

**BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Complaint of	)	
Cameron Creek Apartments,	)	
	)	
Complainant,	)	Case No. 08-1091-GA-CSS
v.	)	
	)	
Columbia Gas of Ohio, Inc.,	)	
	)	
Respondent.	)	

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**DIRECT TESTIMONY OF  
  
JOSEPH BUSCH  
  
ON BEHALF OF  
  
CAMERON CREEK APARMENTS**

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PREPARED DIRECT TESTIMONY  
OF JOSEPH BUSCH

1 **Q: Please provide a brief description of your education, employment**  
2 **history and professional qualifications.**

3  
4 A: Refer to Curriculum Vitae.  
5

6  
7 **Q: How did you first become involved in this matter?**  
8

9 A: Mr. Hart contacted me to see if I would serve as a professional witness.  
10

11  
12 **Q: What steps did you take to verify that gas appliance operations at**  
13 **Cameron Creek were safe?**

14  
15 A: Called Columbus to see that final Certificates of Occupancy were issued.  
16

17  
18 **Q: What steps did you take to verify that combustion air feeding gas**  
19 **appliances operations at Cameron Creek was adequate so as to be safe?**  
20

21 A: Other than checking Certificates of Occupancy I did not do any testing.  
22

23  
24 **Building Codes at the Time of Cameron Creek Apartments Approval**  
25

26  
27 **Q: What was your position and duties with the City of Columbus at the time**  
28 **of Cameron Creek Apartments approval in 1996?**

29  
30 A: Chief Building Official for Columbus over seeing all aspects of the building  
31 department – building services divisions.  
32

33  
34 **Q: What Code was legally in effect in Columbus at time of original approval**  
35 **of the Cameron Creek apartments in 1996?**

36  
37 A: The Ohio Building Code or the Ohio Basic Building Code.  
38  
39

1 **Q: How was this Code adopted so as to be in effect in Columbus, Ohio?**

2  
3 A: By City Ordinance.  
4

5  
6 **Q: In addition to being a local adopted Code was this Code also adopted**  
7 **statewide throughout Ohio?**  
8

9 A: It is the statewide commercial building code.  
10

11  
12 **Q: Would the Columbus Building Department have utilized this Code in**  
13 **approving the combustion air requirements for gas appliance operations in**  
14 **buildings at Cameron Creek?**  
15

16 A: Yes.  
17

18  
19 **Q: Would this Code have allowed a combination of indoor and outdoor air**  
20 **to feed the combustion of gas appliances at Cameron Creek Apartments?**  
21

22 A: Yes.  
23

24  
25 **Q: Was this because building codes at the time of Cameron Creek's**  
26 **approval recognized that construction was not "tight" with regard to air**  
27 **infiltration?**  
28

29 A: Yes and combustion air was allowed to be verified by calculation utilizing  
30 ASHREA Standards.  
31

32  
33 **Q: Would this Code have allowed the construction/installation of multi-**  
34 **story exhaust vents to serve the gas appliances from multiple apartment**  
35 **units such as these exist at Cameron Creek?**  
36

37 A: Yes.  
38

39  
40 **Q: Would the Columbus Building Department have utilized the National**  
41 **Fuel and Gas Code to evaluate and approve combustion air requirements**  
42 **for gas appliance operations at the Cameron Creek Apartments in 1996?**  
43

44  
45 A: Only if it was referenced in the appendix of the Ohio Mechanical Code at that  
46 time, which I do not believe it was.

1 **Q: What is the National Fuel Gas Code?**

2  
3 A: It is a national model code providing standards for design, installation and  
4 maintenance of fossil fuel fired equipment.  
5

6  
7 **Q: Have the NFGC provisions relating to combustion air requirements for**  
8 **gas appliances ever been adopted and in effect in the City of Columbus?**  
9

10 A: Only as references in the Ohio Building Code, Ohio Mechanical Code or the  
11 Ohio Plumbing Code as far as I am aware.  
12

13  
14 **Q: Why have the portions of the NFGC relating to combustion air**  
15 **requirements for gas appliances not been adopted by Columbus or the**  
16 **State of Ohio?**  
17

18 A: The state has authority to adopt portions of a national model code but is not  
19 obligated to adopt them in their entirety.  
20

21  
22 **The Regulatory Status of Older Buildings When New**  
23 **Building Codes are Adopted**  
24

25 **Q: When a new code is adopted or updated are older building approvals**  
26 **considered “out of compliance”?**  
27

28 A: No. If buildings are maintained per the code in effect at time built and no there  
29 is no change of use the buildings are still in an approved condition.  
30

31  
32 **Q: When a new code is adopted or updated are older building approvals**  
33 **considered to be “unsafe” or “dangerous”?**  
34

35 A: No as long as maintained as approved.  
36

37  
38 **Q: Do older building that were previously approved under an older code**  
39 **automatically represent “code violations” when a new code is adopted?**  
40

41 A: No.  
42

43  
44 **Q: How are older buildings brought “up to code”?**  
45

1 A: Only if a “serious hazard” as decided by the Chief Building Official of the local  
2 jurisdiction is discovered, otherwise no changes are required.

3  
4 **Q: As a general policy, has Columbus typically operated under what is**  
5 **referred to as a “like for like” policy to allow the replacement of certain**  
6 **house components?**

7  
8 A: Yes, as long as a permit is pulled so an inspector can verify the work is done  
9 safely and per code.

10  
11  
12 **Q: In general terms, please describe how this policy has worked through**  
13 **the years with regard to a hot water tanks, for example.**

14  
15 A: Other than contractors that perform replacement work without a permit it  
16 works well.

#### 17 18 19 **Prohibition Against Retroactive Code Application**

20  
21 **Q: Please describe the concept under Ohio law and building codes that**  
22 **prohibits the application of new codes to older approved buildings that is**  
23 **referred to as the “anti-retroactivity” provision.**

24  
25 A: As long as the building is maintained under the code in affect at that time and  
26 no serious hazards found, it is deemed safe for occupancy.

27  
28  
29 **Q: Do you believe that in attempting to apply the standards of the 2006**  
30 **NFGC to the Cameron Creek apartments in 2006, 2007 or 2008 that**  
31 **Columbia Gas was violating the general provision in Ohio law prohibiting**  
32 **retroactive application of building codes?**

33  
34 A: Yes, plus you cannot mix and sections of different code editions to apply to a  
35 special condition. This results in no actual code being used and this would not  
36 be recognized by the local jurisdiction.

37  
38  
39 **Q: Do you believe that in attempting to apply the standards of the 2006 or**  
40 **2007 International Fuel Gas Code to the Cameron Creek apartments in**  
41 **2006, 2007 or 2008 that Columbia Gas was violating the general provision**  
42 **in Ohio law prohibiting retroactive application of building codes?**

43  
44 A: Yes.

1 **Q: Is this because the IFGC was actually adopted as the Ohio Mechanical**  
2 **Code in 2007 and because Cameron Creek was approved by Columbus**  
3 **under the 1996 Ohio Mechanical Code and in attempting to enforce the**  
4 **IFGC in 2006, 2007 or 2008, Columbia was actually attempting to apply a**  
5 **newer version of the Ohio Mechanical Code to older construction approved**  
6 **under an earlier version of that same Code?**

7  
8 A: Yes.  
9

10  
11 **Q: Would Columbia Gas be in violation of this general prohibition against**  
12 **applying codes retroactively if Columbia Gas applied the 1996 or 2006**  
13 **NFGC to construction approved in 1996, when it had not applied the 1996**  
14 **or 2006 NFGC in 1996 at the time of establishment of gas service?**

15  
16 A: Yes.  
17

18  
19 **Q: Can a state certified building department apply codes 10, 11, or 12**  
20 **years later that it had not applied at initial approval?**

21  
22 A: No.  
23

24  
25 **Q: Based on your experience as a code official, if by law a certified**  
26 **building department cannot apply building codes retroactively, can**  
27 **Columbia Gas do so as a public utility?**

28  
29 A: Not to my knowledge.  
30

31  
32 **Q: In your decade of experience as the Chief Building Official of Columbus**  
33 **do you ever remember Columbia Gas attempting to apply building**  
34 **regulations or a construction standard applying to gas appliances**  
35 **retroactively?**

36  
37 A: No.  
38

39  
40 **Q: If retroactive enforcement of building codes was attempted by**  
41 **Columbia Gas during your service in Columbus as Chief Building Official,**  
42 **how was this resolved?**

43  
44 A: To my knowledge this did not happen; however, if it had I would not have  
45 allowed it.  
46

1 **Q: In your service as chief building official were there many apartment**  
2 **dwelling that were approved under provisions similar to the 1996 Ohio**  
3 **Basic Building Code that allowed combustion air for gas appliances to be**  
4 **obtained from indoor and outdoor air sources?**

5  
6 A: Yes, and when in doubt we might have asked for engineered calculations. – I  
7 need to call Joe to check on this one, but I believe this is correct. I sent him an  
8 email.

9  
10  
11 **Q: In your service as chief building official were there many apartment**  
12 **dwelling that were approved under provisions similar to the 1996 Ohio**  
13 **Basic Building Code that allowed multi-story exhaust vents for gas**  
14 **appliances utilizing combination air that served multiple dwelling units?**

15  
16 A: Yes.

17  
18  
19 **Q: Please provide a brief history of changes in construction practices and**  
20 **code evolution, describing approvals under older code and ‘less tight’**  
21 **construction versus newer codes and ‘tighter construction’ as it relates to**  
22 **combustion air requirements.**

23  
24 A: We now count less on infiltration air but look for direct air supply to the gas  
25 appliance.

26  
27  
28 **Q: Are older construction methods and approvals inferior and therefore by**  
29 **definition less safe compared to today’s construction methods and codes?**

30  
31 A: Not necessarily and not at all if properly maintained.

32  
33  
34 **Q: So is it true that as dwellings became more tightly constructed,**  
35 **combustion air requirements have become more stringent relative to**  
36 **obtaining outside air?**

37  
38 A: Not more stringent but a more direct supply of outside air to the appliance.

39  
40  
41 **Q: Is it also true that the apartments at Cameron Creek are not “unusually**  
42 **tight” construction as defined by the building codes and thus allow for an**  
43 **adequate amount of air infiltration into all living areas and interior rooms**  
44 **based on construction practices in the mid-1990s.**

45  
46 A: Yes.

1       **Meeting on July 31, 2008 with Columbia Gas Technical Representatives**

2  
3       **Q: Did you attend a meeting as a representative of Cameron Creek**  
4       **Apartments that included a number of Columbia Gas personnel?**

5  
6       A: Yes.  
7

8  
9       **Q: Who attended that meeting?**

10  
11      A: Karl, his partner/assistant and myself, along with multiple Columbia Gas staff.  
12

13  
14      **Q: What were the purposes of that meeting?**

15  
16      A: To try to find out what the Gas Company wanted and what their specific  
17      concerns were.  
18

19  
20      **Q: When you or Karl Billisits asked for specific details and guidance on**  
21      **what remedial measures Columbia Gas was looking for Cameron Creek to**  
22      **perform, what was the answer?**

23  
24      A: We did not come away with any specific answers from this meeting.  
25

26  
27      **Q: Taken as a whole and based on your overall involvement in this matter**  
28      **and direct contact with Columbia Gas officials, what do you think they**  
29      **wanted Cameron Creek to “guarantee” with regard to gas appliance**  
30      **operations?**

31  
32      A: That all units are guarantee to operate safely without any responsibility on  
33      their part.  
34

35  
36      **Q: Was the requested guarantee realistic? Is such a guarantee possible?**

37  
38      A: Not in my opinion.  
39

40  
41      **Q: Was the “shower incident” that occurred on June 16, 2008 at 5744 Red**  
42      **Carnation Drive at the Cameron Creek Apartments discussed at the**  
43      **meeting?**

44  
45      A: The shower mist could have tripped the detector as well as a gas problem.  
46

1 **Q: What was your opinion of the ‘moisture’ theory – that bathroom or**  
2 **general humidity inhibits safe combustion inside gas appliances offered at**  
3 **the meeting?**

4  
5 A: That such a theory was not necessarily true and that many more factors and  
6 details would have to be known to truly evaluate such a theory.  
7

8  
9 **Q: Since the meeting as you have reviewed vendor records documenting a**  
10 **follow up investigation of this incident, what is your opinion of the cause of**  
11 **any excess carbon monoxide that may have occurred in the unit where the**  
12 **“shower incident” took place?**

13  
14 A: That there was a possible lack of maintenance on that equipment leading to  
15 tank failure or there was vent drafting problem.  
16

17  
18 **Q: What was your understanding of Columbia’s position on Cameron**  
19 **Creek as a result of this meeting?**

20  
21 A: They want all 240 units brought up to current code.  
22

23  
24 **Q: What was the outcome of the meeting?**

25  
26 A: No final decisions or conclusions.  
27

### 28 29 **Columbia Gas Authority to Demand Remedial Construction**

30  
31 **Q: Is it your understanding that under Ohio law, certified building**  
32 **departments are the only entities that have legal authority to enforce,**  
33 **interpret and apply building codes at the local level?**

34  
35 A: Yes.  
36

37  
38 **Q: Do you believe state law allows Columbia to enforce and apply the**  
39 **NFGC by demanding remedial construction or changes to gas appliance**  
40 **configuration as they have at Cameron Creek?**

41  
42 A: No, unless a “serious hazard” is identified by the Chief Building Official and  
43 then only the specific condition that is identified by the Official needs to be  
44 addressed.  
45

1 **Q: Is it your understanding that under Ohio law, certified building**  
2 **departments are the only entities that have legal authority to declare life**  
3 **safety issues related building codes or construction?**

4  
5 A: Yes.  
6  
7

8 **Q: Is it your understanding that under Ohio law, certified building**  
9 **departments are the only entities that have legal authority to find a serious**  
10 **safety hazard related to building codes and construction?**

11  
12 A: Yes to the best of my knowledge.  
13  
14

15 **Q: When the City of Columbus has legal jurisdiction and enforcement**  
16 **authority over a building code issue and Columbia Gas also raises a**  
17 **concern about the same issue, how has this typically been worked out**  
18 **between the City Building Department and Columbia?**

19  
20 A: The two organizations have worked together to address any serious hazard.  
21  
22

23 **Q: In your expert opinion, as a former State Architect and Chief Building**  
24 **Official with ten years of experience, and based on your review of the**  
25 **Cameron Creek Apartments matter, do you believe that Cameron Creek**  
26 **Apartments is in compliance with state and local building codes?**

27  
28 A: Yes, with the condition that proper maintenance will be required and any  
29 identified serious hazard identified by building officials need to be addressed.  
30  
31

32 **Q: In your expert opinion, as a former State Architect and Chief Building**  
33 **Official with ten years of experience, and based on your review of the**  
34 **Cameron Creek Apartments matter, do you believe that combination**  
35 **combustion air, from both inside and outside the buildings, is adequate for**  
36 **safe gas appliance operations?**

37  
38 A: Yes, as long as no source of the design air supply has been blocked or  
39 eliminated.  
40  
41

42 **Q: In your expert opinion, as a former State Architect and Chief Building**  
43 **Official with ten years of experience, and based on your review of the**  
44 **Cameron Creek Apartments matter, do you believe that Cameron Creek**  
45 **Apartment's gas appliances are operating safely?**  
46

1 A: Yes, if properly maintained.

2  
3 **Q: Do the requests for placement of 7 inch combustion air feed ducts to all**  
4 **utility rooms and the separation of all post exhaust vents/chimneys at**  
5 **Cameron Creek Apartments represent demands by Columbia Gas for**  
6 **building alterations?**

7  
8 A: Yes, these would be building alterations. Unless there is proof that the  
9 systems are malfunctioning based on the code used to approve them when built,  
10 the requests are more than excessive.

11  
12  
13 **Q: Do such demands amount to Columbia Gas attempting to regulate**  
14 **construction and applying or enforcing building regulations?**

15  
16 A: Yes in my opinion.

17  
18  
19 **Q: What will happen to the City's enforcement of building codes and**  
20 **regulatory systems if Columbia Gas is allowed to regulate the placement of**  
21 **gas appliances in buildings?**

22  
23 A: A major conflict will arise between the Building Department who has the  
24 current legal authority and the Gas Company.

25  
26  
27 **Q: What will happen to the City's enforcement of building codes and**  
28 **regulatory system if Columbia Gas is allowed apply today's code standards**  
29 **to older approved buildings?**

30  
31 A: Major conflict.

32  
33  
34 **Q: What will happen to the City's enforcement of building codes and**  
35 **regulatory system if Columbia Gas is allowed to apply code standards from**  
36 **1996 that had not been applied previously to older construction?**

37  
38 A: Major lawsuits, conflicts of interest and breaking of the laws that give the  
39 building department such authority.

40  
41  
42 **Q: If Columbia Gas is legally allowed to regulate combustion air**  
43 **requirements, placement and gas appliance configuration and construction**  
44 **of buildings what will happen to the uniform system of code enforcement**  
45 **adopted by the Ohio Legislature through the statewide building code?**  
46

1 A: It would seriously “shake-up” the code enforcement world as we now know it.

2  
3 **Q: Who will have the final approval authority over construction and gas**  
4 **appliances operations and configuration – Columbia Gas or the local**  
5 **building department if Columbia Gas is authorized to perform such**  
6 **regulation?**

7  
8 A: It will not work. The two parties cannot have the same authority

9  
10  
11 **Q: Who will have the final approval authority over construction and gas**  
12 **appliances operations and configuration – the PUCO or the Ohio Board of**  
13 **Building Standards -- Columbia Gas is authorized to perform such**  
14 **regulation?**

15  
16 A: The Ohio Board of Building Standards should have final authority. If not, years  
17 of laws, standards and authority would need to be overturned. I do not believe  
18 this should happen. The Gas Company should submit proposed code changes  
19 that it believes are appropriate through the code change process like everyone  
20 else.

### **CERTIFICATE OF SERVICE**

I hereby certify that a true and accurate copy of the foregoing Prepared Direct Testimony of Joseph Busch was served upon all parties of record by electronic and regular mail on this 1st day of July 2009, upon the following counsel for Columbia Gas of Ohio, Inc.

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WESTLAKE/FRANKLIN, L.P.

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**975 BRYN MAWR DRIVE  
GAHANNA, OH 43230  
(614) 855-8313**

**PROFESSIONAL  
CREDENTIALS**

**REGISTERED ARCHITECT – MEMBER AIA**  
**Current Registrations:**  
Wisconsin, Ohio, Pennsylvania, Florida, NCARB Certificate

**EDUCATION**

**BACHELOR OF ARCHITECTURE**  
Iowa State University, Ames, Iowa

**PROFESSIONAL  
EXPERIENCE**

**CHIEF BUILDING OFFICIAL – CITY OF COLUMBUS, OH**  
Administrative, Code and Professional duties for a staff of approximately 100 people that constitute the Building Department for the largest and fastest-growing community in Ohio. Oversee the code review, permitting and field inspection services for the residential and commercial construction industry for a city of 220 sq. miles.  
January 1995 – Present date

**FIELD SUPERVISION ARCHITECT – Tandy Corporation**  
Full-time Field Supervision and Inspection of 10 million dollar project in Hilliard, OH, known as "The Incredible Universe".  
May 1994 – December 1994

**STATE ARCHITECT, STATE OF OHIO**  
Administrative duties for a staff of approx. 100 people – Processed all Capitol Improvement Projects; avg. annual work load approx. one-half billion dollars of construction per year. Great diversity of building types – also, obtained considerable experience in the resolution of construction disputes. This job utilized my strong communication skills including public speaking, moderating and teaching seminars.  
July 1991 – April 1994

**JOSEPH F. BUSCH & ASSOC., INC. ARCHITECTS & ENGINEERS – OWNER & PRINCIPAL OF FIRM**  
Major areas of activity: Medical office & support facilities, Religious, School Renovation, Industrial & twelve Construction Mgt. Projects. Also, a diversified practice on mid-size commercial projects, local & county government facilities, private clubs, food service retail facilities & periodic large custom residential work. Responsible for all phases of all projects.  
May 1968 – July 1991

**PACKARD ELECTRIC DIVISION OF GENERAL MOTORS  
CORP. - WARREN, OHIO**

**STAFF ARCHITECT FOR DIVISION**

Responsible for 1.2 million Sq. Ft. of expansion – Plant additions  
Office & Personnel buildings, Power plant addition & 140,000 Sq.  
Ft. Engineering & Research facility. Developed strong background  
on “phased” and “fast track” operations to meet each Model year  
schedule.

March 1962 – May 1968

**JOHN J. FLAD & ASSOC. – ARCHITECT & ENGINEER  
MADISON, WISCONSIN**

Job Captain on Hospital & Educational facility projects

October 1957 – March 1962

**U.S. ARMY CORPS OF ENGINEERS – 1<sup>ST</sup> LT.**

Taught Course on Military Fixed Bridges at Engr. School, Fort  
Belvoir, VA

October 1955 – October 1957

**IOWA HIGHWAY COMMISSION – BRIDGE DESIGNER I**

Design and detailing of small reinforced concrete bridges and box  
culverts.

June 1955 – October 1955

## BIOGRAPHICAL OUTLINE

<b>JOSEPH F. BUSCH</b>	Chief Building Official – City of Columbus, Ohio 1/11/95 to date
<b>FAMILY STATUS</b>	Married to my wife Janet 12/29/56 Four children: James, Barbara, Elizabeth, Steven – all married and have college degrees
<b>EDUCATION</b>	High School Graduate – Main Twp. High Park Ridge, Illinois College – Bachelor of Architecture Design Iowa State University Teaching Certificate – Army Corp of Engineers; Fort Belvoir, Virginia
<b>PROFESSIONAL STATUS</b>	Registered Architect in Ohio, Pennsylvania, Wisconsin, Florida N.C.A.R.B. (National Council of Architectural Registration Board) Certificate Holder
<b>PROFESSIONAL RECOGNITION</b>	-“Design of Year” Award Finalist - Youngstown Ohio Chamber of Commerce -Two Energy Conservation Awards – Ohio Edison Company -Director of AIA Columbus -President –V.Pres.– Central Ohio Code Officials Association -“Building Official of the Year 1999” – Central Ohio Code Officials Association -2001 Nominee for “Who’s Who of Public Service” -2001 BX-Cornerstone Award
<b>WORK EXPERIENCE</b>	Teacher at Engineering School – Ft. Belvoir, VA Project Manager - John J. Flad & Assoc. – Madison, WI Staff Architect – Packard Electric Div. G.M. Corp, Warren, OH President – Joseph F. Busch & Assoc. Inc. State Architect – State of Ohio Chief Building Official – City of Columbus, Ohio
<b>HOBBIES SPECIAL INTERESTS</b>	Sports in general, participate in golf, tennis and regular exercise program. Enjoy diverse home projects -- gardening and home design and rehab work. Activity in professional Societies --AIA and Central Ohio Code Officials Association; Family activities.

# CHAPTER 10

## COMBUSTION AIR

M-1001.0	General
M-1002.0	Definitions
M-1003.0	Inside air
M-1004.0	Outdoor air
M-1005.0	Direct connection
M-1006.0	Mechanical ventilation
M-1007.0	Opening obstructions

### Section M-1001.0 GENERAL

**M-1001.1 Scope:** The provisions of this chapter shall govern the requirements for combustion air for all fuel-burning appliances or equipment.

#### CROSS REFERENCES

Mechanical Code, Chapter 12, Chimneys and vents

**M-1001.2 Combustion air required:** All fuel-burning appliances shall be provided with adequate combustion air. Combustion air shall be inside or outdoor air, or shall be provided by a direct outdoor connection or a special engineered system.

**M-1001.3 Circulation of air:** Every room containing fuel-burning equipment shall be designed for the free circulation of air. Adequate provisions shall be made for any openings or devices which cause the depletion of combustion air.

HISTORY: Eff. 7-1-95

### Section M-1002.0 DEFINITIONS

**M-1002.1 General:** The following words and terms shall, for the purposes of this chapter and as stated elsewhere in this code, have the meanings shown herein.

**Combustion air:** The amount of air required for safe and proper combustion.

HISTORY: Eff. 7-1-95

### Section M-1003.0 INSIDE AIR

**M-1003.1 Amount of air:** Inside air shall be available for each fuel-burning appliance at a rate of 40 cubic feet of room air volume per 1,000 British thermal units per hour (Btuh) (3.86 m<sup>3</sup>/kW) input rating. In buildings of tight construction where the air exchange rate is less than 0.5 air changes per hour, additional air shall be provided in accordance with Section M-1004.0 or M-1006.0.

**M-1003.2 Openings:** Where the room in which the appliance is located does not meet the criterion specified in Section 1003.1, openings to adjacent spaces shall be provided so that the combined volume of all spaces meets the criterion. Two openings shall be provided, one near the top of the room and one near the bottom.

**M-1003.2.1 Size of opening:** Each opening shall have an unobstructed area equal to a minimum of 1 square inch per 1,000 Btuh (2201 mm<sup>2</sup>/kW) input rating of all appliances installed in the space, but not less than 100 square inches (64516 mm<sup>2</sup>).

HISTORY: Eff. 7-1-95

### Section M-1004.0 OUTDOOR AIR

**M-1004.1 Connections to outdoors:** Where the space in which fuel-burning appliances are located does not meet the crite-

ri-  
rion for indoor air as specified in Section M-1003.1, the room shall have two openings to the outdoors. One opening shall be located near the top of the room and one near the bottom. Openings are permitted to connect to spaces directly communicating with the outdoors, such as ventilated crawl spaces or attic spaces.

**M-1004.2 Size of horizontal openings:** Each opening through a horizontal duct shall have an unobstructed area equal to a minimum of 1 square inch per 2,000 British thermal units per hour (Btuh) (1100 mm<sup>2</sup>/kW) total input rating. Each direct opening through a wall shall have an unobstructed area equal to a minimum of 1 square inch per 4,000 Btuh (550 mm<sup>2</sup>/kW) total input rating.

**M-1004.3 Size of vertical openings:** Each opening through a floor, ceiling or vertical duct shall have an unobstructed area equal to a minimum of 1 square inch per 4,000 Btuh (550 mm<sup>2</sup>/kW) total input rating.

**M-1004.4 Operation of openings:** Combustion air openings shall be open when the fuel-burning appliance is operating. Dampers are permitted to be electrically connected to the firing cycle of the appliance.

HISTORY: Eff. 7-1-95

### Section M-1005.0 DIRECT CONNECTION

**M-1005.1 General:** Fuel-burning appliances that have been tested for direct combustion air connection to the outdoors shall be installed in accordance with the manufacturer's installation instructions.

HISTORY: Eff. 7-1-95

### Section M-1006.0 MECHANICAL VENTILATION

**M-1006.1 General:** Combustion air is permitted to be provided by the mechanical ventilation system. The supply air rate shall be increased over the required ventilation air by a rate equal to a minimum of 1 cubic foot per minute per 3,000 British thermal units per hour (0.00047 m<sup>3</sup>/s per 0.8793 kW) total input rating. Each appliance shall be electrically connected to the ventilation system to prevent fuel burning when the ventilation system is not in operation.

HISTORY: Eff. 7-1-95

### Section M-1007.0 OPENING OBSTRUCTIONS

**M-1007.1 General:** The unobstructed area of each opening shall be considered for determining combustion air. The opening determined by the manufacturer shall be considered unobstructed.

**M-1007.2 Louvered openings:** The unobstructed area of metal-louvered openings shall be considered 75 percent of the total area. The unobstructed area of wood-louvered openings shall be considered 25 percent of the total area.

HISTORY: Eff. 7-1-95

J-B 2

## 4101:2-1-03 "OHIO BASIC BUILDING CODE"

(A) Chapters 4101:2-1 to 4101:2-69 of the Administrative Code shall be designated the "Ohio Basic Building Code." The "BOCA National Building Code 1993, Twelfth Edition, First Printing, Chapters 2 to 35," as well as the "BOCA National Mechanical Code 1993, Eighth Edition, First Printing, Chapters 2 to 21" as published by the "Building Officials and Code Administrators International, Inc. (BOCA)," are incorporated fully as if set out at length herein with deletions, substitutions and amendments as hereinafter set forth.

(B) "Appendices O and Z" of the building code and "Appendices A and B" of the mechanical code are not adopted by the board of building standards, but are included as informational and reference material.

(C) Where differences occur between provisions of this code and referenced standards listed in Chapters 35 and 53" of the OBBC, the provisions of this code shall apply.

HISTORY: Eff. 7-1-95

1992-93 OMR 1460 (A), eff. 7-5-93; 1992-93 OMR 45 (R-E), eff. 9-1-92; 1988-89 OMR 140 (R-E), eff. 1-1-89; 1985-86 OMR 505 (A), eff. 3-1-86; 1984-85 OMR 683 (A), eff. 3-1-85; 1981-82 OMR 682 (A), eff. 7-1-82; 1980-81 OMR 174 (A), eff. 1-1-81; 1978-79 OMR 4-729 (A), eff. 7-1-79; 1978-79 OMR 4-213 (E), eff. 7-1-79; 1978-79 OMR 4-212 (R), eff. 7-1-79; 1977-78 OMR 3-1079 (A), eff. 7-1-78; prior BB-1-03

## 4101:2-1-04 AUTHORITY TO ADOPT

(A) Pursuant to the applicable provisions of Chapters 119., 3781., and 3791. of the Revised Code, the board of building standards shall formulate and adopt rules governing the erection, construction, repair, alteration, and maintenance of all buildings or classes of buildings specified in section 3781.06 of the Revised Code, the installation of equipment therein, the standards or requirements for materials to be used in connection therewith, and other requirements relating to the safety and sanitation of such buildings.

(B) The rules of the board of building standards shall supersede and govern any order, standard, or rule of the department of commerce, division of fire marshal and the division of industrial compliance therein, and the department of health and of counties and townships, in all cases where such orders, standards or rules are in conflict with the rules of the board of building standards, except that rules adopted and orders issued by the fire marshal pursuant to Chapter 3743. of the Revised Code prevail in the event of a conflict.

HISTORY: Eff. 2-1-96

1988-89 OMR 140 (A), eff. 1-1-89; 1983-84 OMR 248 (A), eff. 10-1-83; 1978-79 OMR 4-213 (E), eff. 7-1-79; 1978-79 OMR 4-212 (R), eff. 7-1-79; prior BB-1-04

### CROSS REFERENCES

Koch, Administrative Law and Practice, Rules and rulemaking, Text Ch 3, Ch 4

## 4101:2-1-05 PURPOSE

(A) To provide uniform minimum standards and requirements for the erection, construction, repair, alteration, and maintenance of buildings, including construction of industrialized units. Such standards shall relate to the conservation of energy, safety, and sanitation of buildings for their intended use and occupancy.

(B) Formulate such standards and requirements, so far as is practicable, in terms of performance objectives, so as to make adequate performance for the use intended the test of acceptability.

(C) Permit to the fullest extent feasible, the use of materials and technical methods, devices, and improvements, including the use of industrialized units which tend to reduce the cost of construction and erection without affecting minimum requirements for the health, safety, and security of the occupants or users of buildings or industrialized units and without preferential treatment of types or classes of materials or products or methods of construction.

(D) Encourage, so far as may be practicable, the standardization of construction practices, methods, equipment, material and techniques, including methods employed to produce industrialized units.

HISTORY: 1978-79 OMR 4-214 (E), eff. 7-1-79  
1978-79 OMR 4-212 (R), eff. 7-1-79; prior BB-1-05

## 4101:2-1-06 LIBERAL INTERPRETATION AND ALTERNATIVE CONSTRUCTION

(A) The OBBC and proceedings thereunder shall be liberally construed in order to promote its purpose under rule 4101:2-1-05 of the Administrative Code. When the building official finds that the proposed design is a reasonable interpretation of the provisions of this code, it shall be approved.

(B) For approval of a device, material or assembly that does not conform to the performance requirements referenced in this code, rules 4101:2-1-66 to 4101:2-1-71 of the Administrative Code shall apply.

HISTORY: Eff. 2-1-96

1994-95 OMR 1856 (A), eff. 7-1-95; 1978-79 OMR 4-214 (E), eff. 7-1-79; 1978-79 OMR 4-212 (R), eff. 7-1-79; prior BB-1-06

## 4101:2-1-07 CONFLICT BETWEEN SPECIAL AND GENERAL PROVISIONS

When a special provision is made in a use group classification of OBBC and is inconsistent with a general provision of OBBC relating to buildings generally, the special provision governs, unless it appears that the provisions are cumulative.

HISTORY: 1978-79 OMR 4-214 (E), eff. 7-1-79  
1978-79 OMR 4-212 (R), eff. 7-1-79; prior BB-1-07

## 4101:2-1-08 VALIDITY

In the event any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions thereof, and it shall be presumed that this code would have been adopted without such illegal or invalid parts or provisions.

HISTORY: 1978-79 OMR 4-214 (E), eff. 7-1-79  
1978-79 OMR 4-212 (R), eff. 7-1-79; prior BB-1-08

## 4101:2-1-09 WHERE APPLICABLE

The OBBC applies to all buildings except as follows:

(A) Single-family, two-family, and three-family dwelling houses which are not constructed of industrialized units, except for the energy conservation provisions required in "Chapter 13, Energy Conservation" of the OBBC (see sections 3781.06, 3781.181, and 3781.182 of the Revised Code);

(B) Buildings owned by and used for a function of the United States government;

(C) Existing buildings where their location, parts, equipment, and other items do not constitute a serious hazard unless otherwise regulated by the provisions of "Chapter 34, Existing Structures" of the OBBC;

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Summary: Testimony Joseph Busch on Behalf of Cameron Creek Apartments electronically filed by Mr. Thomas Hart on behalf of Cameron Creek Apartments