Section R313; smoke alarms

Sec. 37. Delete the text of SECTION R313 and substitute to read as follows: R313.1 Labeling. Each smoke alarm shall be listed:

R313.2 Required smoke alarm locations. At least one smoke alarm shall be installed in each of the following locations:
(a) In the living area remote from the kitchen and cooking appliances. Smoke alarms located within 20 feet (6.1 m) horizontally of a cooking appliance must incorporate a temporary silencing feature or be photoelectric type.
(b) In each room designed for sleeping.
(c) On the ceiling of the upper level near the top or above each stairway, other than a basement stairway, in any multistory dwelling. The alarm shall be located so that smoke rising in the stairway cannot be prevented from reaching the alarm by an intervening door or obstruction.
(d) On the basement ceiling near the stairway.

R313.2.1 Alterations and additions. When interior alterations or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke alarms located as required for new dwellings; the smoke alarms shall be interconnected and hard wired.
EXCEPTIONS: 1. Smoke alarms in existing areas shall not be required to meet the requirements of R317.5 where the alterations do not result in the removal of the interior wall or ceiling finishes exposing the structure unless there is an attic, crawlspace, or basement available that could provide access for hard wiring and interconnection without the removal of interior finishes.
2. Repairs are exempt from the requirements of this section.

R313.3 Prohibited smoke alarm locations. A smoke alarm required under this section shall not be placed:
1. Within 3 feet (914 mm) horizontally from any grille moving conditioned air within the living space; or
2. In any location or environment that is prohibited by the terms of the listing.

R313.4 Mounting requirements. Smoke alarms required by SECTION R313.2 shall be mounted in accordance with their listing, installation instructions, and the requirements of this section.

R313.4.1 Flat Ceilings. In rooms with flat, peaked sloping or single slope ceilings with a slope of less that 1.5/12, smoke alarms shall be mounted either:
1. On the ceiling at least 4 inches (102 mm) from each wall; or
2. On a wall with the top of the alarm not less than 4 inches (102) below the ceiling and not farther from the ceiling than 12 inches (305 mm) or the distance from the ceiling specified in the smoke alarm manufacturer's listing and installation instructions, whichever is less.

R313.4.2 Peaked Sloping Ceilings. In rooms with peaked sloping ceilings with a slope of 1.5/12 or greater, smoke alarms shall be:
1. Mounted on the ceiling or wall within 3 feet (914 mm) measured horisontally, from the peak of the ceiling;
2. At least 4 inches (102 mm), measured vertically, below the peak of the ceiling; and
3. At least 4 inches (102 mm) from any projecting structural element.

R313.4.3 Single Slope Ceiling. In rooms with single slope ceilings with a slope 1.5/12 or greater, smoke alarms shall be:
1. Mounted on the ceiling or wall within 3 feet (914 mm) measured horizontally, of the high point of the ceiling; and
2. Not closer than 4 inch (102 mm) from any adjoining wall surfaces or any projecting structural element.

R313.4.4 Visible and tactile notification appliances. In addition to the smoke alarms required pursuant to this section, listed visible and tactile notification appliances, when installed, shall meet the following:

R313.4.4.1 Candela Rating-Sleeping Room. A visible notification appliance, when installed in a room designed for sleeping, shall have a minimum rating of 177 candela, except that when the visible notification appliance is wall-mounted or suspended more than 24 inches (610 mm) below the ceiling, a minimum rating of 110 candela is permitted.

R313.4.4.2 Candela Rating, Non-sleeping Room. A visible notification appliance, when installed in a area other than a room designed for sleeping, shall have a minimum rating of 15 candela.

R313.5 Connection to Power Source. Each smoke alarm shall be powered from:

1. The electrical system of the home as the primary power source and a battery as a secondary power source; or
2. A battery rated for a 10 year life, provided the smoke alarm is listed for use with a 10 year battery.
   EXCEPTION: Visible and tactile notification appliances are required to operate from the primary power source but are not required to operate from a secondary power source.

R313.5.1 Circuitry. Each smoke alarm whose primary power source is the home electrical system shall be mounted on an electrical outlet box and be connected by a permanent wiring method to a general branch circuit. The same branch circuit may serve more than one smoke alarm. The branch circuit for the alarm shall not include any switches between the branch circuit over-current protective device and the alarm and shall not be protected by a ground-fault circuit-interrupter.

R313.5.2 Interconnection. When more than one smoke alarm is required to be installed within an individual dwelling unit, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. *(Fire Prevention and Building Safety Commission; 675 IAC 14-4.3-37)*

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- When mounting an alarm on the ceiling, locate it at a minimum of 4" (10cm) from the side wall (see Figure 1).
- When mounting the alarm on the wall, use an inside wall with the top edge of the alarm at a minimum of 4" (10cm) and a maximum of 12" (30.5cm) below the ceiling. (see Figure 1).
- Put smoke alarms at both ends of a bedroom hallway or large room if the hallway or room is more than 30 feet (9.1 m) long.
- Install Smoke Alarms on sloped, peaked or cathedral ceilings at or within 3ft (0.9m)of the highest point (measured horizontally). NFPA 72 states: "Smoke alarms in rooms with ceiling slopes greater than 1 foot in 8 feet (.3m in 2.4m) horizontally shall be located on the high side of the room." NFPA 72 states: "A row of alarms shall be spaced and located within 3 ft (0.9m) of the peak of the ceiling measured horizontally" (see Figure 3).

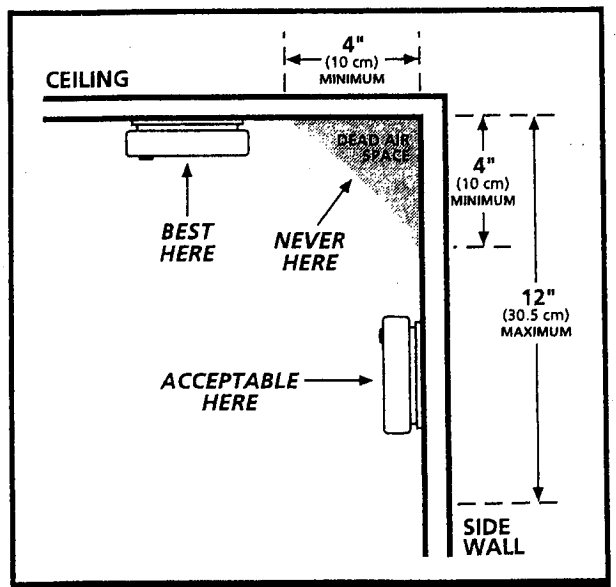

FIGURE 1

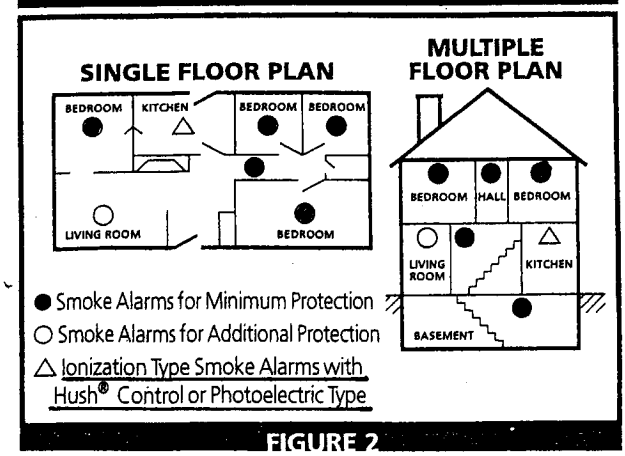

FIGURE 2

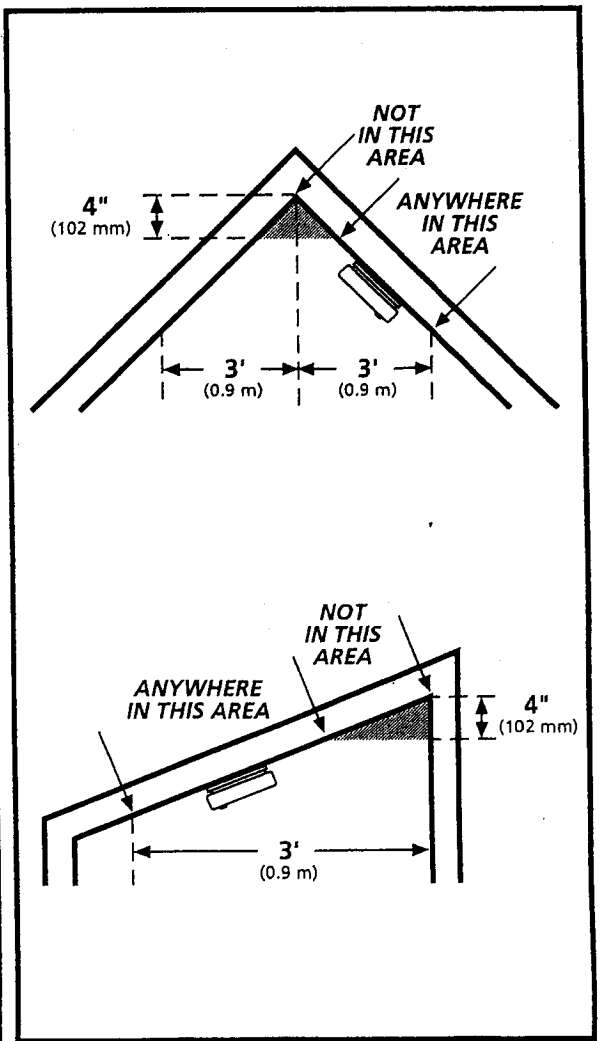

FIGURE 3

2. LOCATIONS TO AVOID

- In the garage. Products of combustion are present when you start your automobile.
- Less than 4" (10cm) from the peak of an "A" frame type ceiling.
- In an area where the temperature may fall below 40°F or rise above 100°F, such as garages and unfinished attics.
- In dusty areas. Dust particles may cause nuisance alarm or failure to alarm.
- In very humid areas. Moisture or steam can cause nuisance alarms.
- In insect-infested areas.
- Smoke alarms should not be installed within 3 ft (.9m) of the following: the door to a kitchen, the door to a bathroom containing a tub or shower, forced air supply ducts used for heating or cooling, ceiling or whole house ventilating fans, or other high air flow areas.
- Kitchens. Normal cooking may cause nuisance alarms. If a kitchen alarm is desired, it should have an alarm silence feature or be a photoelectric type.
- Near fluorescent lights. Electronic "noise" may cause nuisance alarms.
- Smoke alarms are not to be used with detector guards unless the combination (alarm and guard) has been evaluated and found suitable for that purpose.