CITY OF NORMAN, OKLAHOMA

CITY COUNCIL
BUSINESS AND COMMUNITY AFFAIRS COMMITTEE
AGENDA

Municipal Building Conference Room
201 West Gray

FRIDAY, OCTOBER 4, 2013

8:30 A.M.

1. **PRESENTATION BY DR. CARLIANNE PATRICK ON LOCAL IMPACT ANALYSIS FOR ECONOMIC DEVELOPMENT PROJECTS.**

2. **DISCUSSION REGARDING ADOPTION OF THE 2009 INTERNATIONAL BUILDING CODE AS ADOPTED BY THE STATE OF OKLAHOMA.**

3. **MISCELLANEOUS DISCUSSION.**

Local Impact Analysis for Economic Development Projects

City of Norman, OK

Business and Community Affairs Committee

October 4, 2013

Dr. Carlianne Patrick

Why do impact analysis?

- Improve incentives negotiations
- Quantify long-term benefits and costs
- Carry out fiduciary responsibility to elected officials and taxpayers
- Improve transparency of the process to decision-makers and the public

Economic and Fiscal Impact

- Economic Impact
  - Change in (annual and cumulative) economic outcomes such as employment, payroll, output, etc.
  - Does not include all aspects of the project, such as financial costs
- Fiscal Impact
  - Change in (annual and cumulative) local government revenues and expenditures

Economic and Fiscal Impact

- Don’t consider other impacts, such as:
  - expanded employment choices for residents;
  - induced development opportunities,
  - traffic congestion, noise;
  - decreased access of existing firms to high-skilled labor; or
  - strategic value.

Economic Impact Analysis

- Direct Impact
  - Employment, payroll, output, etc. of the new facility/project
- Multiplier Effect
  - Indirect and induced economic impacts from the new project and its employees
  - Varies by industry and geographic scale

Fiscal Impact Analysis

- Projection of the change in local government revenues and expenditures/costs as a result of new projects
  - additional tax revenue
  - additional service burden
  - infrastructure improvements
  - the cost of incentives for the project

Using Impact Analysis

- During incentives negotiations
  - Consultants and companies often have estimates of benefits
  - Fiscal analysis required for cost estimates
- In the community process
  - Return on investment of public funds

What tools are available?

- Economic impact analysis for new firms and tourism projects
  - IMPLAN, REMI, RIMSII
- Fiscal impact analysis for new firms and tourism projects
  - WebLOCI, FedFIT, Cost of Community Services Studies

Getting started with WebLOCI

- Economic Impact Group, consulting firm started by the original developers from Georgia Tech
  http://www.economicimpact.com/index2.html
- Training course and annual license fee
- Staff time to collect and gather community data
  - Dependent upon number of communities, departments, and availability of data
- Project analysis
  - Initial Set-up
  - Iterative analysis

Community Data Requirements

- Property and sales tax rates and base
- Public utility rate structure, operating costs, and capacity
- Retail Activity
- Local government budget
- Demographic information (e.g., households, commuting patterns, etc.)
- Economic information (e.g., wages, industry value added per dollar of revenue, etc.)

Sample WebLOCI Output

Benefit/Cost Summary

Summary of Settings | All Details | By Major Category | Fiscal Impact Summary | Misc. Measures

Benefit/Cost	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
TOTAL REVENUES	$0	$85,921	$94,167	$102,105	$100,159	$98,213	$96,267	
TOTAL EXPENDITURES	$0	$12,349	$25,081	$37,428	$37,428	$37,428	$37,428	
NET REVENUES	$0	$73,572	$69,086	$64,677	$62,731	$60,785	$58,839	
Present Value of Net Revenues	$547,388							

View this data in Excel

Sample WebLOCI Output

Miscellaneous Measures

Summary of Settings | All Details | By Major Category | Fiscal Impact Summary | Misc. Measures

Miscellaneous Measures	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	
Jobs held by residents of local jurisdiction	0	99	99	99	99	99	
Jobs held by workforce outside local jurisdiction	0	51	51	51	51	51	
>>>>>Total new employment	**0**	**150**	**150**	**150**	**150**	**150**	
Paid to residents of local jurisdiction	$0	$3,202,875	$3,202,875	$3,202,875	$3,202,875	$3,202,875	$3,
Paid to in-commuters to local jurisdiction	$0	$1,672,125	$1,672,125	$1,672,125	$1,672,125	$1,672,125	$1,
>>>>>Total new income	**$0**	**$4,875,000**	**$4,875,000**	**$4,875,000**	**$4,875,000**	**$4,875,000**	**$4,**
Estimated new households in local jurisdiction	0	20	41	61	61	61	
Estimated new pupils in school system	0	0	0	0	0	0	
By resident employees of local jurisdiction	$0	$2,504,251	$2,504,251	$2,504,251	$2,504,251	$2,504,251	$2,
By in-commuters to local jurisdiction	$0	$692,186	$692,186	$692,186	$692,186	$692,186	$
By facility	$0	$600,000	$600,000	$600,000	$600,000	$600,000	$
By visitors	$0	$0	$0	$0	$0	$0	
>>>>>Total new retail sales	**$0**		**$3,796,437**	**$3,796,437**	**$3,796,437**	**$3,796,437**	**$3,**
Number of visitors	0	0	0	0	0	0	
Duration of stay in days	0.0	0.0	0.0	0.0	0.0	0.0	
Avg. daily expenditure per person	$0	$0	$0	$0	$0	$0	

Sample WebLOCI Report

Community

Name:

Description: [redacted]

Households in the jurisdiction:	67,028	Jurisdiction's local sales tax rate:	.00%
Total employment in the jurisdiction:	113,447	Jurisdiction's total operating budget:	$41,241,397

Property Tax Rates:	Non-Residential		Residential	
	Incorporated Areas	Unincorporated Areas	Incorporated Areas	Unincorporated Areas
Real Property:	3.05	3.39	3.05	3.39
Personal Property:	0.00	0.00	0.00	0.00
Inventory:	0.00	0.00	N/A	N/A

Project

Name: *Project X*

Description: *Project X Basic Quick and Dirty Profile - no utilities no incentives (Sioux Falls or Minnehaha)*

NAICS Code:3261 , .

Facility max payroll:	$4,875,000	Value of real property (building and land) in year 1:	$29,300,000
Facility max jobs:	150	Value of personal property (equip/furn) in year 1:	$0

Group Results *Aggregated*

The detailed reports are displayed in a cash flow statement showing each year's revenues and expenditures. Below are t
first five years and the last year of the forecast period. Also shown is the net present value of discounted net revenues.
These results are based on a *10* year forecast horizon and a Level 3 analysis.

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Last Year
Total Revenues:	$0	$334,181	$299,218	$323,738	$318,788	$313,838.....	$289,086
Total Expenditures:	$0	$171,824	$202,342	$232,387	$208,956	$186,727.....	$165,700
Net Revenues:	$0	$162,357	$96,876	$91,351	$109,832	$127,111.....	$0

Present Value of Net Revenues = $1,124,822

Household, Income, Retail, and Employment Impacts**

Questions

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DATE: September 26, 2013

TO: Business and Community Affairs Committee Members

THRU: Susan F. Connors, Director, Department of Planning and Community Development SFC

FROM: Bob Christian, Permit Manager BC

SUBJECT: Adoption of the 2009 International Building Code (IBC), International Fire Code (IFC), International Existing Building Code (IEBC), International Fuel Gas Code (IFGC), International Mechanical Code (IMC), International Plumbing Code (IPC), and the 2011 National Electrical Code (NEC) as adopted by the State of Oklahoma and Related Code Amendments in Chapter 5 of the City of Norman Code of Ordinances.

Background. The Oklahoma Uniform Building Code Commission (OUBCC) completed the legislative process in calendar year 2012 necessary for the state adoption, with amendments, of the 2009 International Building Code (IBC), International Fire Code (IFC), International Existing Building Code (IEBC), International Fuel Gas Code (IFGC), International Mechanical Code (IMC), International Plumbing Code (IPC), the 2006 edition of the International Energy Conservation Code (IECC) and the 2011 edition of the National Electrical Code (NEC) to be used as the minimum code standards governing the built environment throughout the state. These codes became effective November 1, 2012.

The 2009 edition of the International Residential Code (IRC) is omitted from the preceding list of codes because that code was adopted previously with an effective date within the City of June 2, 2012. Similarly, the 2006 Edition of the International Energy Conservation Code although recently adopted by the state was adopted previously by the City with an effective date of October 22, 2009.

Consistent with the legal authority granting state and local code administration and enforcement jurisdictions the power and discretion to administer the code, Planning and Community Development staff have reviewed the codes and amendments adopted by the state in view of taking steps to recommend formal adoption of those codes with local City amendments.

It is the understanding of staff that the cities of Oklahoma City, Edmond, and Moore have also engaged similar processes to formally adopt the state family of codes.

Discussion. The new codes, if adopted, will result in amendments to Chapter 5 of the City of Norman Code of Ordinances.

The remainder of this memorandum presents information about the proposed amended codes. While public safety and health concerns are the primary focus of the codes used to govern the built environment, certain pragmatic and administrative concerns must also be considered. To this end state and local amendments are employed to address these concerns and provide greater clarity to users of the codes. The detailed state required amendments are included on Attachment 1 (pages 4 through 23), and the proposed new City amendments are included on Attachment 2 (page 24).

In summary:

IBC Chapter 1 amendments address administrative details necessary to dovetail the code with local ordinances and state amendments.
Chapter 12 amendments inform code users of plumbing code requirements pertinent to certain restroom design features.
Chapter 29 amendments seek to address concerns expressed by local designers and developers pertaining to certain plumbing code requirements.
Chapters 31, 32, and 33 amendments seek to address local procedures pertaining to consent for encroachment into the public right of way and permits required for work in the right of way.
Chapter 34 amendments clarify the prevailing state regulatory agency for private sewage disposal and provide local discretion to the building official with regard to materials and methods allowed to address technical issues that are sometimes encountered with existing buildings.

IMC Chapter 3 amendment provides greater liberty to designers and installers seeking to place mechanical equipment in attic spaces.
Chapter 5 amendment provides an alternative solution to venting through the roof for clothes dryers installed in the interior spaces of buildings.

IPC Chapter 2 amendment adds a definition for the term "service sink".
Chapter 3 amendment clarifies a test procedure for inspection services.
Chapter 4 amendments seek to address concerns expressed by local designers and developers pertaining to the supply of drinking water and toilet facilities in certain occupancies, cautions about the use of waterless urinals and provides uniformity of requirements of the IRC for tub/shower valves in residential occupancies.

NEC Chapter 1 amendment continues the special concerns pertaining to the use of aluminum wires inside structures. Chapter 2 amendments continue a special exemption from ground fault protection for certain exterior receptacles, provides a fixed number of outlets in residential wiring to prevent circuit overloads and clarifies a measurement above grade to prevent water from entering electrical equipment enclosures and help ensure the safety of electrical workmen.

IFGC Chapter 3 amendments clarify a measurement to be consistent with all relevant code sections and provide greater liberty to designers and installers seeking to place mechanical equipment in attic spaces.

IEBC No local amendments are recommended for this code which is new to Norman. It is believed the adoption of this code will provide greater clarity for design and enforcement decisions pertaining to existing buildings.

IFC Similar to the **IEBC** no local amendments are recommended for this code. It is believed this code will offer ICC perspectives to City fire code officials.

While many of the proposed local amendments are carryover from previous editions of the codes, the following list depicts the most notable changes that were initiated by the International Code Council (ICC) in its 2009 code editions and by the National Fire Protection Association (NFPA) in its 2011 edition of the NEC.

- ✓ **IBC** enhances information pertaining to ambulatory health care facilities, adult care facilities and high rise buildings. Greater clarity is provided for the design and construction of community storm shelters. Enhances fire protection of certain buildings by requiring greater levels of fire resistant construction. Addresses the construction of multiple buildings above a parking garage. Clarifies requirements for automatic fire protection (sprinkling) of certain education and mercantile buildings.

- ✓ **IMC, IPC, and IFGC** incorporate minimal technical changes primarily to accommodate new equipment technologies.

- ✓ **NEC** employs minimal changes to address energy management device wiring, expansion of arc fault protection (including certain existing equipment when replaced or modified), clarification of grounding electrode system rules, wiring LED's, solar photovoltaic systems, small wind generator electric systems and emergency power and/or alarm wiring systems.

Recommendation. Staff recommends the Business and Community Affairs Committee forward to City Council the 2009 International and the 2011 National Electrical Codes as amended for adoption.

2 Attachments

ATTACHMENT 1

State code amendments

IBC

Chapter 2 definitions:

- The definition of the word "Repair" has been modified to further define a repair to include repair to any build or structure regardless of the classification of the building as a new or existing building. The definition has been modified to read: The reconstruction or renewal (restoration to good or sound condition) of any part of any building for the purpose of its maintenance.

Chapter 3 Use and Occupancy Classification:

- Section 310.1 Residential Group R has been modified to provide clarification between the IBC® 2009 and the International Residential Code® 2009 when R-1 and R-2 classifications are constructed as R-3 classification. The section has been modified to read:
  (1) R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature including: Boarding houses (transient), Hotels (transient), Motels (transient), Congregate living facilities (transient) with 10 or fewer occupants are permitted to comply with the construction requirements for Group R-3, except as otherwise provided for in this code, or shall comply with the International Residential Code®, provided the building is protected by an automatic sprinkler system installed in accordance with Section 903.2.8.
  (2) R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature including: Apartment houses, Boarding houses (non-transient), Convents, Dormitories, Fraternities and sororities, Hotels (non-transient), Live/work units, Monasteries, Motels (non-transient), Vacation time share properties and Congregate living facilities with 16 or fewer occupants are permitted to comply with the construction requirements for Group R-3, except as provided for in this code, or shall comply with the International Residential Code®, provided the building is protected by an automatic sprinkler system installed in accordance with Section 903.2.8.

Chapter 4 Special detailed Requirements Based on Use and Occupancy:

- Section 423.1 General has been revised to provide for alternative design and engineered methods without relying on jurisdictional interpretation. The section has been modified to read: Section 423.1 General. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC-500, FEMA 320, FEMA 361 or other equivalent approved engineered system.

- Section 423.2 Definitions has been revised to modify the definition of a Storm Shelter to remove the specific reference to ICC-500 and to allow for alternative design and engineered methods listed in Section 423.1. This section has been modified to read: STORM SHELTER. A building, structure, or portion(s) thereof, constructed in accordance with the standards listed in Section 423.1 and designated for use during a severe wind storm event, such as a hurricane or tornado.

Chapter 8 Interior Finishes:

- Section 803.1.4. Acceptance criteria for textile and expanded vinyl wall or ceiling coverings tested to ASTM E 84 or UL 723 has been modified to include the word "either" before the two types of standards to provide clarification and prevent a different interpretation other than the intent of the code. This section has been modified to read: Section 803.1.4. Acceptance criteria for textile and expanded vinyl wall or ceiling coverings tested to ASTM E 84 or UL 723. Textile wall and ceiling covering and expanded vinyl wall and ceiling covering shall have a Class A flame spread index in accordance with either ASTM E 84 or UL 723 and be protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 3.3.1.2. Test specimen preparation and mounting shall be in accordance with ASTM E 2404.

Chapter 9 Fire Protection Systems:

- Section 903.2.7 Group M has been modified to reword subsection 4 of this text to provide a reasonable limit for these occupancies and adequate protection without excessive burden on Group M occupancies with small areas of upholstered furniture and mattresses. This section has been modified to read: Section 903.2.7 Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:
  (A) A Group M fire area exceeds 12,000 square feet (1115 square meters).
  (B) A Group M fire area is located more than three stories above grade plane.
  (C) The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 square meters).
  (D) A Group M occupancy where the cumulative area used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 square meters).

- Section 903.6 Pump and riser room size has been added to the code to provide the designer clarification for maintenance clearances needed for these rooms. This section has been added to read: Section 903.6 Pump and riser room size. Fire pump and automatic sprinkler system riser rooms shall be designed with adequate space for all equipment necessary for the installation, as defined by the manufacturer with sufficient working room around the stationary equipment. Clearances around equipment to elements of permanent construction, including other installed equipment and appliances shall be sufficient to allow inspection, service, repair, or replacement without removing such elements of permanent construction or disabling the function of a required fire resistance-rated assembly. Fire Pump and automatic sprinkler riser room shall be provided with a door(s) and unobstructed passageway large enough to allow removal of the largest piece of equipment.

- Section 911.1.3 Size was modified to include an exception to make the fire command center smaller when approved by the fire code official. This section was modified to read: Section 911.1.3. Size. The room shall be a minimum of 200 square feet (19 square meters) with a minimum dimension of 10 feet (3048 mm). Exception: When approved by the fire code official the fire command center can be reduced in size to not less than a minimum of 96 square feet (9 square meters) with a minimum dimension of 8 feet (2438 mm).

Chapter 10 Means of Egress:

- Section 1005.1 Minimum required egress width has been modified to include two more exceptions to modify egress width for all occupancies other than H and I-2 occupancies with sprinklers and a voice evacuation system. This section has been modified to read: Section 1005.1 Minimum required egress width. The means of egress width shall not be less than required by this section. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by 0.3 inch (7.62 mm) per occupant for stairways and by 0.2 inch (5.08 mm) per occupant for other egress components. The width shall not be less than specified elsewhere in this code. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress. Exceptions:
  (A) Means of egress complying with Section 1028;
  (B) For other than H and I-2 occupancies, the capacity, in inches, of means of egress stairways shall be calculated multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.2 inches (5.1 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.
  (C) For other than H and I-2 occupancies, the capacity, in inches, of means of egress components other than stairways shall be calculated multiplying the occupant load served by such component by a means of egress capacity factor of 0.15 inches (3.8 mm) per occupant in building equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.

- Section 1022.1 Enclosures required has been modified to add an eighth exception to the code that will direct users to the correct reference for exemptions to allowances for open stairs. This section has been modified to read: Section 1022.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour when connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Exit enclosures shall lead directly to the

exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1023, except as permitted in Section 1027.1. An exit enclosure shall not be used for any purpose other than means of egress. Exceptions:
(A) In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting opening stories shall not exceed two.
(i) 1.1. The stairway is open to not more than one story above its level of exit discharge; or
(ii) 1.2. The stairway is open to not more than one story below its level of exit discharge.
(B) Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
(C) Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
(D) Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
(E) Stairways in Group I-3 occupancies, as provided for in Section 408.3.8, are not required to be enclosed.
(F) Means of egress stairways as required by Sections 410.5.3 and 1015.6.1 are not required to be enclosed.
(G) Means of egress stairways from balconies, galleries or press boxes as provided for in Section 1028.5.1 are not required to be enclosed.
(H) Stairways complying with exception 3 or 4 of Section 1016.1 are not required to be enclosed.

Chapter 16 Structural Design:

- Section 1611.1 Design rain loads. This section has been modified to increase secondary drain size for short duration intensities. This section has been modified to read: 1611.1 Design rain loads. Each portion of a roof shall be designed to sustain the load of rainwater that will accumulate on it if the primary drainage system for that portion is blocked plus the uniform load caused by water that rises above the inlet of the secondary drainage system at its design flow. The design rainfall shall be based on two conditions: 1) the 100-year hourly rainfall rate indicated in Figure 1611.1; and 2) the 100-year, 5-minute duration rainfall rate of 10.2 inches per hour. Alternately, the 100-year, one-hour and 100-year, 5-minute duration rainfall rates may be determined from approved local weather data.

- Section 1612.2 Definitions. This section has been modified to change the definition of an Existing Structure to correlate with the changed definition in the IEBC® 2009. This section has been modified to read: EXISTING BUILDING OR EXISTING STRUCTURE see "Existing construction" for reference connotation and requirements related to a jurisdiction's flood plain management code, ordinance, or standard. Refer to 3402.1 for reference connotation related to the application of existing building code provisions as provided in Chapter 34, notwithstanding other

flood plain management requirements within this code, such as but not limited to "substantial improvement."

Chapter 18 Soils and Foundations:

- Section 1809.4 Depth and width of footings has been modified to provide an exception to the code for minor buildings such as small storage buildings to be constructed without expensive foundations and be mounted on skids and would apply to light gage metal or similar carports provided they are adequately anchored. This section has been modified to read: Section 1809.4 Depth and width of footings. The minimum depth of footings below the undisturbed ground surface shall be 12 inches (305 mm). Where applicable, the requirements of Section 1809.5 shall also be satisfied. The minimum width of footings shall be 12 inches (305 mm). Exception: Single story free-standing building meeting all of the following conditions shall be permitted without footings:
  (1) Assigned to Occupancy Category 1, in accordance with Section 1604.5;
  (2) Light-frame wood or metal construction;
  (3) Area of 400 square feet (37 square meters) or less;
  (4) Eave height of 10 feet (3048 mm) or less; and
  (5) Building height of 15 feet (4575 mm) or less.
  Such buildings shall have an approved wooden floor, or shall be placed on a concrete slab having a minimum thickness of 3 1/2 inches (89 mm). Buildings shall be anchored to resist uplift as required by Section 1609.

Chapter 29 Plumbing Systems:

- Table [P] 2902.1 Minimum number of required plumbing fixtures has been modified. It has been modified to add footnote "g" to number 2 (classification of business) and number 6 (classification of mercantile). The footnote will be added to the Other column of the table at the end of the service sink requirement. This section has been modified to read: [P] 2902.1 Minimum number of required plumbing fixtures. Footnote "g". For business and mercantile occupancies with an occupant load of 15 or fewer, service sinks shall not be required.

- Section 2902.2 Separate facilities. This section has been modified to change the occupant load in the third exception from 50 to 100 occupants. This section has been modified to read: Section [P] 2902.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex. Exceptions:
  (A) Separate facilities shall not be required for dwelling units and sleeping units.
  (B) Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or less.
  (C) Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or less.

IMC

Chapter 2 Definitions:

- The definition of a Commercial Cooking Appliance has been modified to further define a commercial cooking appliance. The definition has been modified to read: Appliances used in a commercial food service establishment for heating or cooking food and which produce grease vapors, steam, fumes, smoke or odors that are required to be removed through a local ventilation system. Such appliances include deep fat fryers; upright broilers; griddles; broilers; steam-jacketed kettles; hot-top ranges; under-fired broilers (charbroilers); ovens; barbeques; rotisseries; and similar appliances. For the purpose of this definition, a food service establishment shall include any building or a portion thereof used for the preparation and serving of food that is not a kitchen in a single-family dwelling unit or apartment.

Chapter 3 General Regulations:

- Section 301.12 Wind resistance. This section has been modified to allow design and installation of equipment and appliances that are exposed to wind to be built in accordance with SMACNA HVAC Duct Construction Standards – Metal or Flexible or other approved methods. This section has been modified to read: Mechanical equipment, appliances and supports that are exposed to wind shall be designed and installed to resist the wind pressures determined in accordance with the International Building Code, SMACNA HVAC Duct Construction Standards - Metal and Flexible, or other approved methods.
- Section 304.11 Guards. This section has been modified to require guards around components requiring routine service and unprotected skylight openings. This section has been modified to read: Guards or parapet walls shall be provided where appliances, equipment, fans (or other components that require routine service) or roof hatches are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the adjacent surface or grade below. The guards or parapet walls shall extend not less than 30 inches (762 mm) beyond each end of such appliances, equipment, fans, components, and roof hatch openings; and the top of the guard or parapet wall shall be located not less than 42 inches (1067 mm) above the adjacent surface. Guards shall be constructed to prevent the passage of a 21-inch diameter (533 mm) sphere and shall comply with the loading requirements for guards as specified in the International Building Code®. Guards shall also be provided where appliances, equipment, fans (or other components that require routine service) are located within 10 feet (3048 mm) of a roof hatch or unprotected skylight. Skylights shall be considered protected if the level of the lowest edge of the skylight is on a raised curb 42 inches (1067 mm) above the roof level, or if the skylight is protected by some other approved means to prevent personnel from falling through the opening.

Chapter 5 Exhaust Systems:

- Section 507.1 General. This section has been modified to add Section 507.9 to exception number one. This section shall now read: Commercial kitchen exhaust

hoods shall comply with the requirements of this section. Hoods shall be Type I or II and shall be designed to capture and confine cooking vapors and residues. Commercial kitchen exhaust hood systems shall operate during the cooking operation. Exceptions:

(A) Factory-built commercial exhaust hoods which are tested in accordance with UL 710 listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.7, 507.9, 507.11, 507.12, 507.13, 507.14 and 507.15.

(B) Factory-built commercial cooking recirculating systems which are tested in accordance with UL 710B, listed, labeled, and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14, and 507.15. Spaces in which such systems are located shall be considered to be kitchens and shall be ventilated in accordance with Table 403.3. For the purpose of determining the floor area required to be ventilated, each individual appliance shall be considered as occupying not less than 100 square feet (9.3 meters squared).

(C) Net exhaust volumes for hoods shall be permitted to be reduced during part-load cooking conditions, where engineered or listed multispeed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this section. Reduced volumes shall not be below that required to maintain capture and removal of effluents from the idle cooking appliances that are operating in standby mode.

- Section 507.2.1 Type I hoods. This section has been modified to add an exception for installation of Type II hoods when specific conditions are met. This section has been modified to read: Type I hoods shall be installed where cooking appliances produce grease or smoke. Type I hoods shall be installed over medium-duty, heavy-duty, and extra-heavy-duty cooking appliances. Type I hoods shall be installed over light-duty cooking appliances that produce grease or smoke. Exception: Type II hoods shall be permitted to be installed over medium-duty cooking appliances, ranges and ovens that the code official has determined will not produce appreciable amounts of grease and/or smoke. Where cooking appliances, ranges and/or ovens have been approved by the code official for installation under a Type II hood, a sign shall be placed on the wall in close proximity to the hood that reads, "Absolutely No Frying or Grease-Type Cooking Permitted."

Chapter 6 Duct Systems:

- Section 603.4 Metallic ducts. The exception to this section has been stricken.
- Section 604.1 General. This section was modified to add a requirement to duct insulation to conform to SMACNA HVAC Duct Construction Standards – Metal and Flexible. This section has been modified to read: Duct insulation shall conform to the requirements of Sections 604.2 through 604.13, the International Energy Conservation Code and SMACNA HVAC Duct Construction Standards – Metal and Flexible.

IPC

Chapter 2 Definitions:

- The definition of a Grease Interceptor has been modified to delete the original definition and add definitions for hydromechanical and gravity grease interceptors. This section has been modified to read:
  (1) Hydromechanical. Plumbing appurtenances that are installed in the sanitary drainage system to intercept free-floating fats, oils, and grease from waste water discharge. Continuous separation is accomplished by air entrainment, buoyancy and interior baffling.
  (2) Gravity. Plumbing appurtenances of not less than 500 gallons (1893 L) capacity that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from waste water discharge. Separation is accomplished by gravity during a retention time of not less than 30 minutes.

Chapter 3 General Regulations:

- Section 305.6.1 Sewer depth. This section has been modified to include a depth for the septic tank connection unless otherwise approved by the authority having jurisdiction. This section has been modified to read: Building sewers that connect to private sewage disposal systems shall be a minimum of 12 inches (305 mm) or as approved by the authority having jurisdiction below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 12 inches (305 mm) below grade.
- Section 312.1 Required tests. This section has been modified to allow the authority having jurisdiction to determine if the tests will be done using water or air and if a final test of the entire system will be required. This section has been modified to read: The permit holder shall make the applicable tests prescribed in Sections 312.2 through 312.10 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the code official when the plumbing work is ready for tests. The equipment, material, power and labor necessary for the inspection and test shall be furnished by the permit holder and the permit holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests. All plumbing system piping shall be tested with either water or, for piping systems other than plastic, by air as approved. After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be submitted to final tests when required by the authority having jurisdiction. The code official shall require the removal of any cleanouts if necessary to ascertain whether the pressure has reached all parts of the system.
- Section 312.2 Drainage and vent water test. This section has been modified to allow the authority having jurisdiction to specify the test may be done with less than a 10 foot (3048 mm) head of water. This section has been modified to read: A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water,

but no section shall be tested with less than a 10-foot (3048 mm) head of water or as required. In testing successive sections, at least the upper 10 feet (3048 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 10 feet (3048 mm) of the system, shall have been submitted to a test of less than a 10-foot (3048 mm) head of water or as required. This pressure shall be held for at least 15 minutes. The system shall then be tight at all points.

- Section 312.3 Drainage air test. This section has been modified to remove the words "and vent" to the section title.
- Section 312.4 Drainage and vent final test. This section has been modified to allow the authority having jurisdiction to determine if the test is required. It has been modified to read: The final test of the completed drainage and vent systems where required shall be visual and in sufficient detail to determine compliance with the provisions of this code. Where a smoke test is utilized, it shall be made by filling all traps with water and then introducing into the entire system a pungent, thick smoke produced by one or more smoke machines. When the smoke appears to stack openings on the roof, the stack openings shall be closed a pressure equivalent to a 1-inch water column (248.8 Pa) shall be held for a test period of not less than 15 minutes.
- Section 312.5 Water supply system test. This section has been modified to allow the authority having jurisdiction to determine another approved system for testing. This section has been modified to read: Upon completion of a section of or the entire water supply system, or portion completed, shall be tested and proved tight under a water pressure not less than the working pressure of the system; or, for piping systems other than plastic or as approved, by an air test of not less than 50 psi (344 kPa). This pressure shall be held for at least 15 minutes. The water utilized for tests shall be obtained from a potable source of supply. The required tests shall be performed in accordance with this section and Section 107.
- Section 312.6 Gravity sewer test. This section has been modified to allow the authority having jurisdiction to determine if this test is required. This section has been modified to read: Where required, gravity sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer, filling the building sewer with water, testing with not less than a 10-foot (3048 mm) head of water and maintaining such pressure for 15 minutes.
- Section 312.9 Shower liner test. This section has been modified to allow the authority having jurisdiction to determine if this test is required. This section has been modified to read: Where shower floors and receptors are made water-tight by the application of materials required by Section 417.5.2, the completed liner installation, where required by the authority having jurisdiction, shall be tested. The pipe from the shower drain shall be plugged water tight for the test. The floor and receptor area shall be filled with potable water to a depth of not less than 2 inches (51 mm) measured at the threshold. Where a threshold of at least 2 inches (51 mm) high does not exist, a temporary threshold shall be constructed to retain the test water in the lined floor or receptor area to a level not less than 2 inches (51 mm) deep measured at the threshold. The water shall be retained for a test period of not less than 15 minutes, and there shall not be evidence of leakage.
- Section 314.1 General. This section has been modified to delete the original section and add a requirement to reference the International Mechanical Code for work with

condensate disposal. This section has been modified to read: Condensate disposal shall be in accordance with the International Mechanical Code.

- Section 314.2 Evaporators and cooling coils. This section has been stricken from the code.
- Section 314.2.1 Condensate disposal. This section has been stricken from the code.
- Section 314.2.2 Drain pipe materials and sizes. This section has been stricken from the code.
- Table 314.2.2 Condensate drain sizing. This table has been stricken from the code.
- Section 314.2.3 Auxiliary and secondary drain system. This section has been stricken from the code.
- Section 314.2.3.1 Water-level monitoring devices. This section has been stricken from the code.
- Section 314.2.3.2 Appliance, equipment and insulation in pans. This section has been stricken from the code.
- Section 314.2.4 Traps. This section has been stricken from the code.

Chapter 4 Fixtures, Faucets and Fixture Fittings:

- Table 403.1 Minimum number of required plumbing fixtures. This table has been modified to include a footnote "g" in the Other column of the table at the end of the service sink requirement to number 2 (classification of business), and number 6 (classification of mercantile).The footnote "g" shall read: For business and mercantile occupancies with an occupant load of 15 or fewer, service sinks shall not be required.
- Section 403.2 Separate facilities. This section was modified to change the maximum occupant load in exception three from 50 to 100. This section shall now read: Where plumbing fixtures are required, separate facilities shall be provided for each sex. Exception:
  (A) Separate facilities shall not be required for dwelling units and sleeping units.
  (B) Separate facilities shall not be required in structures or tenant spaces with a total occupancy load, including both employees and customers, of 15 or less.
  (C) Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or less.
- Section 403.3.1.1 Toilet room ingress and egress. This section was added to the code to restrict toilet rooms from opening directly into a room used for the preparation of food for service to the public. This section shall read: Toilet rooms shall not open directly into a room used for the preparation of food for service to the public.
- Section 405.8 Slip joint connections. This section has been modified to allow installation of slip joints anywhere between the fixture and trap outlet. It has been modified to read: Slip joints shall be made with an approved elastomeric gasket and shall be installed from fixture outlet to trap outlet seal. Fixtures with concealed slip-joint connections shall be provided with an access panel or utility space at least 12 inches (305 mm) in its smallest dimension or other approved arrangement so as to provide access to the slip joint connections for inspection and repair.
- Section 417.5.2.6 Liquid type, trowel applied, load bearing, bonded water proof materials. This section has been added to allow for new technology in the market. This section shall read: Liquid type, trowel applied, load bearing, bonded waterproof materials shall meet the requirements of ANSI A118.10 and shall be applied in accordance with the manufacturer's installation instructions.

Chapter 5 Water Heaters:

- Section 504.4.1 Installation. This section has been modified to provide for pressure relief on storage tanks that have an ability to heat water. This section has been modified to read: Such valves shall be installed in the shell of the water heater tank. Temperature relief valves shall be so located in the tank as to be actuated by the water in the top 6 inches (152 mm) of the tank served. For installations with separate storage tanks, the approved, self-closing (levered) pressure relief valve and the temperature relief valve or combination thereof conforming to ANSI Z21.22 valves shall be installed on both the storage water heater and storage tank. There shall not be a check valve or shutoff valve between a relief valve and the heater or tank served.
- Section 504.6 Requirements for discharge piping. This section has been modified to include an additional requirement where discharging to outdoor areas subject to freezing. This section has been modified to read: The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:
  (A) Not be directly connected to the drainage system.
  (B) Discharge through an air gap located in the same room as the water heater.
  (C) Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
  (D) Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
  (E) Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
  (F) Discharge in a manner that does not cause personal injury or structural damage.
  (G) Discharge to a termination point that is readily observable by the building occupants.
  (H) Not be trapped.
  (I) Be installed so as to flow by gravity.
  (J) Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
  (K) Not have a threaded connection at the end of such piping.
  (L) Not have valves or tee fittings.
  (M) Be constructed of those materials listed in Section 605.4 or materials tested, rated and approved for such use in accordance with ASME A112.4.1
  (N) Where discharging to the outdoors in areas subject to freezing, discharge piping shall be first piped to an indirect waste receptor through an air gap located in a conditioned area.

Chapter 6 Water Supply and Distribution:

- Section 605.3 Water service pipe. This section has been modified to require piping materials not third-party certified for water distribution to terminate a minimum of 30 inches outside the structure. This section has been modified to read: Water service pipe shall conform to NSF 61 and shall conform to one of the standards listed Table 605.3. All water service pipe or tubing, installed underground and outside of the structure, shall have a minimum working pressure rating of 160 pounds per square inch (1100 kPa) at 73.4 degrees Fahrenheit (23 degrees Celsius). Where the water pressure exceeds 160 pounds per square inch, (1100 kPa), piping materials shall have

a minimum rated working pressure equal to the highest available pressure. Water service piping materials not third-party certified for water distribution shall terminate a minimum of 30 inches (762 mm) outside the structure at or before the full open valve located at the entrance to the structure. All ductile iron water service piping shall be cement mortar lined in accordance with AWWA C104.

- Section 606.1 Location of full-open valves. This section has been modified to delete a requirement to install full open-valves on the discharge side of every water meter. This section has been modified to read: Full open-valves shall be installed in the following locations:
  (A) On the building water service pipe from the public water supply near the curb.
  (B) On the water distribution supply pipe at the entrance into the structure.
  (C) On the base of every water riser pipe in occupancies other than multiple-family residential occupancies that are two stories or less in height and in one-and two-family residential occupancies.
  (D) On the top of every water down-feed pipe in occupancies other than one- and two-family residential occupancies.
  (E) On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.
  (F) On the water supply pipe to a gravity or pressurized water tank.
  (G) On the water supply pipe to every water heater.
- Section 607.1.1 Temperature limiting means. This section was added to restrict a thermostat control for a water heater to serve as the temperature limiting means for the purpose of complying with the requirements of the code for maximum allowable hot or tempered water delivery temperatures at fixtures. This section shall read: A thermostat control for a water heater shall not serve as the temperature-limiting means for the purposes of complying with the requirements of this code for maximum allowable hot or tempered water delivery temperatures at fixtures.
- Section 608.16.5 Connections to lawn irrigation systems. This section has been modified to add a spill resistant backflow preventer as an option for protection. This section has been modified to read: The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a spill resistant backflow preventer or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

Chapter 7 Sanitary Drainage:

- Section 707.1 Prohibited joints. This section has been modified to include an exception for saddle-type fittings to be used for connecting a building sewer to a public sewer. This section has been modified to read: The following types of joints and connections shall be prohibited:
  (A) Cement or concrete joints.
  (B) Mastic or hot-pour bituminous joints.
  (C) Joints made with fittings not approved for the specific installation.

(D) Joints between different diameter pipes and made with elastomeric rolling O-rings.
(E) Solvent-cement joints between different types of plastic pipe.
(F) Saddle type fittings. Exception: Saddle-type fittings may be used to connect the building sewer to a public sewer.

- Section 715.1 Sewage backflow. This section has been modified by striking the requirements of plumbing fixtures having flood level rims above the elevation of the next upstream manhole cover in the public sewer system. It has been modified to read: Where plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the public sewer, the fixtures shall be protected by a backwater valve installed in the building drain or horizontal branch servicing such fixtures.

Chapter 8 Indirect/Special Waste:

- Section 802.1.8 Food utensils, dishes, pots and pans sinks. This section was modified to remove the option for a direct connection to the drainage system. This section has been modified to read: Sinks used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or service ware used in the preparation, serving or eating of food shall discharge indirectly through an air gap or an air break to the drainage system.

Chapter 9 Vents:

- Section 904.1 Roof extension. This section has been modified to specify the number of inches where the open vent pipes that extend through the roof shall be terminated. This section has been modified to read: All open vent pipes that extend through a roof shall be terminated at least 6 inches (152 mm) above the roof, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet (2134 mm) above the roof.

Chapter 10 Traps, Interceptors, and Separators:

- Section 1002.4 Trap seals. This section has been modified to allow for new technology to be utilized for installation when approved by the authority having jurisdiction. This section has been modified to read: Each fixture trap shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm), or deeper for special designs relating to accessible fixtures. Where a trap seal is subject to loss by evaporation, a trap seal primer valve or other approved trap seal device shall be installed. Trap seal primer valves shall connect to the trap at a point above the level of the trap seal. A trap seal primer valve shall conform to ASSE 1018 or ASSE 1044.
- Section 1003.3.1 Grease interceptors and automatic grease removal devices required. This section has been modified to allow for installation of grease interceptors on or above the floor when there is a lack of space or other constraints that prevent the installation of a replacement grease interceptor. This section has been modified to read: A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school

kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include pot sinks, prerinse sinks; soup kettles or similar devices; wok stations; floor drains or sinks into which kettles are drained; automatic hood washing units and dishwashers without prerinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Where lack of space or other constraints prevent the installation or replacement of a grease interceptor, one or more grease interceptors shall be permitted to be installed on or above the floor.

- Section 1003.3.4 Hydromechanical grease interceptors and automatic grease removal devices. This section has been modified to reference only hydromechanical grease interceptors provide standards for hydromechanical grease interceptors and removes the exception to locate grease interceptors over 500 gallons outdoors. This section has been modified to read: Hydromechanical grease interceptors and automatic grease removal devices shall be sized in accordance with ASME A112.14.3 Appendix A, or ASME A112.14.4, CSA B481.3, or PDI G101. Hydromechanical grease interceptors and automatic grease removal devices shall be designed and tested in accordance with ASME 112.14.3 or ASME 112.14.4, CSA B481.1, PDI G101 or PDI G102. Hydromechanical grease interceptors and automatic grease removal devices shall be installed in accordance with the manufacturer's instructions. Where manufacturer's instructions are not provided, hydromechanical grease interceptors and grease removal devices shall be installed in compliance with ASME A112.14.3, ASME A112.14.4, CSA B481.3 or PDI G101. This section shall not apply to gravity grease interceptors.

Chapter 11 Storm Drainage:

- Section 1107.3 Sizing of secondary drains. This section has been modified to include the use of scuppers or increase the sizing of secondary drains to accommodate rainfalls of 10.2 inches per hour for a 5-minute duration and includes minimum design loads. This section has been modified to read: Secondary (emergency) roof drain systems or scuppers shall be sized in accordance with Section 1106 based on a rainfall rate of 10.2 inches per hour for a 5-minute duration. In sizing secondary roof drain systems using Tables 1106.2, 1106.3 and 1106.6, the Horizontally Projected Roof Area shall be determined by dividing the Horizontally Projected Roof Area for 1-inch rain fall per hour rate by 10.2 inches per hour. Secondary roof scuppers shall by designed in accordance with ASCE/SEI 7-05 Minimum Design Loads for Buildings and Other Structures, Chapter 8 C8-RAIN LOADS published by the American Society of Civil Engineers and Structural Engineering Institute. Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall not have an opening dimension of less than 4 inches (102 mm). The flow through the primary system shall not be considered when sizing the secondary roof drain system or scuppers.

IFGC

Chapter 3 General Regulations:

- Section 307.2.1 Condensate drains. This section has been added to the code to require condensate drains to be protected from freezing. This section shall read: Where condensing appliances are in locations subject to freezing conditions, the condensate drain line must be protected from freezing in an approved manner and in accordance with manufacturer installation instructions.
- Section 308.1 Scope. This section has been modified to include gypsum board as a combustible material. This section has been modified to read: This section shall govern the reduction in required clearances to combustible materials, including gypsum board, and combustible assemblies for chimneys, vents, appliances, devices and equipment. Clearance requirements for air-conditioning equipment and central heating boilers and furnaces shall comply with Section 308.3 and 308.4.
- Section 310.1.1 CSST. This section has been modified to add an exception to allow for installation when using new special CSST. This exception shall read: Exception: Special corrugated stainless steel gas products or systems that have been designed, manufactured and listed for installation without direct bonding shall be permitted to be installed in accordance with the manufacturer's installation instructions.

Chapter 4 Gas Piping Installations:

- Tables 402.4(6), 402.4(7), 402.4(8), 402.4(9), 402.4(10), 402.4(11), and 402.4(12). These tables have been stricken from the code.
- Section 404.8.1 Insulated union on building riser. This section has been added to the code as a means to isolate the gas piping from the grounding. It shall read: All underground gas piping systems shall have an insulated union installed above ground level before the service enters the building.
- Section 404.10. Minimum burial depth. This section has been modified to change the minimum burial depth from 12 inches (305 mm) to 18 inches (457 mm) and to allow for an exception when there is no ability to meet that minimum depth. This section has been modified to read: Underground piping systems shall be installed a minimum depth of 18 inches (457 mm) below grade, except as provided for in Section 404.10.1. Exception: Where a minimum depth of 18 inches (457 mm) of cover cannot be provided, the pipe shall be installed in conduit or bridged (shielded).
- Section 404.10.2. Separation of gas piping from other piping systems. This section has been added to the code as a means to prevent damage to other systems that may have been buried in the same ditch. This section shall read: Gas pipe and any other piping systems shall be separated by 18 inches (457 mm) of undisturbed or compacted earth.
- Section 404.16 Prohibited devices. This section was modified to add a second exception to allow for new technology to be utilized. The second exception shall read: An approved fitting or device where the gas piping system has been sized to accommodate the pressure drop of the fitting or device.
- The International Code Council Emergency Amendment dated September 27, 2010 has been adopted. This amendment replaces in its entirety Sections 406.7 through Section 406.7.3 of the IFGC®. These sections shall now read:

(A) Section 406.7 Purging: The purging of piping shall be in accordance with Sections 406.7.1 through 406.7.3
(B) Section 406.7.1 Piping systems required to be purged outdoors. The purging of piping systems shall be in accordance with the provisions of Sections 406.7.1.1 through 406.7.1.4 where the piping system meets either of the following:
(i) The design operating gas pressure is greater than 2 psig (13.79 kPa).
(ii) The piping being purged contains one or more sections of pipe or tubing meeting the size and length criteria of Table 406.7.1.1
(C) Section 406.7.1.1 Removal from service. Where existing gas piping is opened, the section that is opened shall be isolated from the gas supply and the line pressure vented in accordance with Section 406.7.1.3. Where gas piping meeting the criteria of Table 406.7.1.1 is removed from service, the residual fuel gas in the piping shall be displaced with an inert gas.
(D) Table 406.7.1.1 Size and length of piping. The following measurements for table 406.7.1.1 were added. Footnote "a" in relation to Nominal Pipe Size (inches) states CSST EHD size of 62 is equivalent to nominal 2-inch pipe or tubing size.
(i) When nominal pipe size (inches) is greater than or equal to 2 ½ but less than 3, the length of piping (feet) is greater than 50.
(ii) When nominal pipe size (inches) is greater than or equal to 3 but less than 4, the length of piping (feet) is greater than 30
(iii) When nominal pipe size (inches) is greater than or equal to 4 but less than 6, the length of piping (feet) is greater than 15.
(iv) When nominal pipe size (inches) is greater than or equal to 6 but less than 8, the length of piping (feet) is greater than 10.
(v) When nominal pipe size (inches) is greater than 8, the length of piping (feet) is any length. For SI: 1 inch is equal to 25.4 mm; 1 foot is equal to 304.8 mm.
(E) Section 406.7.1.2 Placing in operation. Where gas piping contains air and meeting the criteria of Table 406.7.1.1 is placed in operation, the air in the piping shall first be displaced with an inert gas. The inert gas shall then be displaced with fuel gas in accordance with Section 406.7.1.3.
(F) Section 406.7.1.3. Outdoor discharge of purged gases. The open end of a piping system being pressure vented or purged shall discharge directly to an outdoor location. Purging operations shall comply with all of the following requirements:
(i) The point of discharge shall be controlled with a shutoff valve.
(ii) The point of discharge shall be located at least 10 feet (3048 mm) from sources of ignition, at least 10 feet (3048 mm) from building openings and at least 25 feet (7620 mm) from mechanical air intake openings.
(iii) During discharge, the open point of discharge shall be continuously attended and monitored with a combustion gas indicator that complies with Section 406.7.1.4.
(iv) Purging operations introducing fuel gas shall be stopped when 90 percent fuel gas by volume is detected within the pipe.
(v) Persons not involved in the purging operations shall be evacuated from all areas within 10 feet (3048 mm) of point of discharge.
(G) Section 406.7.1.4. Combustion gas indicator. Combustion gas indicators shall be listed and shall be calibrated in accordance with the manufacturer's instructions. Combustion gas indicators shall numerically display a volume scale from zero percent to 100 percent in 1 percent or smaller increments.

(H) Section 406.7.2 Piping systems allowed to be purged indoors or outdoors. The purging of piping systems shall be in accordance with the provisions of Section 406.7.2.1 where the piping system meets both of the following:
(i) The design operating gas pressure is 2 psig (13.79 kPa) or less.
(ii) The piping being purged is constructed entirely from pipe or tubing not meeting the size and length criteria of Table 406.7.1.1
(I) Section 406.7.2.1 Purging Procedure. The piping system shall be purged in accordance with one or more of the following:
(i) The piping shall be purged with fuel gas and shall discharge to the outdoors.
(ii) The piping shall be purged with fuel gas and shall discharge to the indoors or outdoors through an appliance burner not located in a combustion chamber. Such burner shall be provided with a continuous source of ignition.
(iii) The piping shall be purged with fuel gas and shall discharge to the indoors or outdoors through a burner that has a continuous source of ignition and that is designed for such purpose.
(iv) The piping shall be purged with fuel gas that is discharged to the indoor or outdoors, and the point of discharge shall be monitored with a listed combustible gas detector in accordance with Section 406.7.2.2. Purging shall be stopped when fuel gas is detected.
(v) The piping shall be purged by the gas supplier in accordance with written procedures.
(J) Section 406.7.2.2 Combustible gas detector. Combustible gas detectors shall be listed and shall be calibrated or tested in accordance with the manufacturer's instructions. Combustible gas detectors shall be capable of indicating the presence of fuel gas.
(K) Section 406.7.3 Purging appliances and equipment. After the piping system has been placed in operation, appliances and equipment shall be purged before being placed into operation.
(7) Section 410.4 Excess flow valve. This section has been added to allow for new technologies in use in the field. This section shall read: Where automatic excess flow valves are installed, they shall be listed for the application and shall be sized and installed in accordance with the manufacturer's instructions.

Chapter 6 Specific Appliances:

- Section 621.4 Prohibited locations. This section has been modified to provide definitions for Groups A, E and I. This section has been modified to read: Unvented room heaters shall not be installed within occupancies in Groups A, E, and I. The location of unvented room heaters shall also comply with Section 303.3 (Use Groups A = Assembly, E = Educational and I = Institutional.

IEBC

Chapter 2 Definitions:

- The definition of an Existing Building has been modified to further define an existing building to include a default date of 10 years from the date of construction, but still allowing for a jurisdiction with the legal authority to select a different date and to

remove the words "appropriate" and "legal building permit" from the definition. A reference to code applicability was added to the definition. The definition has been modified to read: EXISTING BUILDING OR EXISTING STRUCTURE. A building or structure on which construction was begun at least ten (10) years prior to the date of adoption of this code by the State of Oklahoma (or any date may be inserted by a jurisdiction that has the legal right to do so, such as but not limited to 3

counties and municipalities). For code applicability, refer to IEBC® Section 101.4 and Section 1301.2, including associated subparagraphs with each.

- The definition of a Repair has been modified to further define a repair to include repair to any build or structure regardless of the classification of the building as a new or existing building. The definition has been modified to read: The restoration to good or sound condition of any part of any building for the purpose of its maintenance.

Chapter 13 Performance Compliance Methods:

- Section [B] 1301.2 Applicability. This section has been modified to clarify the application of the definition of an existing building. This section has been modified to read: Existing buildings or existing structures on which construction was begun at least ten (10) years prior to the date of adoption of this code by the State of Oklahoma (or any date may be inserted by a jurisdiction that has the legal right to do so, such as but not limited to counties and municipalities) in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of Chapters 4 through 12. The provisions of Sections 1301.2.1 through 1301.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, M, R, and S. These provisions shall not apply to buildings with occupancies in Group H or Group I.

Chapter 15 Referenced Standards:

- The reference to the International Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission". This section has been modified to read: IBC-09 International Building Code® as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission.
- The reference to the International Energy Conservation Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma by the State Fire Marshal until replaced by an adoption done through the Uniform Building Code Commission". This section has been modified to read: IECC-06 International Energy Conservation Code® as adopted and modified by the State of Oklahoma through the State Fire Marshal until replaced by an adoption done through the Uniform Building Code Commission.
- The reference to the International Fire Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission". This section has been modified to read: IFC-09 International Fire Code® as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission.

- The reference to the International Fuel Gas Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission". This section has been modified to read: IFGC-09 International Fuel Gas Code® as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission.
- The reference to the International Mechanical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission". This section has been modified to read: IMC-09 International Mechanical Code® as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission.
- The reference to the International Plumbing Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission". This section has been modified to read: IPC-09 International Plumbing 4 Code as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission.
- The reference to the International Residential Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission". This section has been modified to read: IRC-09 International Residential Code® as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission.
- The referenced standard for NFPA 70® National Electrical Code® has been modified to change the edition year from 2005 to 2011 and add after the title the words "as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission". This section shall now read: 70-11 National Electrical Code® as adopted and modified by the State of Oklahoma through the Uniform Building Code Commission.

IFC

Chapter 2 Definitions:

- The definition for Residential Group R-1 has been modified to clarify the International Residential Code® 2009 can be utilized so long as the facilities have a fire sprinkler system. This definition has been modified to read: R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature including: Boarding houses (transient), Hotels (transient), Motels (transient), Congregate living facilities (transient) with 10 or fewer occupants are permitted to comply with the construction requirements for Group R-3, except as otherwise provided for in this code, or shall comply with the International Residential Code®, provided the building is protected by an automatic sprinkler system installed in accordance with Section 903.2.8.
- The definition for Residential Group R-2 has been modified to clarify the International Residential Code® 2009 can be utilized so long as the facilities have a fire sprinkler system. This definition has been modified to read: R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including Apartment houses, Boarding houses (non-transient), Convents, Dormitories, Fraternities and sororities, Hotels (non-transient), Live/Work units, Monasteries, Motels (non-transient), Vacation

timeshare and Congregate living facilities with 16 or fewer occupants are permitted to comply with the construction requirements for Group R-3, except as otherwise provided for in this code, or shall comply with the International Residential Code®, provided the building is protected by an automatic sprinkler system installed in accordance with Section 903.2.8.

Chapter 5 Fire Service Features:

- Section 508.1.3 Size has been modified to include an exception to make the fire command center smaller when approved by the fire code official. This section has been modified to read: Section 508.1.3 Size. The fire command center shall be a minimum of 200 square feet (19 square meters) in area with a minimum dimension of 10 feet (3048 mm). Exception: When approved by the fire code official the fire command center can be reduced in size to not less than a minimum of 96 square feet (9 square meters) with a minimum dimension of 8 feet (2438 mm).

Chapter 6 Building Services and Systems:

- Section 604.5 Supervision of maintenance and testing has been modified to change the section number to Section 604.6 to allow a new section to be inserted before this section. The section number has been modified to read: Section 604.6 Supervision of maintenance and testing. Routine maintenance, inspection and operational testing shall be overseen by a properly instructed individual.
- Section 604.5 Emergency lighting equipment has been added to the code to outline a procedure for testing emergency lighting equipment. This section has been added to read: Section 604.5 Emergency lighting equipment. Emergency lighting shall be inspected and tested in accordance with Sections 604.5.1 through 604.5.2.1
- Section 604.5.1 Activation test has been added to the code to outline the activation testing requirement for testing emergency lighting. This section has been added to read: Section 604.5.1 Activation test. An activation test of emergency lighting equipment shall be completed monthly. The activation test shall ensure the emergency lighting activates automatically upon normal electrical disconnect and stays sufficiently illuminated for a minimum of 30 seconds.
- Section 604.5.1.1 Activation test record has been added to the code to outline the requirements for record keeping of the monthly activation test. This section has been added to read: Section 604.5.1.1 Activation test record. Records shall be maintained on the premises for a minimum of three years and submitted to the fire code official upon request. The record shall include the location of the emergency lighting tested, whether the unit passed or failed, the date of the test, and the person completing the test.
- Section 604.5.2 Power test has been added to the code to outline a procedure for testing battery powered emergency lighting equipment. This section has been added to read: Section 604.5.2 Power test. For battery powered emergency lighting, a power test of the emergency lighting equipment shall be completed annually. The power test shall operate the emergency lighting for a minimum of 90 minutes and shall remain sufficiently illuminated for the duration of the test.
- Section 604.5.2.1 Power test record has been added to the code to outline the requirements for record keeping of the annual power test. This section has been added to read: Section 604.5.2.1

ATTACHMENT 2

Proposed new local amendments

IBC

Chapter 29, PLUMBING SYSTEMS

- Section 2902.1 Minimum number of fixtures – add "Exception: In occupancies other than assembly, business owners may elect to provide drinking water by a means other than a drinking fountain when the code calculated occupant load is 50 persons or less."
- Section 2902.2 Separate facilities – add new exception "4. In occupancies other than assembly, business owners may elect to provide a single user accessible toilet facility when the code calculated occupant load is 50 persons or less."

IPC

Chapter 2 DEFINITIONS

- Section 202 GENERAL DEFINITIONS – add "SERVICE SINK. In occupancy groups B, M, S and U a service sink is defined as any approved sink, basin or bowl that discharges to the building sewer and can be used in conjunction with a potable water faucet for the purpose of building cleaning and/or maintenance."

Chapter 4 FIXTURES, FAUCETS AND FIXTURE FITTINGS

- Section 403.1 Minimum number of fixtures – add "Exception: In occupancies other than assembly, business owners may elect to provide drinking water by a means other than a drinking fountain when the code calculated occupant load is 50 persons or less."
- Section 403.2 Separate facilities –add new exception "4. In occupancies other than assembly, business owners may elect to provide a single user accessible toilet facility when the code calculated occupant load is 50 persons or less."