED], 2019.

\*\*\*\*PLEASE POST AT YOUR PERMIT COUNTER\*\*\*\*

Page 1 of 1 F.I. #22

**2019 Voting Members**

**Chair**

Mr. Daniel Lavrich, P.E.,  
S.I., SECB, F.ASCE, F.SEI  
Structural Engineer

**Vice-Chair**

Mr. Stephen E. Bailey, P.E.  
Electrical Engineer  
Mr. Jeffrey Lucas, FM, CFI, CFEI  
Fire Service Professional

Mr. John Famularo,  
Roofing Contractor  
Mrs. Shalanda Giles Nelson,  
General Contractor

Mr. Daniel Rourke  
Master Plumber

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Swimming Pool Contractor

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Architect

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Mechanical Engineer

**Vacant**

Representative Disabled Community

**2019 Alternate Board Members**

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Architect

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Master Plumber

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Master Electrician

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Roofing Contractor

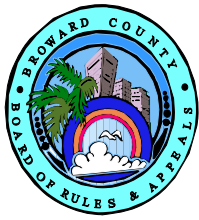
**Board Attorney**

Charles M. Kramer, Esq.

**Board Administrative Director**

James DiPietro

—ESTABLISHED 1971—



# BROWARD COUNTY BOARD OF RULES AND APPEALS

## DRAFT 2

### FBC 6<sup>th</sup> Edition (2017) FORMAL INTERPRETATION (#22)

1 N. University Drive Suite 3500B  
Plantation, Florida 33324

Phone: 954-765-4500  
Fax: 954-765-4504

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SUBJECT: Direct venting of solid fuel pizza ovens.

At its meeting of [REDACTED], 2019, the Board approved an interpretation of the 6<sup>th</sup> Edition FBC, Mechanical.

**Formal Interpretation of the following sections:**

2017 Florida Building Code - Mechanical, Sixth Edition, SECTION507  
COMMERCIAL KITCHEN HOODS;

**Formal Interpretation.**

The installation of solid fuel or combination gas and solid fuel pizza ovens without a Type 1 (grease) hood direct using venting as allowed in NFPA 96-2014 is **not** acceptable **even** if the oven is listed to be vented directly.

EFFECTIVE DATE: [REDACTED], 2019.

\*\*\*\*PLEASE POST AT YOUR PERMIT COUNTER\*\*\*\*

Page 1 of 1 F.I. #22

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James DiPietro

—ESTABLISHED 1971—

**Review of staff opinion regarding section M1506.3 Exhaust openings of the 2017 FBC Residential (6th Edition)**

**Staff is looking for committee support of this opinion.**

In response to an opinion request by an architect due to rejection in one of our municipalities, staff wrote the following opinion.

“It is my opinion that a toilet exhaust can be located closer than 3 feet to a solid glass window (aka picture window). The intent of the section is to prevent exhaust air to be retaken back into the dwelling, please see attached ICC commentary. A solid glass window will not allow that to happen. A different case will be that of a louver, which can be considered also a non- operable opening, but will allow air back into the dwelling, and will be an unacceptable application.

Respectfully,”

*2017 Florida Building Code - Residential, Sixth Edition  
M1506.3 Exhaust openings.*

*Air exhaust openings shall terminate not less than 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable and nonoperable openings into the building and 10 feet (3048 mm) from mechanical air intakes except where the opening is located 3 feet (914 mm) above the air intake. Openings shall comply with Sections R303.5.2 and R303.6.*

*2017 Florida Building Code - Mechanical, Sixth Edition  
501.3.1 Location of exhaust outlets.*

*The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:*

*1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.*

*2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade.*

*3. For all environmental air exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious.*



any elbows, and a 4-inch smooth-wall duct with an 80 cfm fan could have only two elbows and 1 foot of duct, or one elbow and 16 feet of duct.

Note that Table M1506.2 states that the fans were rated with an assumed static pressure loss of 0.25 inch water column in the duct. Some fans might be rated with an assumed static pressure of 0.10 inch w.c. and if they are, the table would allow ducts that are too long for such fans, resulting in fans not meeting their design airflow rate. When using the table, the static pressure at which the fan was tested should be taken into consideration.

**M1506.3 Exhaust openings.** Air exhaust openings shall terminate not less than 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable and nonoperable openings into the building and 10 feet (3048 mm) from mechanical air intakes except where the opening is located 3 feet (914 mm) above the air intake. Openings shall comply with Sections R303.5.2 and R303.6.

❖ These provisions for termination points are for air that is exhausted from a dwelling unit. Such air will include kitchen exhaust, bathroom exhaust and clothes dryer exhaust and these exhaust terminations would be required to be 3 feet (914 mm) from operable openings into a building (i.e., windows and doors). The exhaust terminations that penetrate through the exterior walls or roof will need to be located 3 feet (914 mm) from windows that are providing the natural ventilation to the dwelling unit. Considering that the exhaust from a dwelling unit is not considered to be hazardous or noxious and is of low volume, the 3-foot (914 mm) separation from windows is deemed to be reasonable. Mechanical air intakes must be located not less than 10 feet (3048 mm) from exhaust from a bathroom, kitchen and domestic clothes dryer. In the case where the required 10-foot (3048 mm) separation cannot be met, the intake must be located at least 3 feet (914 mm) below the exhaust termination. It is assumed that the

exhaust that is present will be buoyant in air because of its temperature or specific gravity and such exhaust will rise above and away from the intake opening.

## **SECTION M1507 MECHANICAL VENTILATION**

**M1507.1 General.** Where local exhaust or whole-house mechanical ventilation is provided, the equipment shall be designed in accordance with this section.

❖ Mechanical ventilation can consist of either local exhaust or whole-house mechanical ventilation. Local exhaust is defined as an exhaust system that uses one or more fans to exhaust air from a specific room or rooms within a dwelling. Examples of local exhaust include bathroom and kitchen exhaust. Section R303 requires either natural or mechanical ventilation of toilet rooms and bathrooms. This section brings mechanical ventilation into the exhaust chapter for convenience. It should be noted that the choice of using either natural or mechanical ventilation is one the designer must make except as required by Section R303.4.

Whole-house mechanical ventilation is defined as an exhaust system, supply system or combination thereof, that is designed to mechanically exchange indoor air for outdoor air. The system can either operate continuously or it can be programmed to operate intermittently.

**M1507.2 Recirculation of air.** Exhaust air from bathrooms and toilet rooms shall not be recirculated within a residence or to another *dwelling unit* and shall be exhausted directly to the outdoors. Exhaust air from bathrooms and toilet rooms shall not discharge into an *attic*, crawl space or other areas inside the building.

❖ This section prohibits the recirculation of exhaust air from toilet rooms and bathrooms within a dwelling or to another dwelling. In some cases, installers connect the outlets of bathroom exhaust fans together to a com-