

October 31, 2008

CARBON MONOXIDE DETECTORS IN VHA QUARTERS

1. PURPOSE: This Veterans Health Administration (VHA) Directive provides policy on the installation and maintenance of carbon monoxide (CO) detectors in one- and two-family and multifamily dwellings used as VHA quarters.

2. BACKGROUND

a. CO is a colorless, odorless, and tasteless gas that is poisonous, which results from the incomplete burning of any material containing carbon, such as: gasoline, kerosene, oil, propane, natural gas, coal, or wood. Common sources of exposure are internal combustion engines and heating equipment. CO is harmful when inhaled because it displaces oxygen in the blood and deprives the heart, brain, and other vital organs of oxygen. Large amounts of CO can overcome a person in minutes without warning, resulting in loss of consciousness and eventually death. Initial symptoms of CO poisoning may include drowsiness, fatigue, dizziness, nausea, or headaches and can progress to confusion, loss of consciousness, and death (reference: Occupational Safety and Health Administration (OSHA) Fact Sheet on Carbon Monoxide Poisoning, 2002). Hundreds of deaths per year are attributed to CO poisoning.

b. Likely sources of CO in homes are fuel burning equipment in the home or in an attached garage, or a vehicle engine running in an attached garage. The proper installation, use, maintenance, and adequate venting of these systems and equipment can minimize exposure from CO.

c. Fuel-burning equipment includes, but is not limited to, devices used for cooking, heating, lighting, or decorative purposes; examples include: fireplaces, wood stoves, portable space heaters, ranges, furnaces, water heaters, charcoal grills, gas clothes dryers, gas refrigerators, and gas lamps.

d. CO detectors, now available at costs under \$50, can detect this dangerous gas well below exposures where an individual begins to feel sick or fatigued. Detectors are powered by household electric current, batteries, or household current with battery backup. The sensing element in battery-powered units must be replaced periodically. Nuisance alarms are possible, but can be avoided if the device is properly located and maintained. CO detectors are not a substitute for smoke alarms nor are smoke alarms a substitute for CO detectors. **NOTE:** *Additional guidance and information on the dangers of carbon monoxide and the application of CO detectors is available on the Internet.*

e. A family living unit is considered to be one or more rooms in a single-family detached dwelling, single-family attached dwelling, multifamily dwelling, or mobile home, for the use of

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one or more persons as a housekeeping unit with space for eating, living, and sleeping, and permanent provisions for cooking and sanitation. This definition is meant to cover living areas only and not common use areas in multifamily dwellings such as corridors, lobbies, or basements.

f. By September 30, 2004, each family living unit of one- or two-family dwellings or multifamily dwellings used as VHA quarters was required to have CO detectors installed, if the dwelling had fuel-burning equipment, a fireplace, or was attached to a garage.

3. POLICY: It is VHA policy that one- and two-family dwellings and multifamily dwelling units that are occupied as VHA quarters must be protected with CO detectors, if the dwelling has fuel-burning equipment, a fireplace, or is attached to a garage.

4. ACTION: The facility Director is responsible for ensuring that:

a. Each family living unit of one- or two-family dwellings or multifamily dwellings used as VHA quarters is equipped with CO detectors if the dwelling has fuel-burning equipment, a fireplace, or is attached to a garage. This includes the requirements that:

(1) CO detectors are centrally located outside of each separate sleeping area in the immediate vicinity of all bedrooms.

(2) CO detectors are 120-volt AC-powered with battery backup and include digital display of CO levels.

b. CO detectors are properly installed in accordance with National Fire Protection Association (NFPA) 720, Standard for the Installation of Carbon Monoxide Warning Equipment in Dwelling Units, latest edition. This includes the requirements that:

(1) CO detectors are installed as specified by the manufacturer.

(2) CO detectors are listed by Underwriters Laboratories (UL) as being in compliance with UL Standard 2034.

c. Inspection, maintenance, and testing are in accordance with NFPA 720, Standard for the Installation of Carbon Monoxide Warning Equipment in Dwelling Units, latest edition. This includes the requirements that:

(1) CO detectors are tested monthly.

(2) If used, chimneys and vents for heat producing appliances and equipment (furnaces, fireplaces, etc.) are inspected periodically and cleaned or repaired as needed by a qualified individual.

(3) Fuel burning equipment is inspected and maintained as needed to ensure safe operation.

d. Local policies on the safe operation of vehicles in an attached garage, and fuel-burning equipment in the home or in an attached garage are developed and evaluated.

e. A minimum of one portable fire extinguisher is provided for each quarters unit in accordance with NFPA 10, Annex F. **NOTE:** *Additional extinguishers are to be provided as needed.*

f. If a CO detector activates, the reason for the activation is promptly investigated and corrective action is taken, if needed.

5. REFERENCES

a. Fact Sheet on Carbon Monoxide Poisoning, U.S. Department of Labor, OSHA, 2002.

b. NFPA 720, Standard for the Installation of Carbon Monoxide (CO) Warning Equipment in Dwelling Units, Latest Edition.

c. UL 2034, Standard for Single and Multiple Station Carbon Monoxide Alarms, Latest Edition.

d. NFPA 10, Standard for Portable Fire Extinguishers, Latest Edition.

6. FOLLOW-UP RESPONSIBILITIES: The Director, Safety and Technical Services (10NB) is responsible for the contents of this Directive. Questions can be referred to (202) 266-4654.

7. RESCISSIONS: VHA Directive 2002-052, Carbon Monoxide Detectors in Quarters is rescinded. This VHA Directive expires November 30, 2013.

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