



## RESIDENTIAL GUIDELINES

# ONE AND TWO FAMILY HOUSING FIRE SAFETY

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[Preface](#)

***What is NIFAST?***

NIFAST is a national association comprised of certified fire safety professionals, founded and operated by fire safety industry leaders. Organized to dramatically improve fire safety guidelines and results, NIFAST is emerging as *the* source of trusted fire safety guidelines and education. Through direct affiliations with those most affected by fire management issues, NIFAST is building reliability in guidelines, training, and online testing.

NIFAST trains, tests, and certifies students, employees, property owners, properties, property inspectors, and others in fire and life safety and compliance. NIFAST’s certifications are based on its

various enhanced Fire Safety Guidelines and the associated training programs, which have a long and proven history of effectiveness.

Our mission is to reduce loss of life, injury, and property damage due to fire. We are dedicated to the proposition that clear guidelines properly disseminated + easily accessed safety training + online testing and certification = lives saved, fewer fires, and substantial loss mitigation.

### ***What are NIFAST Guidelines?***

NIFAST has issued a series of fire and life safety guidelines, each of which targets a defined risk category. These Guidelines are developed as a reliable tool for targeted users, and are designed to enhance, and fill critical gaps in, existing life safety guidelines or requirements promulgated elsewhere. Written by highly certified fire safety experts with decades of fire safety and compliance experience, the NIFAST Guidelines are a focused and complete “gold” guideline.

**This Volume, NIFAST Guideline R1**, specifically addresses important fire safety guidelines for 1 & 2 family residential housing. To maximize fire safety, any home must meet all NIFAST guidelines contained in this Volume, and property owners, inspectors, and occupants must complete the associated training and pass the online certification test.

**Note:** NIFAST’S role in training and certifying home inspectors is to make them fire safety inspectors. NIFAST trains and certifies existing home inspectors in what is necessary or appropriate to make homes fire safe. NIFAST does *not train inspectors to be code compliance officers*.

Safety issues and subjects not addressed in this NIFAST Guideline are sufficiently dealt with in existing ICC, NFPA, or IBC standards (or codes issued by other city or state approved entities). Where NIFAST guidelines appear to conflict with other existing standards, NIFAST recommends that readers follow the more stringent code.

## **Guideline R1 – 1 & 2 FAMILY RESIDENTIAL HOUSING FIRE SAFETY**

### **SECTION 1 – DEFINITIONS**

**FAP** – Fire Alarm Panel

**GFCI** – Ground fault circuit interrupter

**Hard wired connected** – to 110 power

**IAW** – In accordance with

**IBC** – International Building Code

**ICC** – International Code Council

**IFC** – International Fire Code

**IRC** – International Residential Code

**LSC NFPA** – 101 Life Safety Code

**NFPA** – National Fire Protection Association

**Shall / Must / Will** – Indicates something mandatory or strongly recommended

**Should** – Indicates a recommended practice

### **SECTION 2 - DETECTORS**

#### **A. GENERAL RULES**

1. Owners must replace batteries every six months, and mark new batteries with the date they were installed.

2. All detectors should be connected to a home safety system that alerts a monitoring company of a fire condition.
3. If detectors are hard wired they must be connected to each other, so if one detector sounds all detectors sound.
4. Hard wired detectors should have strobes, and *all* strobes should flash if any *one* detector activates.
5. No detector may be located within 12" of a ceiling (if mounted on a wall) or within 18" of a dead zone, or in an area that could hamper its operation.
6. No detector may be covered with any material.

## **B. SMOKE DETECTORS**

1. Smoke detectors should be hard wired. All hard wired detectors must have battery backup.
2. Test button must be present and functional.
3. Smoke detectors should be photoelectric.
4. Smoke detectors should be located in the following areas:
  - a. Each sleeping room
  - b. Hallway outside of each sleeping room
  - c. Attic – if used as a living space
  - d. Each floor level near the stairs
  - e. Laundry room
  - f. Basement
  - g. Top of the basement stairs
  - h. Hallway adjacent to the kitchen
  - i. Garage

**C. HEAT DETECTORS** – Heat detectors should be placed in the following areas: Kitchen, Furnace room, Mechanical room.

**D. CARBON MONOXIDE DETECTORS** – Carbon monoxide detectors should be hard wired with battery backup.

1. CO detectors must have a test button.
2. CO detectors should be placed at least 15 feet away from heat producing devices, and never *above* a heat producing device.
3. Carbon monoxide detectors should be located in the following areas, between 15 and 20 feet from the heat source:
  - a. Basement
  - b. Furnace room
  - c. Each hallway
  - d. Where gas fired hot water heater, gas fired dryers, or space heater is located

## SECTION 3 - FIRE ALARM PANEL

1. **FAP** - A fire alarm panel, if present, must have 3 zones, be located near the main entrance, have a separate system trouble indicator mode, and fire indicator mode.
2. Each FAP must have a battery backup.
3. FAP must be maintained in accordance with NFPA 1972 and manufacturer's recommendations.

## SECTION 4 - FIRE PROTECTION SYSTEMS

### **A. AUTOMATIC SPRINKLER SYSTEMS**

1. A sprinkler is recommended in all housing. Sprinkler systems are slated to become mandatory in new homes under applicable codes after 2008.
2. Sprinkler systems must be maintained IAW applicable NFPA 13 and 13R.
3. Sprinkler system must be monitored.
4. The owner is responsible for maintenance and service.

### **B. KITCHEN SYSTEM**

1. A kitchen system is recommended in all homes.
2. The kitchen system must be inspected semi annually by a certified technician.
3. The property owner is responsible for inspection and service.
4. Kitchen hood systems must be cleaned annually.

## SECTION 5 - EMERGENCY LIGHTING

1. Determine if emergency lighting is adequate.
2. Emergency lighting must be hard wired or connected to an outlet and have battery backup (batteries should be clearly marked with install date).
3. At least one emergency light should be located in each hallway to provide lighting in the event of a power outage.
4. Strip lighting is recommended on both sides of the floor along primary and secondary escape routes.

## SECTION 6 - FIRE RATED DOORS

1. As a minimum, each sleeping room and each primary exit should have a 60-minute fire rated door.
2. All bedroom doors must close completely.

## SECTION 7 - FIRE EXTINGUISHERS

1. All occupants must be trained on fire extinguisher use annually.
2. All fire extinguishers must be clearly identified, and accessible.
3. An occupant should inspect extinguishers monthly, and notate that inspection on the inspection tag.
4. Property owners must ensure that fire extinguishers undergo annual maintenance performed by a certified fire extinguisher company.
5. Fire extinguisher types and locations must be as follows:

Number	Type	Location
One	3A10BC	Each floor
One	K rated or B rated	Kitchen
One	4A60BC	Furnace room
One	4A60BC	Basement
One	3A10BC	Garage

## SECTION 8 - FIRE EXIT PLANS

1. A written fire exit plan and a drawing must be maintained and conspicuously posted.
2. Fire exit plans and drawings should clearly identify the R.A.C.E procedure and:
  - a. Primary escape routes
  - b. Secondary escape routes
  - c. All exits
  - d. Outside assembly area
  - e. Extinguisher locations
  - f. Smoke Detectors
  - g. Individual Responsibilities
  - h. Safety Equipment
  - i. Manual pull stations
  - j. FAP location
3. The fire exit plan's visual drawing must show items a. – f. above and contain a "key" clearly identifying those items on the drawing. The plan's text must address *all* items listed.
4. The fire plan must be reviewed monthly and practiced semi-annually by all occupants.

## SECTION 9 - FIRST AID KIT

1. A first aid kit should be in all residential housing.
  - a. The size and contents of the first aid kit should be based on the number of occupants. Exception: If each occupant possesses a fire safety kit with a first aid kit inside.
  - b. The first aid kit shall contain at minimum:
    - i. Band-Aids
    - ii. Eye solution
    - iii. Tweezers

- iv. 2 X 2 gauze patches
- v. Surgical tape
- vi. Anti bacterial spray or ointment
- vii. A contents list (identifying item types and quantity) to assure proper re-supply

## SECTION 10 - ELECTRICAL

### **A. OUTLETS AND CORDS**

1. Outlets shall have 3-point receptacles.
2. Bathroom Outlets must be GFCI.

### **B. ELECTRICAL CORDS AND WIRING**

1. Extension cords must not be used as permanent wiring. Only surge protectors with 6-foot or shorter cords may be used permanently.
2. Extension cords must have 3 point receptacles
3. Extension cords and surge protectors must be rated for the load requirements of the appliances plugged into them.
4. Extension cords must not be overloaded.
5. Electrical cords must not run under carpeting or furniture.
6. All electrical cords (including those attached to any appliance) and power strips must be inspected annually for damage to the cord or plug, exposed wiring, and correct operation.
7. Damaged wiring must be *replaced*, not just repaired, and not taped.

### **C. APPLIANCES**

1. Should be unplugged when not in use.
2. Must not be plugged into extension cords with a lower wattage rating.
3. Should be inspected annually by a certified professional.
4. Should never be left unattended when in use.

## SECTION 11 FURNACES

1. Must be checked annually by a certified technician.
2. Outside gas meters must be checked for leaks annually.
3. Filters should be changed semi-annually.
4. A Carbon Monoxide detector should be located not less than 15 nor more than 30 feet from the furnace.

## SECTION 12 - SPACE HEATERS

1. Space heaters that use liquid fuel or produce a flame must be equipped with an automatic tip over shutdown device.
2. Fuel must be stored outside, and fuel containers must be marked or color coded to identify "kerosene only."
3. Space heaters shall be listed by a nationally recognized agency such as UL.
4. Space heaters shall be self-venting.
5. Space heaters must be shut off when people are sleeping and when no one is present.
6. Space heaters must never be used for cooking, warming, or for drying clothes.
7. Open flame space heaters shall not be used.
8. Electric space heaters must never be used with an extension cord.
9. Space heater electrical cords must be checked monthly for integrity.

## SECTION 13 - DRYERS

1. The exhaust venting must be continuous from dryer to outside.
2. The lint trap should have a water test annually.
3. The lint trap must be cleaned after each use.
4. Dryers must be shut off when occupants leave premises.

## SECTION 14 - STOVES

1. Stoves must be checked for the following upon occupancy and annually:
  - a. Operational / Functional Integrity
  - b. Stove shuts off completely
  - c. Burners burn evenly and completely
  - d. Oven and broiler burns completely and evenly
  - e. Stove, oven, and hood are free from grease buildup
2. Occupants should be trained in safe cooking practices.
3. Occupants should be trained in minor burn treatment.
4. Stoves must not be used to provide heat, light smoking materials, or to dry clothes.

## SECTION 15 - HOT WATER HEATERS

1. Hot water heaters must be checked by a certified technician prior to occupancy.
2. A carbon monoxide detector must be located within not less than 15 nor more than 30 feet of the hot water heater if the hot water heater is gas fired and in an area separate from the furnace.

## SECTION 16 - GENERAL STORAGE AND HOUSEKEEPING

1. All primary and secondary escape routes must be kept clear, always.
2. Combustible items must be stored a minimum of 3 feet away from any heat producing device or open flame, including, e.g.:
  - a. Furnaces
  - b. Stoves
  - c. Hot water heaters
  - d. Space heaters
  - e. Candles
  - f. Fireplaces
3. Emergency lighting and Fire extinguishers must be unobstructed.
4. Storage material must be at least 18 inches from the ceiling and at least 3 feet from all detectors.
5. Strip lighting must be visible at all times.
6. Ashtrays should be emptied at least 2 hours after last use, never before leaving the house or going to bed, and always into a metal container located outside the house.
7. Ovens and cook top hoods must be cleaned at least annually.

## SECTION 17 - DECORATIONS

1. Decorations should be fire retardant.
2. Decorations must not be placed within 3 feet of any heat producing device or open flame.
3. Decorations must not obstruct:
  - a. Detectors
  - b. Fire extinguishers
  - c. Escape routes
  - d. Emergency lighting

## SECTION 18 - CANDLES

1. Candles must be kept on a non-combustible, solid surface capable of catching all melted wax, and *away* from blankets, loose clothing, sheets and other combustible items.
2. Burning candles must never be moved.
3. Candles must be extinguished before going to bed or leaving the house.
4. Candles must not be positioned where they can be knocked over.
5. Candles must not be placed along primary or secondary escape routes.

## SECTION 19 - INSPECTIONS

1. Occupants shall be trained on conducting monthly inspections.

2. Monthly inspections shall be conducted on the following:
  - a. Smoke detectors
  - b. Extinguishers
  - c. Emergency lighting
  - d. Carbon monoxide detectors
3. Homeowners should be trained on semi-annual and annual maintenance and inspection requirements.
4. Any kitchen system must be inspected semi-annually.
5. Annual maintenance must be conducted on fire extinguishers.
6. A 30-second battery backup test must be performed on emergency lighting.
7. Any sprinkler or alarm system must be inspected annually.
8. Inspections should be performed by NIFAST certified personnel.

## SECTION 20 - HAZARD ABATEMENT

1. Owners and occupants must eliminate any hazard found promptly.
2. If an occupant is a tenant, tenant must notify the owner within 24 hrs of any fire hazard.
3. Owners must remedy life safety hazards within 24 hours.
4. Examples of life safety hazards include:
  - a. Fire protection systems
  - b. Detectors
  - c. Fire extinguishers
  - d. Emergency lighting
  - e. Emergency exits
  - f. Fire escapes
  - g. Furnaces
  - h. Hot water heaters
  - i. Electrical

## SECTION 21 - TRAINING

1. Occupants must practice their Fire Exit Plan with their entire family at least once every 6 months.
2. Occupants should renew their NIFAST fire and life safety certification annually.
3. Determine the level of occupant training, and make recommendations about taking the NIFAST training.
4. Home fire safety inspectors shall be certified by NIFAST.

## SECTION 22 – SAFETY RATING CHART

	<b>Silver</b>	<b>Gold</b>	<b>Platinum</b>
<b>Basic Smoke Alarms</b>	YES	YES*	YES*
<b>Improved Smoke Alarms</b>	NO	YES*	YES*
<b>Smoke alarm Location</b>	YES	YES*	YES*
<b>Heat Detectors</b>	YES	YES*	YES*
<b>Heat Detectors Location</b>	YES	YES*	YES*
<b>Carbon Monoxide Det.</b>	NO	YES*	YES*

<b>FAPs</b>	NO	NO	YES*
<b>Fire Protection systems</b>	YES	NO	YES*
<b>Kitchen system</b>	NO	NO	YES*
<b>Sprinkler System</b>	NO	NO	YES*
<b>Emergency Lighting</b>	YES	NO	YES*
<b>Strip Lighting</b>	NO	NO	YES*
<b>Exit lights</b>	YES	YES*	YES*
<b>Fire Rated Doors</b>	YES	YES*	YES*
<b>Fire Extinguishers</b>	YES	YES*	YES*
<b>Means of Egress</b>	YES	YES*	YES*
<b>Fire Plans</b>	NO	YES*	YES*
<b>Elements</b>	NO	NO	YES*
<b>Posting</b>	NO	YES*	YES*
<b>Drills</b>	NO	YES*	YES*
<b>Fire Safety Kit</b>	NO	YES*	YES*
<b>Electrical</b>	NO	YES*	YES*
<b>Outlets</b>	YES	YES*	YES*
<b>GFCI</b>	NO	YES*	YES*
<b>Extension Cords</b>	YES	YES*	YES*
<b>Appliances</b>	NO	YES*	YES*
<b>Wiring</b>	YES	YES*	YES*
<b>Furnaces</b>	YES	YES*	YES*
<b>Space Heaters</b>	YES	YES*	YES*
<b>Dryers</b>	YES	YES*	YES*
<b>General Housekeeping</b>	YES	YES*	YES*
<b>Storage</b>	YES	YES*	YES*
<b>Instructional Signs</b>	NO	NO	YES*
<b>Decorations</b>	NO	YES*	YES*
<b>Inspections</b>	YES	YES*	YES*
<b>Open Flames</b>	YES	YES*	YES*
<b>Candles</b>	NO	YES*	YES*
<b>Hazard Abatement</b>	NO	YES*	YES*
<b>Training</b>	NO	NO	YES*
<b>Occupant Training</b>	NO	YES*	YES*
<b>Owner Training</b>	NO	NO	YES*

\* Denotes Training Included