Setting Standards for Excellence

September 25, 2009

California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833

Attn: Dave Walls, Executive Director

Dear Mr. Walls,

On behalf of NEMA's Signaling, Protection and Communication Section, I am pleased to submit comments on the Department of Housing and Community Development's (HCD) proposal for the 2010 California Building Code (CBC).

NEMA appreciates and supports the HCD's inclusion of carbon monoxide (CO) detection requirements in the 2010 CBC proposal. The attached comments provide suggestions for amendments and additions to the proposal. NEMA requests the State of California adopt these additional measures into the California Building Code.

NEMA is association of electrical and medical imaging equipment manufacturers. Founded in 1926 and headquartered near Washington, D.C., NEMA's approximately 450 member companies manufacture products used in the generation, transmission and distribution, control, and end use of electricity. These products are used in utility, medical imagining, industrial, commercial, institutional, and residential applications and include carbon monoxide alarm and detection devices.

If you have any questions about these comments, please do not hesitate to contact Andrei Moldoveanu at (703) 841-3290 or and_moldoveanu@nema.org.

Respectfully,

Aaron Titus
Technical Program Manager

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2009 IBC/2010 CBC

The National Electrical Manufacturers Association (NEMA) is writing to request the Department of Housing and Community Development (HCD) consider amending the carbon monoxide (CO) detection language found in Section 420.4 and adding language to Section 202 and Chapter 35 in Part 2 (2010 CA Building Code) package to the CA Building Standards Commission (BSC).

We understand the CO detection language in Section 420.4 of the HCD package is based on the CO requirements in Section R315 of the 2009 edition of the IRC. While the CO requirements in the 2009 edition of the IRC is a good first step, one of the shortcomings of the requirements is it precludes the reliable, proven and tested technologies of UL 2075 system-connected CO detectors. The performance and reliability of ANSI/UL 2075 listed CO detectors are extremely high if they are installed and maintained in accordance with NFPA 720. ANSI/UL 2075 is the product standard for CO detectors that are designed and listed to be connected to an alarm control panel (system-connected) via conductors extending from the control panel or connected to a panel via a low power radio frequency signal (wireless).

In addition, the HCD Part 2 package does not contain key definitions in Section 202 and it does not contain important national consensus standards for carbon monoxide alarms, carbon monoxide detectors, combination smoke/carbon monoxide alarms and combination smoke/carbon monoxide detectors in Chapter 35.

We would support the State of California adopting these additional measures into the California Building Code.

The below proposed amendments to the HCD package is in legislative format; i.e., use underscore to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (~~deleted wording~~).

Section 202 Definitions

Carbon Monoxide Alarm A single- or multiple-station carbon monoxide alarm that is responsive to sensing carbon monoxide gas and alerting occupants by a distinct and audible signal comprising of an assembly that incorporates a sensor, control components and an alarm notification appliance in a single unit operated from a power source either located in the unit or obtained at the point of installation.

Single-Station Carbon Monoxide Alarm A device intended for the purpose of detecting carbon monoxide gas and alerting occupants by a distinct and audible signal comprising of an assembly that incorporates a sensor, control components and an alarm notification appliance in a single unit operated from a power source either located in the unit or obtained at the point of installation.

Multiple-Station Carbon Monoxide Alarm A carbon monoxide alarm capable of being interconnected to one or more additional carbon monoxide alarms so that the actuation of one causes the appropriate alarm signal to be annunciated in all interconnected alarms.

Carbon Monoxide Detector A device intended to be connected to an approved carbon monoxide detection system for the purpose of detecting carbon monoxide gas and alerting occupants by a distinct and audible signal.

Carbon Monoxide Detection System A system of devices that consists of a control panel and circuits arranged to monitor and annunciate the status of carbon monoxide detectors and to initiate the appropriate response to those signals.

Combination Smoke/Carbon Monoxide Alarm A smoke alarm that is combined with a carbon monoxide alarm; provided that, the combined device is listed by a nationally recognized testing laboratory (NRTL) to applicable American National Standards Institute (ANSI)/Underwriters Laboratories (UL) Standards for both a smoke detecting device and a carbon monoxide detecting.

The combined unit shall emit an audible alarm in a manner that clearly differentiates between the two hazards.

Combination Smoke/Carbon Monoxide Detector A smoke detector that is combined with a carbon monoxide detector; provided that, the combined device is listed by a nationally recognized testing laboratory (NRTL) to applicable American National Standards Institute (ANSI)/Underwriters Laboratories (UL) Standards for both a smoke detecting device and a carbon monoxide detecting. The combined unit shall emit an audible alarm in a manner that clearly differentiates between the two hazards.

SECTION 420
GROUPS I-1, R-1, R-2, R-3

420.4 Carbon monoxide alarms. [HCD 1, HCD 2 & HCD 1-AC]

420.4.1 Carbon monoxide alarms. For new construction, an approved carbon monoxide alarm, carbon monoxide detector, combination smoke/carbon monoxide alarm or combination smoke/carbon monoxide detector shall be installed in dwelling units and in sleeping units within which fuel-burning appliances are installed; and in dwelling units that have attached garages.

420.41.1 Power supply. For new construction, required carbon monoxide alarms, carbon monoxide detectors, combination smoke/carbon monoxide alarms or combination smoke/carbon monoxide detectors shall receive their primary power by one of the following means:

1. Listed carbon monoxide alarms shall receive their power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery back-up. Alarm wiring shall be directly connected to the permanent building wiring without a disconnecting switch other than as required for overcurrent protection.
2. Listed carbon monoxide detectors shall receive their power from the approved control panel. The approved control panel shall receive its primary power from the building wiring when such wiring is served from a commercial source and the primary power source shall not include a disconnecting switch other than those required for overcurrent protection. The control panel shall be equipped with rechargeable batteries for secondary power backup.
3. Listed low-power radio frequency (wireless) detectors shall be permitted to be battery powered when the battery is electrically supervised and shall be capable of sending an alarm signal to the approved control panel for a minimum of 7 days after sending the initial battery depletion signal.

   Exceptions:
   1. In dwelling units where there is no commercial power supply, the carbon monoxide alarm may be solely battery operated
   2. In existing dwelling units, a carbon monoxide alarm is permitted to be solely battery operated where repairs or alterations do not result in the removal of wall and ceiling finishes or there is no access by means of attic, basement or crawl space.

420.4.1.2 Interconnection. Where more than one carbon monoxide alarm, carbon monoxide detector, combination smoke/carbon monoxide alarm or combination smoke/carbon monoxide detector is required to be installed within a dwelling unit or within a sleeping unit, they ~~alarm~~ shall be interconnected in a manner that the activation of one carbon monoxide alarm/detector shall activate all of the carbon monoxide alarms/detectors in the individual unit. The required carbon monoxide alarm signal shall be clearly audible in all sleeping rooms, having a sound level of at least 15 db above average ambient sound level or 5 db above the maximum sound level, or a sound level at least 75 db at the pillow.

Exception:
1. Interconnection is not required in existing dwelling units or within sleeping units where repairs do not result in the removal of wall and ceiling finishes, there is no

access by means of attic, basement or crawl space and no previous method for interconnection existed.

420.4.2 Where required in existing dwellings or sleeping units. Where work requiring a permit occurs in existing dwellings that have attached garages or in existing dwellings or sleeping units within which fuel-burning appliances exist, carbon monoxide alarms, carbon monoxide detectors, combination smoke/carbon monoxide alarms or combination smoke/carbon monoxide detectors shall be provided in accordance with Section 420.4.1. Carbon monoxide alarms, carbon monoxide detectors, combination smoke/carbon monoxide alarms or combination smoke/carbon monoxide detectors shall only be required in the specific dwelling unit or sleeping unit for which the permit was obtained.

420.4.3 Alarm requirements. Single- and multiple station carbon monoxide alarms shall be listed as complying with the requirements of UL 2034 for equipment performance and carbon monoxide detectors shall be listed as complying with the requirements of UL 2075 for equipment performance. Carbon monoxide alarms and carbon monoxide detectors shall be installed in accordance with this code, the current edition of NFPA 720 for ~~"Single- and Multiple-Station Alarms and Household Detections Systems"~~ "Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment" and the manufacturer's installation instructions. Other carbon monoxide alarms and detection devices as recognized in NFPA 720 are also acceptable.

420.4.3 Carbon Monoxide Alarms, Carbon Monoxide Detectors or Combination Smoke/Carbon Monoxide Devices Carbon monoxide alarms, carbon monoxide detectors and combination smoke/carbon monoxide devices described in sections 420.4.3.1 through 420.4.3.4 shall be installed and maintained in accordance with the provisions of this code, NFPA 72 "The National Fire Alarm Code" and NFPA 720 "Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment".

420.4.3.1 Carbon monoxide alarms Single- or multiple-station carbon monoxide alarms shall be listed and labeled in accordance with ANSI/UL 2034.

420.4.3.2 Carbon monoxide detectors Carbon monoxide detectors shall be listed and labeled in accordance with ANSI/UL 2075.

420.4.3.3 Combination smoke/carbon monoxide alarms Combination smoke/carbon monoxide alarms shall be listed and labeled in accordance with ANSI/UL 217 and ANSI/UL 2034

420.4.3.4 Combination smoke/carbon monoxide detectors Combination smoke/carbon monoxide detectors shall be listed and labeled in accordance with ANSI/UL 268 and ANSI/UL 2075

420.4.4 Carbon monoxide alarms, carbon monoxide detectors, combination smoke/carbon monoxide alarms or combination smoke/carbon monoxide detectors required by Sections 420.4.1 and 420.4.2 shall be installed in the following locations:

1. Outside each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s)
2. On every level of a dwelling unit, including basements
3. For R-1 only.
   a. On the ceiling of sleeping units with permanently installed fuel-burning appliances.
   b. The required carbon monoxide alarms or carbon monoxide detectors shall be annunciated at a constantly attended location

~~**420.4.3.1 Multi-purpose alarms.** When a carbon monoxide alarm is combined with smoke alarm, in addition to the requirements of Section 420.4, all applicable standards described in Chapter 9 for smoke alarms shall apply~~.

420.4.45 Visual alarms. In buildings meeting the definition of "COVERED MULTIFAMILY DWELLINGS" in accordance with Chapter 11A, all required carbon monoxide alarms shall be

provided with the capability to support visible notification appliances in accordance with NFPA 720 and Chapter 11B.

Chapter 35 Referenced Standards

UL 217	Single and Multiple Station Smoke Alarms
UL 268	Smoke Detectors for Fire Alarm Signaling Systems
UL 2075	First Edition of the Standard for Gas and vapor Detectors and Sensors, effective date September 1, 2009