

BILL 10135

ORDINANCE 10002

AN ORDINANCE AMENDING THE KIRKWOOD CODE OF ORDINANCES, CHAPTER 5, SECTION 5-4 AND ADOPTING THE 2009 INTERNATIONAL MECHANICAL CODE, WITH MODIFICATIONS, AS THE MECHANICAL CODE OF THE CITY OF KIRKWOOD, REGULATING THE DESIGN, CONSTRUCTION, QUALITY OF MATERIALS, ERECTION, INSTALLATION, ALTERATION, REPAIR, LOCATION, RELOCATION, REPLACEMENT, ADDITIONS TO, USE OR MAINTENANCE OF MECHANICAL SYSTEMS IN THE CITY OF KIRKWOOD; PROVIDING FOR THE ISSUANCE OF PERMITS AND COLLECTION OF FEES THEREFORE; AND REPEALING THE EXISTING MECHANICAL CODE.

WHEREAS, the ISO has recommended the City update its Building Codes to the latest codes, and

WHEREAS, the Building Commissioner's Office reviewed the latest Building Codes and recommends adoption of the 2009 Mechanical Code with modification, and

WHEREAS, the Chief Administrative Officer has approved the recommendation of the Public Works Department to update the Mechanical Code,

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF KIRKWOOD, MISSOURI, as follows:

SECTION 1. That Section 5-4 of the Kirkwood Code of Ordinances is hereby deleted and the following inserted in lieu thereof:

“SECTION 5.4 MECHANICAL CODE: The provisions of the “International Mechanical Code 2009” as modified, is hereby adopted as the City’s mechanical code. See separate publication and adopting modification ordinance on file in the office of the city clerk.”

SECTION 2. That a certain document, which is on file in the office of the city clerk of the City of Kirkwood, Missouri, being marked and designated as “International Mechanical Code 2009” as published by the International Code Council, is hereby adopted as the mechanical code of the City of Kirkwood, Missouri. For the control of buildings and structures as herein provided; and each and all of the regulations of the Mechanical Code 2009, are hereby referred to, adopted and made apart hereof, as if fully set out in this ordinance.

SECTION 3. That throughout the “International Mechanical Code 2009”, wherever the term “jurisdiction” is used, it is deemed to mean City of Kirkwood, and wherever the expression “code official” is used, it is deemed to mean the Building Commissioner.

SECTION 4. That the “International Mechanical Code 2009”, is amended by additions, deletions and changes including the changing of articles, sections, subsections, and subsection titles and the addition of new sections and subsections so that such amended and added articles, sections and subsections shall read as follows:

Each section, subsection or clause of the code that numerically corresponds to one of the following numbered provisions is hereby deleted, or amended, as set forth below. Each

provision set out below without a corresponding section, subsection or clause number in the code is hereby enacted and added thereto.

101.1 - Title: These regulations shall be known as the Mechanical Code of the City of Kirkwood. Hereinafter referred to as “this Code”.

101.2 - Delete exception 1 and exception 2 in their entirety.

106.1.2 - Integrated Permits: The code official for the building code may issue integrated building, plumbing, electrical and/or mechanical permits on a single permit application.

106.1.3 - Applicant Responsibility: The integrated permit applicant shall be responsible for the return to the code official of the plumbing, electrical and/or mechanical permit form with the name, signature and license number of the appropriate subcontractor. Any change in the identity of the named subcontractor after issuance of the permit must be by special application and shall result in the assessment of a transfer fee as specified.

106.5.1 - Delete in its entirety and add: **Investigation Fee for Work Without Permit:** Whenever any work for which a permit required by this code has been commenced without first obtaining said permit, a special investigation shall be made before a permit is issued. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is then or subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code. Payment of the investigation fee shall not exempt any person from compliance with all the provisions of this code nor from any penalty prescribed by law.

106.5.2 - Fees: Fees shall be established as prescribed in Chapter 5, Article VI of the Code of Ordinances of the City of Kirkwood.

106.5.3 - Delete in its entirety

107.7 – Add: Periodic Inspections: Periodic inspections shall be made by the Code Official of all equipment and devices listed in Table 107.7 at the frequency specified in Table 107.7, or at such other times as the Code Official shall deem appropriate. Fees for inspections shall be paid by the owner of such equipment or devices in accordance with fees as prescribed in Chapter 5, Article VI of the Code of Ordinances of the City of Kirkwood.

Table 107.7 – Add: Periodic Mechanical Inspection Frequencies:

Item	Frequency	Remarks
Auto Lifts	Annually	
Boilers	Annually	R-2 and R-3 residential heating boilers are exempted
Paint Spray Booth Exhaust Systems	Annually	
Unfired Pressure Vessels (Air Compressors)	Annually	

107.8 – Add: Extra Inspections: In addition to the inspections otherwise required the Code Official is authorized to perform extra inspections or re-inspections which in his judgment are reasonably necessary due to non-compliance with Mechanical Code requirements, or work not

ready or accessible for inspection when requested. Fees for extra inspections shall be as prescribed in Chapter 5, Article VI of the Code of Ordinances of the City of Kirkwood.

108.4 – Delete in its entirety and add: **Violations Penalties:** Any person, firm or corporation who shall violate any provision of this ordinance, or who shall fail to comply with any of the requirements thereof, or who shall erect, construct, alter or repair a structure in violation of an approved plan or directive of the code official, or of a permit or certificate issued under the provisions of the ordinance, or shall start any work requiring a permit without first obtaining a permit therefore, or who shall continue any work in or about a structure after having been served a stop work order, except for such work which that person, firm or corporation has been directed to perform to remove a violation or unsafe condition, or any owner or tenant of a building or premises or any other person who commits, takes part or assists in any violation of this code or who maintains any building or premises in which such violation shall exist, shall be guilty of a misdemeanor punishable by a fine as prescribed in Section 1.8 of the Code of Ordinances of the City of Kirkwood.

108.5 - Amend last sentence of Stop Work Orders to read “Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be guilty of a misdemeanor punishable by a fine as prescribed in Section 1.8 of the Code of Ordinance of the City of Kirkwood.”

108.7.4 - **Leak Testing Methods:** The code official may require tests to be made at any storage or dispensing facility where flammable or toxic liquids, fumes or vapors are detected. The tests shall be conducted by a fully qualified person. The test procedures used shall conform to the recommended practices outlined in NFPA 329-1987 as amended. A written certificate of the results of these tests shall be submitted to the code official as soon as possible following completion of the tests. The code official may order immediate remedial action by the owner or occupant to correct any defects detected as a result of the tests. The code official may order evacuation of any structure or premises if the presence of flammable, combustible or toxic liquids or fumes constitute a direct and imminent danger to the occupants until the danger from fire, explosion or toxicity has been abated.

109.1 – Delete in its entirety and add: **Appeals:** The Board of Appeals appointed under the provisions of the building code shall have jurisdiction to hear all appeals under this code.

109.2 through 109.6.2: DELETE IN THEIR ENTIRETY

312.1.1 – Add: **Design Conditions:** Calculations for sizing HVAC equipment shall use the following minimum design parameters for the City of Kirkwood:

	Outdoor Temperature	Indoor Temperature
WINTER	DB 2 F	DB 72 F
SUMMER	DB 95 F	DB 75 F
	WB 76 F	

312.1.2 – Add: **Air Conditioning Design Conditions.** Where air conditioning is provided in the following occupancies, it shall be designed in accordance with the specified design conditions listed in Section 312.1.1.

1. Private dwellings, single or multiple, and hotel rooms

2. Offices and conference rooms
3. Customer areas in food and beverage service
4. Customer areas in retail stores and specialty shops

401.7 – Add: Moisture sources: Rooms containing bathtubs, showers, spas, and similar bathing fixtures or other sources of excessive moisture shall be mechanically ventilated in accordance with Section 403.

502.1.5 – Add: Exhaust location. It shall be the responsibility of the registered design professional to determine the location, number, and manner that exhaust is collected.

504.6.8 – Add: Multiple Dryers: Multiple domestic dryers shall not be connected to a single exhaust system.

Exception: Multiple domestic clothes dryers may be connected to a single exhaust designed by a registered design professional.

505.2 – Delete in its entirety and add: Makeup Air Required: Exhaust hood systems capable of exhausting in excess of 600 cfm shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

506.1.1 – General: All kitchen exhaust equipment shall be installed in accordance with NFPA 96 and approved by the City of Kirkwood, Fire Marshal.

506.3.9.1 - Cleaning Schedule: A cleaning schedule shall be maintained on the premises and available to the inspector by the owner or occupant for each commercial kitchen exhaust system. The schedule shall indicate methods of cleaning and time intervals between cleanings.

507.2.1 - Add: “, and Conveyor-type Pizza Ovens”

601.5 – Add: Return Air Intakes: Separate return air is required from each floor in multi-story dwelling units regulated by this code. Open stairways shall not be used as a means to convey return air.

603.6.1.1 – Delete in its entirety and add: Duct Length: Flexible air ducts shall be limited to 14 feet in length.

603.6.1.2 – Add: Duct Penetration Limitations: Flexible air ducts shall not pass through any wall, floor or ceiling.

603.10.1 – Add: Structural Attachment: Hangers and anchors shall be attached to the building construction in a manner approved by the Registered Design Professional.

901.5 - Shutoff Valves: Shutoff valves shall be installed serving decorative gas-fired appliances and shall be installed in the following manner: A combination safety pilot valve with integral shutoff shall be located in the firebox at the appliance connection. A secondary service valve shall be located in the fuel-gas pipe serving only that appliance. Access shall be provided to both shutoff valves.

901.5.1 - Ash Dumps: Fuel-gas piping, serving decorative gas-fired appliances shall be allowed to be installed through an existing ash dump.

901.5.2 - Piping into a Masonry Firebox: Above ground gas piping serving an appliance installed in a masonry firebox shall be installed as required by the fuel gas code. A high temperature seal is required on the inside of the firebox and a waterproof seal is required on the outside if exposed to weather.

918.4 – Delete in its entirety and add: Dampers: Volume dampers shall not be placed in the return air inlet to a furnace in a manner that will reduce the required air to the furnace.

Exception: This provision shall not apply to engineered non-residential applications.

1001.1 – Delete in its entirety and add: Scope: This chapter shall govern the installation, alteration, and repair of boilers, water heaters and pressure vessels.

Exceptions:

1. Vessels with a nominal water containing capacity of one hundred twenty gallons or less for containing potable water under pressure, including those containing air, the compression of which serves only as a cushion.
2. Portable unfired pressure vessels and Interstate Commerce Commission containers.
3. Containers for bulk oxygen and medical gas.
4. Unfired pressure vessels that do not exceed any of the following:
 - 4.1 Fifteen cubic feet in volume and two hundred fifty psig when not located in a place of public assembly.
 - 4.2 Five cubic feet in volume and two hundred fifty psig when located in a place of public assembly.
 - 4.3 One and one-half cubic feet in volume or an inside diameter of six inches with no limitation on pressure.
5. Pressure vessels used in refrigeration systems that are regulated by Chapter 11 of this code.
6. Pressure tanks used in conjunction with coaxial cables, telephone cables, power cables and other similar humidity control systems.
7. Any boiler or pressure vessel subject to inspection by federal or state inspectors.
8. Pressure vessels installed on the right-of-way of railroads and used directly in the operation of trains.
9. Pressure vessels designed for and operating at a working pressure not exceeding fifteen psig.
10. Any boiler constructed, reconstructed or maintained as a personal hobby or for other recreation purposes.

11. Vessels containing water and operating as water softeners, water filters, dealkalizers, demineralizers and cold water storage tanks when:
 - 11.1 The temperature of the water in the vessel does not exceed one hundred twenty degrees Fahrenheit.
 - 11.2 Heat is not applied to the water prior to entering the vessel or to the vessel itself.
 - 11.3 The pressure of the water in the vessel does not exceed one hundred fifty psig.
 - 11.4 The vessel does not contain any hazardous, toxic or explosive material.
12. Potable water heaters where none of the following limitations are exceeded which are governed by the City of Kirkwood Plumbing Code:
 - 12.1 Heat input of one hundred ninety nine thousand nine hundred ninety nine [two hundred thousand] (199,999) British thermal units per hour (BTU/hr) (57.1kw).
 - 12.2 Water temperature of two hundred ten degrees Fahrenheit (210 F).
 - 12.3 Nominal water capacity of one hundred nineteen gallons (119 gallons) and which are provided with one or more safety relief valves.
 - 12.4 An operating pressure of 150 psig.

1003.1 – Delete in its entirety and add: General: All pressure vessels shall be constructed in accordance with BPVC Section VIII or similar approved standard and shall be installed in accordance with the manufacturer’s installation instructions.

1004.1 – Delete in its entirety and add: Codes and Standards. Boilers and water heaters shall be designed and constructed in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Sections I, II, IV, V, and IX as applicable. Boilers with a heat input of less than 12,000,000 Btu/hr shall meet the requirements of ASME CSD-1. Single unit boilers with heat inputs of 12,500,000 Btu/hr or greater shall meet the requirements of NFPA 85. Oil-fired boilers and their control systems shall be listed and labeled in accordance with UL 726. Electric boilers and their control systems shall be listed and labeled in accordance with UL 834.

Exceptions: The following shall be exempt from the ASME Code construction requirements of 1004.1:

1. Water heaters where none of the following limitations are exceeded:
 - 1.1 Heat input of two hundred thousand (200,000) British thermal units per hour (BTU/hr) (57.1kw).
 - 1.2 Water temperature of two hundred ten degrees Fahrenheit (210 F).
 - 1.3 Nominal water capacity of one hundred twenty gallons (120 gallons) and which are provided with one or more safety relief valves.
2. Coil-type hot water boilers used only for steam vapor cleaning when none of the following limitations are exceeded:

- 2.1 One inch diameter tubing or three-fourths inch nominal pipe size with no steam drums or headers attached.
- 2.2 Nominal water containing capacity does not exceed six gallons.
- 2.3 Water temperature does not exceed three hundred fifty degrees Fahrenheit.
- 2.4 Steam is not generated within the coil.
- 2.5 One or more safety relief valves must be installed and adequate controls provided.

1006.5 – Delete in its entirety and add: Installation: Safety or relief valves shall be installed directly into the safety or relief valve opening on the boiler or pressure vessel. Valves shall not be located on either side of a safety valve connection. The relief valve shall discharge by gravity.

Exception: Shutoff valves on either side of a safety or relief valve connection appropriate for the unfired system type and allowed by BPVC-2004.

1009.2 – Delete in its entirety and add: Closed-type Expansion Tanks: Closed-type expansion tanks shall be installed in accordance with the manufacturer's installation instructions. The size of the tank shall be based on the capacity of the hot-water-heating system. The minimum size of the tank shall be determined in accordance with the 2008 ASHRAE HVAC Systems and Equipment Handbook.

Add: SECTION 1012 CONDENSATE RETURN

1012 – Add: Condensate when discharging into a sanitary sewer system shall not be in excess of 140F and shall discharge into an open floor drain a special drain connection or an approved receptor. If the floor drain or drain connection to the sewer is above the level of the return piping so that it cannot flow by gravity, an automatic sump pump shall be installed to pump the condensate from the sump to the sewer drain.

1205.1.6 – Delete in its entirety and add: Expansion Tanks: This section is deleted.

1305.6 – Delete in its entirety and add: Fill Piping: A fill pipe shall terminate outside of a building at a point at least 5 feet (1524 mm) from any building opening at the same or lower level. A fill pipe shall terminate in a manner designed to minimize spilling when the filling hose is disconnected. Fill opening shall be equipped with a tight metal cover designed to discourage tampering.

1305.7 – Delete in its entirety and add: Vent Piping: Liquid fuel vent pipes shall terminate outside of buildings at a point not less than 2 feet (610 mm) higher measured vertically or 10 feet measured horizontally from any building opening. Outer ends of vent pipes shall terminate in a weatherproof vent cap or fitting or be provided with a weatherproof hood. All vent caps shall have a minimum free open area equal to the cross-sectional area of the vent pipe and shall not employ screens finer than No. 4 mesh. Vent pipes shall terminate a minimum of 24 inches above the ground to avoid being obstructed with snow or ice. Vent pipes from tanks containing heaters shall be extended to a location where oil vapors discharging from the vent will be readily diffused. If the static head with a vent pipe filled with oil exceeds 10 pounds per square inch (psi) (69 kPa), the tank shall be designed for the maximum static head that will be imposed.

Liquid fuel vent pipes shall not be cross connected with fill pipes, lines from burners or overflow lines from auxiliary tanks.

1307.2 – Delete in its entirety and add: Appliance Shutoff: A shutoff valve shall be installed at the connection to each appliance. The shutoff valve shall be in the same room and within 6 feet of the appliance served. Access shall be provided to the shutoff valve.

1308.1 – Delete in its entirety and add: Testing Required: Fuel oil piping shall be tested in accordance with NFPA 31. Flammable and combustible liquid piping shall be tested in accordance with the International Fire Code.

Add: SECTION 1309 UNDERGROUND STORAGE TANK INSTALLATION

1309.1 – Add: General: Flammable and combustible liquid and fuel oil storage tanks shall be installed in accordance with the International Fire Code.

1309.2 –Add: Anchoring Required: All underground tanks shall be anchored to resist the effects of buoyancy because of a rise in the water table, flooding or accumulation of water from fire suppression operations. Uplift protection shall be provided in accordance with NFPA 30.

Add: SECTION 1310 FUEL-DISPENSING SYSTEMS

1310.1 – Add: General: All fuel-dispensing systems shall be installed in accordance with the International Fire Code.

SECTION 5. Nothing in this ordinance or in the Mechanical Code hereby adopted shall be constructed to affect any suit or proceeding pending in any court, or any rights acquired or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby repealed, as cited herein; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

SECTION 6. If any section, subsection, provision, sentence, clause or phrase of this ordinance or of the “International Mechanical Code 2003” or of the amendments to the “International Mechanical Code 2003” for any reasons held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this ordinance or of said Code, and the City of Kirkwood hereby declares that it would have passed the same even though such portions so held to be unconstitutional had not been included therein.

SECTION 7. This ordinance shall be in full force and effect after its passage and approval, as provided by law.

PASSED AND APPROVED THIS 21ST DAY OF APRIL 2011.

Mayor, City of Kirkwood

ATTEST:

City Clerk

1st Reading: April 7, 2011

2nd Reading: April 21, 2011