BY AUTHORITY

ORDINANCE NO. COUNCIL BILL NO. 12-0157

SERIES OF 2012 COMMITTEE OF REFERENCE:

Health, Safety, Education, & Services

A BILL

For an ordinance amending the Building and Fire Code of the City and County of Denver.

BE IT ENACTED BY THE COUNCIL OF THE CITY AND COUNTY OF DENVER:

Section 1. That section 105.7.2 of the Fire Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

105.7.2 Automatic fire-extinguishing systems. A construction permit is required ~~for~~ prior to the installation, ~~of or~~ modification, or maintenance of ~~to~~ an automatic fire-extinguishing system. ~~Maintenance performed in accordance with this code is not considered a modification and does not require a permit.~~

Exceptions:

1. The permit may be acquired after work performed on an emergency basis, as determined by the fire code official, to maintain an existing fire extinguishing system necessary to protect life, safety, or property. The penalties stated herein shall not apply if the emergency permit application is submitted the following normal ~~working~~ business day after commencement of the emergency work. A full permit application is required within ten (10) normal business days after commencement of the emergency work.
2. With written approval from the fire code official prior to commencement of the work, maintenance performed in accordance with this code may not require a permit.

Section 2. That section 105.7.8 of the Fire Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

105.7.8 Fire alarm and detection systems and related equipment. A construction permit is required prior to the ~~for~~ installation, ~~of or~~ modification, or maintenance of ~~to~~ fire alarm and detection systems and related equipment. ~~Maintenance performed in accordance with this code is not considered a modification and does not require a permit.~~

Exceptions:

1. The permit may be acquired after work performed on an emergency basis, as determined by the fire code official, to maintain an existing fire alarm or detection system necessary to

protect life, safety, or property. The penalties stated herein shall not apply if the emergency permit application is submitted the following normal ~~working~~ business day after commencement of the emergency work. A full permit application is required within ten (10) normal business days after commencement of the emergency work. (See Section K103.4)

2. With written approval from the fire code official prior to the work being performed, maintenance performed in accordance with this code may not require a permit.

Section 3. That section 110.1 of the Fire Code is hereby amended by adding the language underlined below to read and be read as follows:

Section 110.1 General is replaced in its entirety with the following:

110.1 General. If during the inspection of a premises, a building or structure or any building system, in whole or in part, constitutes a clear and inimical threat to human life, safety or health, the fire code official shall issue such notice or orders to remove or remedy the conditions as shall be deemed necessary in accordance with this section and shall refer the building to the Building Department for any repairs, alterations, remodeling, removing or demolition required. It shall be unlawful to maintain an unsafe condition in any building.

Section 4. That section 110.1.1 of the Fire Code is hereby amended by adding the language underlined below to read and be read as follows:

110.1.1 Unsafe conditions. Structures or existing equipment that are or hereafter become unsafe or deficient because of inadequate means of egress, failure to comply with an approved occupant load, or which constitute a fire hazard such as storage of explosives, excessive amounts of combustible or flammable materials, vegetation deemed an exposure hazard, manufacture of controlled substances, unstable material, hazardous materials, fire safety system(s) inoperative, etc., or are otherwise dangerous to human life or to the public welfare, or which involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. A vacant structure that is not secured against unauthorized entry shall be deemed unsafe. A structure, including residences, that constitutes a fire hazard and an exposure hazard in the event of fire or explosion shall be deemed unsafe. It shall be unlawful to maintain an unsafe condition or to fail to obey an order of the fire code official to correct an unsafe condition. The fire code official is authorized to take action to mitigate an unsafe condition, rendering the operation harmless to people or property. The property owner shall be responsible for all costs related to all actions.

Section 5. That sections 110.1.2.1 and 110.1.2.2 of the Fire Code are hereby amended by adding the language underlined below to read and be read as follows:

110.1.2.1 Unsafe heating or electrical equipment and structural hazards. When the fire code official deems any chimney, smokestack, stove, oven, incinerator, furnace, or other heating device, electrical fixture, or any appurtenance thereto, or anything regulated under a nationally recognized standard in or upon any building, structure, or premises not specifically mentioned in this code, to be unsafe or defective so as to create a hazard, the fire code official is authorized to serve upon the owner or the person having control of the property a written notice to remove or repair or alter as necessary. The fire code official is authorized to affix a condemnation tag prohibiting the use thereof, or until such repairs or alterations are made. It shall be unlawful to maintain unsafe heating or electrical equipment and structural hazards or to fail to obey an order of the fire code official to correct unsafe heating or electrical equipment and structural hazards.

110.1.2.2 Unsafe operations. When the fire code official deems any operation, interior or exterior, to be unsafe so as to create a hazard, the fire code official is authorized to serve upon the owner, contractor, or the person having control of the property, a written notice to remove or repair or alter as necessary. The fire code official is authorized to affix a condemnation tag prohibiting the use thereof, or until such repairs or alterations are made. In the event that the unsafe operation resulted in an emergency response, legal action and cost recovery will be directed to the responsible party. It shall be unlawful to maintain unsafe operations or to fail to obey an order of the fire code official to correct unsafe operations.

Section 6. That section 309.7 of the Fire Code is hereby enacted and added to read and be read as follows:

Section 309.7 Signage is added:

309.7 Signage. Doors into battery-charging areas shall be provided with approved signs. The signs shall state that:

1. The room contains energized battery systems.
2. The room contains energized electrical circuits.
3. The battery electrolyte solutions are corrosive liquids.

Section 7. That section 316.7.1 of the Fire Code is hereby amended by adding the language underlined below to read and be read as follows:

316.7.1 Marking. Warning signs to inform personnel of the existence of a PV system shall be provided in accordance with NFPA 70 Article 690. Signage is required at each PV disconnecting means, at the electrical service entrance, at the source of all power sources supplying the structure, and at all terminals of a disconnecting means that may be energized when in the open position. Exterior wiring methods, conduit, fittings and enclosures shall be marked in accordance with NFPA 70 (NEC) 690.31(E)(3) and (4). On ungrounded PV systems, labeling is also

required at each junction box, combiner box, disconnect and device where energized parts may be exposed during service. Interactive systems must be identified at the system point of connection with other sources (such as utility, batteries or generator).

Section 8. That section 606.8 of the Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

606.8 Refrigerant detector. ~~Machinery rooms shall contain refrigerant detection with audible and visual alarms. Visual alarm indicating devices shall include 24 vdc flashing red LED beacon. Visual alarm indicating devices shall be sufficiently conspicuous in the protected area, subject to approval of the fire code official. The detection, or sampling tubes that draw air to the detector(s), shall be located in an area where refrigerant from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding OEL values shown in the International Mechanical Code for the refrigerant classification. Detectors and alarms shall be placed in approved locations. Alarm notification devices shall be located on the interior and exterior of the machinery room. Refrigerant leak alarms shall be interconnected with the base building fire alarm system. The refrigerant alarm device shall be distinctly annunciated as a separate alarm zone at the building annunciator panel.~~

Machinery rooms shall contain refrigerant leak detection and initiate an emergency alarm in accordance with this section and Section 908.8. The detectors or sampling tubes that draw air to the detectors shall be located in areas where refrigerant from a leak will concentrate. A leak detection alarm shall be actuated at a value not greater than the corresponding occupational exposure limit (OEL) values identified in the International Mechanical Code for the refrigerant classification. Accurate detector calibration shall be demonstrated during acceptance testing. Signage required by Section 908.8 shall state, "DO NOT ENTER WHEN LIGHT IS FLASHING – REFRIGERANT LEAK DETECTED."

Section 9. That section 607.1 of the Fire Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

~~**607.1 Emergency operation.** New elevators installations, including replacement of existing elevators, shall be provided with Phase I emergency recall operation and Phase 2 emergency in-car operation in accordance with Section 907.4.3 and ASME A17.1. Existing elevators shall comply with ASME A17.3-2005 State of Colorado requirements.~~

607.1 Emergency operation. New elevator installations and elevators undergoing a controller replacement (including hydraulic elevators undergoing a controller replacement as part of an alteration), shall be provided with Phase I emergency recall operation and Phase 2 emergency

in-car operation in accordance with Section 907.4.3 and ASME A17.1. All other alterations to existing elevators shall comply with State of Colorado requirements.

Section 10. That section 607.2 of the Fire Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

607.2 Emergency signs. An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. The sign shall read: IN FIRE EMERGENCY, DO NOT USE ELEVATOR. USE EXIT STAIRS. ~~The emergency sign shall not be required for elevators that are part of an accessible means of egress complying with Section 1007.4.~~

Exceptions:

1. The emergency sign shall not be required for elevators that are part of an accessible means of egress complying with Section 1007.4.
2. The emergency sign shall not be required for elevators that are used for occupant self-evacuation in accordance with Section 3008 of the International Building Code.

Section 11. That section 803.5.1 of the Fire Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

803.5.1 Textile wall and ceiling coverings. Textile wall and textile ceiling coverings shall comply with one of the following.

1. Textile wall coverings and textile ceiling coverings shall have a Class A flame spread index in accordance with ASTM E 84 or UL 723, and be ~~Where~~ protected by automatic sprinklers installed in accordance with IFC Section 903.3.1.1 or IFC Section 903.3.1.2.~~, textile wall and ceiling coverings shall have a class A flame spread index in accordance with ASTM E 84 or UL 723~~.
2. The wall covering shall meet either:
   a. the criteria of Sections 803.5.1.1 or 803.5.1.2 when tested in the manner intended for use in accordance with NFPA 265 using the product mounting system, including adhesive, of actual use, or
   b. the criteria of IFC Section 803.1.2.1 when tested in accordance with NFPA 286 using the product mounting system, including adhesive, of actual use.
3. The ceiling covering shall meet the criteria of IFC Section 803.1.2.1 when tested in accordance with NFPA 286 using the product mounting system, including adhesive, of actual use.

Section 12. That section 803.6 of the Fire Code is hereby enacted and added to the Fire Code to read and be read as follows:

803.6 Expanded vinyl wall or ceiling coverings. Expanded vinyl wall or ceiling coverings shall comply with one of the following:

1. Where protected by automatic sprinkler system installed in accordance with IFC Sections 903.3.1.1 or 903.3.1.2, wall and ceiling coverings shall have a Class A flame spread index in accordance with ASTM E 84 or UL 723. Test specimen preparation and mounting shall be in accordance with ASTM E 2404.
2. The wall covering shall meet either:
   a. the criteria of Section 803.5.1.2 when tested in the manner intended for use in accordance with NFPA 265 using the product mounting system, including adhesive, of actual use, or
   b. the criteria of IFC Section 803.1.2.1 when tested in accordance with NFPA 286 using the product mounting system, including adhesive, of actual use.
3. The ceiling covering shall meet the criteria of IFC Section 803.1.2.1 when tested in accordance with NFPA 286 using the product mounting system, including adhesive, of actual use.

Section 13. That the Exception to section 903.2.11 of the Fire Code is hereby enacted and added to the Fire Code to read and be read as follows:

Exception: Group U.

Section 14. That section 903.3.1 of the Fire Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

903.3.1 Standards. ~~Hydraulic calculations shall be based on water supply information minus a 10% deduction at minimum to a maximum of 10 psi from the static and residual pressure. Shop drawings shall indicate the actual flow and the reduced parameters as used in the hydraulic calculations. Water supply information used for hydraulic calculations shall be less than a year old.~~

Sprinkler systems shall be designed and installed in accordance with IFC Sections 903.3.1.1 unless otherwise permitted by Sections 903.3.1.2 and 903.3.1.3 as amended. Hydraulic calculations shall be based on water supply information provided by Denver Water. Water supply information provided shall be obtained within the last 12 months. Hydraulic calculations shall be based on the water data provided with static and residual pressures reduced by 10% of the static value or 10psi, whichever is smaller. Where water supply data is provided by a Denver Water system model, the high static pressure shall be used to verify that the fire pump churn

pressure shall be maintained below the system design pressure. Shop drawings shall indicate the initial pressures and the reduced values as used in the hydraulic calculations.

Exception: Section 903.3.1.3 NFPA 13D sprinkler systems.

Section 15. That section 907.1.2.2 of the Fire Code is hereby amended by adding the language underlined below to read and be read as follows:

Exceptions:

2. Low-power radio (wireless) systems shall comply with NFPA 72 and are permitted only for installations where the total system coverage does not exceed 1500 sf. Multiple low-power systems in a building are not permitted. Installation of low-power and wired systems is not permitted in the same building.

Section 16. That section 907.2.5 of the Fire Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

907.2.5 Group H. A manual fire alarm system that activates the occupant notification system shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. An automatic smoke detection system that activates the occupant notification system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with Chapters 37, 39 and 40, respectively. ~~An emergency alarm system shall be installed in accordance with Sections 908 and 2704.9.~~

Section 17. That section 907.2.13 of the Fire Code is hereby amended by adding the language underlined below to read and be read as follows:

907.2.13 High-rise buildings. Buildings with a floor used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall be provided with a fire command center in accordance with section 508, a manual and automatic fire alarm and detection system in accordance with Section 907.2.13.1, a fire department communication system in accordance with Section 907.2.13.2, a smoke control system in accordance with Section 909, and an emergency voice/alarm communication system in accordance with Section 907.6.2.2 that provides occupant notification of alarm on the fire floor, floor above, floor below and at the level of the FCC. **(Exceptions to remain)**

Section 18. That section 907.7.6.2 of the Fire Code is hereby enacted and added to the Fire Code to read and be read as follows:

Section 907.7.6.2 Application of pre-action systems is added:

907.7.6.2. Application of pre-action systems. The types of pre-action systems that are approved for use per NFPA 13 are: single interlock, non-interlock and double-interlock systems. The double-interlock pre-action system shall be approved only for freezer facilities.

Section 19. That section 908.8 of the Fire Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

~~**Section 908.8 Emergency alarms is added: (Section relocated from 907.2.5.1)**~~

~~**908.8 Emergency alarms.** Where emergency alarms are required by Section 908 and a fire alarm or sprinkler alarm system is provided, emergency alarm initiating devices and notification appliances shall be connected to the fire alarm or sprinkler alarm system and transmit an alarm signal to the monitoring station, where provided. The emergency alarm devices serving this area shall be distinctly annunciated as a separate zone at the building annunciator panel and provide a local audible/visual alarm to notify occupants.~~

908.8 Emergency alarms. Emergency alarm systems shall be monitored by the building fire or sprinkler alarm control panel. An emergency alarm system shall be annunciated as a separate zone on the building annunciator and transmitted to the supervising station. Where multiple emergency alarm systems are installed, each shall be monitored and annunciated separately. Where the fire or sprinkler alarm control panel is not monitored by a supervising station, annunciation shall be provided in an approved location.

Separate emergency alarm control panels monitored by the building fire or sprinkler alarm control panel, or emergency alarm panels installed in buildings permitted without a fire or sprinkler alarm system shall be subject to approval of the fire code official. Separate emergency alarm control panels shall be installed in approved locations outside of the potentially contaminated areas. Areas protected by a single separate emergency alarm control panel shall be contiguous. Multiple separate emergency alarm control panels are permitted.

Floor plans of the area protected by an emergency alarm system shall be provided per the requirements of Section 907.7.3.1.1.1. If two or more zones are provided on an emergency alarm system, directory-style LED annunciation shall be provided at the emergency alarm control panel. Systems with under-floor or above-ceiling initiating devices shall be provided with a point-lit graphic annunciator in accordance with Section 907.7.3.1.2 at the emergency alarm control panel. Supervisory and trouble signals shall be annunciated separately with yellow LEDs and alarm signals shall be annunciated with red LEDs.

Manual emergency alarm initiating devices shall be annunciated on separate zones from automatic emergency alarm initiating devices. Automatic emergency alarm initiating devices

required for different hazards shall be annunciated on separate zones for each hazard. Automatic emergency alarm initiating devices for the same hazard located in separate rooms or areas, or separated by 100 feet or more in the same room or area shall be annunciated as separate zones.

Manual emergency alarm initiation shall be designed per this section and the manual fire alarm requirements of NFPA 72. Manual emergency alarm-initiating devices shall be yellow or amber, comply with the mounting requirements of IFC Section 907.5.2, and be installed outside of each interior exit and exit access door, and inside of each exterior exit and exit discharge directly serving the potentially contaminated area identified in IFC Sections 908.1 through 908.6.

Audible and visible emergency alarm notification appliances shall be installed on the interior of the areas identified in IFC Sections 908.1 through 908.6 per the notification requirements of NFPA 72. Audible and visible notification appliances along with clearly legible signage shall be installed outside of these occupancies in approved locations to alert all occupants possibly entering the potentially contaminated area.

Audible emergency alarm notification shall have tone and pattern distinctly different from fire alarm notification. Visible notification appliances shall be amber strobes or beacons. Subject to the approval of the fire code official, complete notification per NFPA 72 throughout a building or facility beyond the potentially contaminated area is not required provided the potential for migration of the hazard to other occupied areas is small.

Section 20. That section 3007.3 of the Fire Code is hereby enacted and added to the Fire Code to read and be read as follows:

Section 3007.3 Indoor storage and use of carbon dioxide is added:

3007.3 Indoor storage and use of carbon dioxide. Indoor storage and use areas for carbon dioxide shall be subject to approval of the fire code official.

Section 21. That section 3704.2.2.10.1 of the Fire Code is hereby enacted and added to the Fire Code to read and be read as follows:

Section 3704.2.2.10.1 Alarms is replaced as follows:

3704.2.2.10.1 Alarms. The gas detection system shall initiate a local alarm and transmit a signal to a constantly attended control station when a short-term hazard condition is detected. The alarm shall be in accordance with Section 908.8. Signage required by Section 908.8 shall state, “DO NOT ENTER WHEN LIGHT IS FLASHING – [HIGHLY] TOXIC GAS LEAK DETECTED.”

Exception: Signal transmission to a constantly attended control station is not required where not more than one cylinder of highly toxic or toxic gas is stored.

Section 22. That section 3705.3.2 of the Fire Code is hereby enacted and added to the Fire Code to read and be read as follows:

3705.3.2 Ozone gas generator rooms. Ozone gas generator rooms shall be mechanically ventilated in accordance with the International Mechanical Code with a minimum of six air changes per hour. Ozone gas generator rooms shall be equipped with a continuous gas detection system which will shut off the generator and sound a local alarm when concentrations above the permissible exposure limit occur. The alarm shall be in accordance with Section 908.8. Signage required by Section 908.8 shall state, "DO NOT ENTER WHEN LIGHT IS FLASHING – OZONE CONCENTRATION ABOVE THE PERMISSIBLE EXPOSURE LIMIT DETECTED."

Ozone gas-generator rooms shall not be normally occupied, and such rooms shall be kept free of combustible and hazardous material storage. Room access doors shall display an approved sign stating: OZONE GAS GENERATOR—HIGHLY TOXIC—OXIDIZER.

Section 23. That subsection 4 of section K103.1 of the Fire Code is hereby enacted and added to read and be read as follows:

4. Upon submittal of sprinkler system shop drawings, an applicant may request issuance of a "conditional sprinkler installation permit" (conditional permit). Conditional permits shall not include installation of any fire pump or pump controller components. Conditional permits are subject to payment of all Building Department permit fees associated with the total scope of work in addition to a $100.00 Fire Department fee (separate payment is required) at the time of issuance. Work under a conditional permit is subject to subsequent plan review and field inspection for proper and code compliant installation. Corrections identified in the field or by design plan review shall be the responsibility of the contractor. Conditional permits shall only be issued to contractors with the appropriate Denver contractor and Fire Department licenses.

Section 24. That section 403 of the Building Code is hereby amended by adding the language underlined below and deleting the language stricken below to read and be read as follows:

Section 403.3.2 Water supply to required fire pumps is replaced in its entirety with the following:

403.3.2 Water supply serving high-rise buildings. Water supply serving high-rise buildings shall be provided in accordance with IFCA Section 507.2.3.

Section 403.4.5 Fire command center is replaced in its entirety with the following:

403.4.5 Fire command center. A fire command center shall be provided in accordance with IFCA Section 508.

Section 403.4.6 Smoke removal is replaced in its entirety with the following:

403.4.6 Smoke control. Smoke control shall be provided in accordance with IFCA Section 909.

Sections 403.4.7 Standby power and 403.4.8 Emergency power systems and their subsections are replaced in their entirety with the following:

403.4.7 Emergency power systems for high-rise buildings. Emergency power shall be provided in accordance with IFCA Section 604.2.14.

~~**[F] Section 403.4.7.3 Fuel supply is added:**~~

~~**[F] 403.4.7.3 Fuel supply.** An open-premises fuel supply, sufficient for not less than 8 hours full-demand operation of the system, shall be provided.~~

~~**[F] Section 403.4.8.2 Fuel supply is added:**~~

~~**[F] 403.4.8.2 Fuel supply.** An open-premises fuel supply, sufficient for not less than 8 hours full-demand operation of the system, shall be provided.~~

COMMITTEE APPROVAL DATE: 2/28/2012.

MAYOR-COUNCIL DATE: 3/6/2012.

PASSED BY THE COUNCIL _____ 2012

_____ - PRESIDENT

APPROVED: _____ - MAYOR _____ 2012

ATTEST: _____ - CLERK AND RECORDER,
EX-OFFICIO CLERK OF THE
CITY AND COUNTY OF DENVER

NOTICE PUBLISHED IN THE DAILY JOURNAL _____ 2012; _____ 2012

PREPARED BY: Kerry A. Buckey, Assistant City Attorney_____ 2/13/2012

Pursuant to section 13-12, D.R.M.C., this proposed ordinance has been reviewed by the office of the City Attorney. We find no irregularity as to form, and have no legal objection to the proposed ordinance. The proposed ordinance is not submitted to the City Council for approval pursuant to § 3.2.6 of the Charter.

Douglas J. Friednash, City Attorney

BY: _____, _____City Attorney Date:_____