

Reference Standard 17-13

UL No. 2034, Standard for Single and Multiple Station Carbon Monoxide Detectors, October 29, 1996, with revisions through June 28, 2002.

Reference Standard 17-14

NFPA No. 720, Recommended Practice for the Installation of Household Carbon Monoxide (CO) Warning Equipment, 2003 Edition, as modified. The following sections of this standard are modified to read as follows (deleted text is in brackets; new text is italicized):

Title on page 720-4: “NFPA 720 Recommended Practice for the Installation of [Household] Carbon Monoxide (CO) Warning Equipment, 2003 Edition”

1.1.2 This document is limited to carbon monoxide warning equipment for use in *J-1, J-2, J-3, G and H-2 occupancies* [family living units] that contain fuel-burning *equipment*, appliances or fireplaces or have attached garages.

1.1.3 This document contains recommendations for the selection, installation, operation, and maintenance of equipment that detects concentrations of carbon monoxide that could pose a risk to the health of most occupants [in family living units].

2.3.1 UL Publication. Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062. UL 2034. Standard for Single and Multiple Station Carbon Monoxide Detectors, October 29, 1996, as revised through June 28, 2002.

3.2.2* Authority Having Jurisdiction (AHJ). *The New York City Department of Buildings, New York City Fire Department, New York City Department of Housing Preservation and Development, and New York City Department of Health and Mental Hygiene.* [The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.]

3.3.3 Dwelling [Family Living] Unit. *One or more rooms in a building occupied in whole or in part as the temporary or permanent home or residence of one or more families, where such room or rooms are arranged, designed, used or intended for use by one or more families, including such units in occupancy groups J-1 (hotels, motels, lodging houses, rooming houses, etc.), J-2 (apartment houses, apartment hotels, school dormitory buildings, etc.), and J-3 (one- and two-family dwellings, rectories, convents, group homes, etc.).* [One or more rooms in a single family detached dwelling, single family attached dwelling, multifamily dwelling, or mobile home for the use of one or more persons as a housekeeping unit with space for eating, living, and sleeping and permanent provisions for cooking and sanitation.]

3.3.9 Separate Sleeping Area. The area of a *dwelling* [family living unit] where the bedrooms or sleeping rooms are located.

3.3.10.1 Alarm Signal. A signal indicating a concentration of carbon monoxide that could pose a risk to the life safety of the occupants [in the family dwelling unit] and requiring immediate attention.

4.2 Supplemental Functions. Supplemental functions, including the transmission of an alarm beyond the *premises* [household] should be permitted and should not interfere with the performance recommendations of this document.

4.3 Total System. Where the AHJ requires both the alarm and transmission beyond the *premises* [household] and the total system to comply with the applicable sections of [NFPA 72, National Fire Alarm Code] *RS 17-3, 17-3A, or 17-3B*, the recommendation of Section 5.1 and 5.4.2 of this document *shall* [should] be followed.

Title of Chapter 5: Chapter 5 [Household] Carbon Monoxide Warning Equipment

5.1 *Required* [Recommended] Protection.

5.1.1.1 A carbon monoxide detecting alarm or detector *shall* [should] be centrally located *as provided for in § 5.1.2 and 1 R.C.N.Y. § 28-02* [outside of each sleeping area in the immediate vicinity of the bedrooms].

5.1.1.3 Each alarm or detector *shall* [should] be located on the wall, ceiling, or other location as specified in the installation instructions accompanying the unit. *To help prevent false alarms, such alarm or detector should be located away from sources of humidity such as bathrooms and should be located away from a range or other fossil fuel burning equipment. To prevent damage by occupants, such alarm or detector should be located out of reach of children and pets.*

5.1.2 Alarm notification appliances. Each alarm or detector *shall* [should] cause the operation of an alarm notification appliance that *shall* [should] be clearly audible in all bedrooms over background noise with all intervening doors closed, *in accordance with Annex A, § A.5.1.1.1.*

5.2.1.1 All power supplies *shall* [should] have sufficient capacity to operate the signal(s) for at least 12 continuous hours.

5.2.1.2 For electrically powered household carbon monoxide warning equipment, the primary (main) power source *shall* [should] be ac, unless otherwise permitted by the following:

- (1) Detectors and alarms are permitted to be powered by a monitored dc circuit of a control unit when power for the control unit meets the recommendations of section 5.2 and the circuit remains operable upon the loss of primary (main) ac power.
- (2) A detector and a wireless transmitter that serves only that detector are permitted to be powered from a monitored batter (main) source where part of a listed, monitored, low-power radio (wireless) system.

[(3) In existing construction, a monitored battery primary (main) power source, as described in 5.2.3, is permitted.]

5.2.2.1 An ac primary (main) power source shall [should] be a commercial light and power supply or other dependable source and shall be provided with a secondary (standby) power supply complying with § 5.2.4.

5.2.2.2 A visible “power on” indicator shall [should] be provided.

5.2.2.3 Primary (main) ac power shall [should] be supplied from either a dedicated branch circuit or the unswitched portion of a branch circuit also used for power and lighting.

5.2.2.4 All electrical systems shall comply with the New York City Electrical Code [designed to be installed by other than a qualified electrician should be powered from a source not in excess of 30 volts that meets the requirements for Class 2 circuits as defined in Article 725 of NFPA 70, National Electrical Code®].

5.2.2.7 The recommendation of 5.2.2.6 does not apply in J-1, J-2, and J-3 occupancies where a ground fault circuit interrupter serves all electrical circuits within the household.

5.2.2.9 [Where a secondary (standby) battery is provided, the] The primary (main) power supply should be of sufficient capacity to operate the system under all conditions of loading with the [any] secondary (standby) battery disconnected or fully discharged.

5.2.3 Primary Power Supply – Monitored Battery. [Household] [c]Carbon monoxide warning equipment may [should] be [permitted to be] powered by a battery only where permitted by 1 R.C.N.Y. 28-02 and[,] provided that the battery is monitored to ensure that the following conditions are met:

(1) All power recommendations are met for at least one year of battery life, including monthly testing.

(2) A distinctive audible trouble signal sounds before the battery is incapable of operating the device(s) (from causes such as aging or terminal corrosion) for alarm purposes.

(3) Automatic transfer is proved from alarm to a trouble condition for a unit employing a lock-in alarm feature.

(4) The unit is capable of producing an alarm signal for at least 12 hours at the battery voltage at which a trouble signal is normally obtained, followed by not less than 7 days of trouble signal operation.

(5) After the initial 4 minutes of alarm, the 5-second “off” time of the alarm signal should be permitted to be changed to 60 seconds ± 10 percent.

5.2.4.1 When provided, a secondary (standby) power supply shall [should] have sufficient capacity to power the unit for 8 hours, followed by not less than 12 hours of alarm, followed by not less than 7 consecutive days of trouble signals.

5.2.4.2 After the initial 4 minutes of alarm, the 5-second “off” time of the alarm signal shall [should] be permitted to be changed to 60 seconds ± 10 percent.

5.2.4.3 Removal or disconnection of a battery used as a secondary (standby) power source shall [should] cause [an] audible [or]and visible trouble signals.

The word should which indicates recommendation shall be replaced with the word shall which indicates mandated compliance in the following sections:

5.2.4.6

5.3.1.3

5.3.2.1 through 5.3.2.4

5.3.3.1

5.3.4.1 and 5.3.4.2

5.3.5.1 through 5.3.5.3

5.3.6.1 through 5.3.6.4

5.3.6.5 Each electrical carbon monoxide system shall [should] have an integral test means to allow the occupants [householder] to test the system operation.

The word should which indicates recommendation shall be replaced with the word shall which indicates mandated compliance in the following sections:

5.3.7.1 and 5.3.7.2

5.3.8.1 Where carbon monoxide alarms or detectors are interconnected to fire alarm or combination control units, connections shall [should] be via alarm [supervisory] circuits only, and all alarms and/or detectors and control units shall be certified as compatible by the manufacturer(s) and shall be approved by the Materials Equipment Acceptance Division of the Department of Buildings.

The word should which indicates recommendation shall be replaced with the word shall which indicates mandated compliance in the following sections:

5.3.8.2 and 5.3.8.3

5.3.9.1 Supervising station systems requiring transmission of signals to continually staffed locations providing supervising station services (for example, central station service, proprietary stations, or remote stations) shall [should] also comply with the applicable requirements of [Chapter 8 of NFPA 72®, National Fire Alarm Code.®] 3 R.C.N.Y 17-01, Rules of the Fire Department of New York.

5.3.9.2 Where carbon monoxide alarms, detectors, multipurpose detectors, or combination or multiple station alarms or systems are connected to supervising station fire alarm systems, receipt of alarm signals shall [should] be distinctively indicated as “alarm [supervisory] signal carbon monoxide” or other non-fire alarm signal designation acceptable to the AHJ.

5.3.9.3 Signals received by the supervising station shall [should] be processed by the supervising station personnel in accordance with the rules of the Fire Department of New York. [following recommendations:

- (1) They should retransmit the supervisory signal to public fire service communications center.
- (2) They should notify the subscriber by the quickest available method.
- (3) When the signal results from a pre-arranged test, action recommended by 5.3.9.3 (1) and (2) is not necessary.]

5.3.10.1 Carbon monoxide warning systems utilizing low-power wireless transmission of signals within the protected [household should] *premises shall* comply with the *applicable* requirements of [NFPA 72®, National Fire Alarm Code®] *RS 17-3, 17-3A, or 17-3B, and must be approved by the Material Equipment Acceptance Division (MEA).*

The word *should* which indicates recommendation shall be replaced with the word *shall* which indicates mandated compliance in the following sections:

5.4.1.1 through 5.4.1.6

5.6.1 through 5.6.3