Residential Smoke Alarms: A Discussion of NFPA 72 Location Requirements

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Learning Objectives

- Describe NFPA 72
- Outline basic spacing requirements for household smoke alarms
- Brief history of code changes
- Explain the life cycle of code adoption
- Make you an EXPERT in fire alarm design!
What Is NFPA 72?

- *National Fire Alarm and Signaling Code*
- A model standard to determine what must be included in a fire alarm system
- Applies to all types of buildings (residential, commercial, institutional, etc…)
- Chapter 29 has specific requirements that apply to residential occupancies, including apartments, hotels and houses
Why is it Important?

• NFPA 72 is adopted by reference in model building codes, as well as directly into municipal fire codes
  – International Building Code
  – International Residential Code
  – Life Safety Code
• NFPA 72 is the basic underlying document that sets minimum standards for installation of smoke alarms in residences.
History

• Pre-1993
  – Smoke alarms outside of sleeping rooms and on every level

• 1993-2002
  – 2002 Edition, Section 11.5.1.1
  – Outside of sleeping rooms and on every level
  – NEW – In every sleeping room
  – Exception for existing one and two family dwellings.

• 2007
  – Eliminate exceptions for existing dwellings on interconnectivity and every room location
Current Location Requirements

- IN every sleeping room
- OUTSIDE all sleeping rooms
- On every level
- Also:
  - NO exceptions for existing dwellings
  - Additional requirements for large homes and rooms.
What about Nuisances?

- Section (29.8.3.4(4)) addresses specific locations to reduce nuisances.
  - Not within 36 inches of bathroom doors containing a shower or tub (steam!)
  - Not in unfinished attics or garages with temperatures above 100F or below 40F
  - Not in spaces with incompatible ambient conditions
Cooking Nuisances

• Alarms must be installed at least 10-ft away from cooking appliance, unless listed for use near the appliance.
• Alarms between 10-ft and 20-ft must have alarm silence or be photoelectric.
• Exception for small spaces.
  – When adhering to 10-ft minimum would preclude a smoke alarm.
  – Photoelectric between 6-ft and 10-ft
• After 2016, smoke alarms within 20-ft must be listed for cooking nuisance sources. (Code set to change to 2019)
Nuisance Distances

Between 10 ft. (3.0 m) and 20 ft. (6.1 m) from cooking appliance

Kitchen

Area of exclusion
No Smoke alarm or detector

72 in. (1.83 m)

78 in. (1.98 m)

Stationary or fixed cooking appliance

Bedroom

Smoke alarm or detector with silencing means or photoelectric type

Photoelectric smoke alarm or detector
Adoption Time

Idea for Code Change

Public Input Period

Public Comment Period

Standards Council and Annual Expo

NFPA Publishes!

Model Code Changes Start

Model Code Change Cycle

Code Change Becomes Law

Municipal Adoption / Lawmaking

Municipality Considers New Model Code

SMOKE ALARM SUMMIT

Johns Hopkins Center for Injury Research and Policy

Vision 20/20

Johns Hopkins Center for Injury Research and Policy
How Can I Get Involved?

• NFPA 72 is developed through an open consensus process.
• Chapters are managed by technical committees comprised of experts from a cross section of fire protection interests.
• General public provides suggested code changes considered by technical committees every 3 years.
• Work on the 2016 edition of NFPA 72 is near complete. Public input will be accepted for the following edition after the 2016 is published.
Sources

• NFPA 72, *National Fire Alarm and Signaling Code*, Document Information Page:
