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Home Smoke Alarms

1.1 Fire Deaths — Smoke Alarms Save Lives

1.1.1 Working smoke alarms save lives, cutting the risk of dying in a home fire in half. Smoke alarms should be installed and maintained in every home.

1.2 Installation

1.2.1 Install smoke alarms in every sleeping room, outside each separate sleeping area, and on every level of the home. Install alarms in the basement. Larger homes may require additional smoke alarms to provide a minimum level of protection.

1.2.2 Interconnect all smoke alarms throughout the home for the best protection. When one sounds, they all sound. Make sure you can hear the sound of the smoke alarm.

1.2.2.1 It is especially important to have interconnected smoke alarms, if you sleep with doors closed.

1.2.3 Smoke alarms can be interconnected electrically by a qualified electrician or by installing battery-operated wireless interconnected smoke alarms.

1.2.4 For the best protection or where extra time is needed to awaken or assist others, both ionization smoke alarms and photoelectric smoke alarms or combination ionization-photoelectric alarms, also known as dual sensor smoke alarms, are recommended.

1.2.5 An ionization smoke alarm is more responsive to flaming fires, and a photoelectric smoke alarm is more responsive to smoldering fires.

1.2.6 Choose a smoke alarm that is listed by a qualified testing laboratory.

1.2.7 Install smoke alarms away from the kitchen to prevent nuisance alarms. They should be at least 10 feet (3 metres) from a cooking appliance.

1.2.8 Photoelectric smoke alarms are the best type of alarms to be installed near the kitchen and bathrooms to reduce nuisance alarms.

1.2.9 New multi-criteria smoke alarm technology will state “helps reduce cooking nuisance alarms” on the packaging. Consider using new multi-criteria alarms when it is time to replace existing photoelectric or ionization alarms.

1.3 Testing and Maintenance

1.3.1 Test smoke alarms at least once a month using the test button.

1.3.2 Make sure everyone in the home understands the sound of the smoke alarm and knows how to respond.

1.3.3 Follow the manufacturer’s instructions for cleaning to keep smoke alarms working. The instructions are included in the package or can be found on the internet.

1.4 People Who Are Deaf or Hard of Hearing

1.4.1 Install smoke alarms and alert devices that meet the needs of people who are deaf or hard of hearing.

1.4.2 When the smoke alarm sounds, strobe lights flash to alert people who are deaf or hard of hearing of a possible fire when they are awake.

1.4.2.1 When people who are deaf are asleep, a pillow or bed shaker should be used to wake them and alert them to fire conditions so they can escape. This device is activated by the sound of a standard smoke alarm. People who are deaf may find

that the shaker paired with a high-intensity strobe light is helpful to wake them.

1.4.2 When people who are hard of hearing are asleep, a loud, mixed, low-pitched sound alert device should be used to wake them. They may find a pillow or bed shaker is helpful to wake them. These devices are activated by the sound of the standard smoke alarm.

1.4.3 Choose smoke alarms and accessories for people who are deaf or hard of hearing that are listed by a qualified testing laboratory.

1.5 Battery Replacement

1.5.1 Smoke alarms with non-replaceable (long-life) batteries are designed to remain effective for up to 10 years. If the alarm chirps, warning that the battery is low, replace the entire smoke alarm right away.

1.5.2 For smoke alarms that do not have non-replaceable (long-life) batteries, replace batteries at least once a year. If the alarm chirps, replace only the battery.

1.6 Smoke Alarm Replacement

1.6.1 Replace all smoke alarms when they are 10 years old.

1.6.2 Replace any smoke alarm that does not respond after a new battery has been installed.

1.6.3 Replace combination smoke-carbon monoxide alarms according to the manufacturer's recommendations.

1.7 Rental Housing

1.7.1 All rental housing must have working smoke alarms.

1.7.2 Be sure smoke alarms are installed in all rental housing. Contact your landlord, property manager, or fire department for help.

1.7.3 Check with your local fire or building department for information about state and local ordinances on smoke alarm installation and maintenance in rental housing.

1.7.4 Maintenance of the smoke alarms may be the responsibility of the landlord or the renter, depending on the rental agreement. Maintain the smoke alarm in accordance with the manufacturer's instructions.

Home Fire Sprinklers

2.1 General Tips

2.1.1 Home fire sprinklers protect lives by keeping fires small. Sprinklers can reduce the heat, flames, and smoke produced in a fire, allowing people more time to escape.

2.1.2 Home fire sprinklers activate on an individual basis. Only the sprinkler closest to the fire will activate, spraying water on the fire and not the rest of the home.

2.1.3 A home fire sprinkler can control or put out a fire with a fraction of the water that would be used by fire department hoses.

2.1.4 Accidental sprinkler discharges are rare.

2.1.5 Home fire sprinklers can be installed in new or existing homes. If you are remodeling or building your home, install home fire sprinklers.

2.2 Installation

2.2.1 Have a qualified contractor install your home fire sprinkler system according to NFPA codes and standards and local fire safety regulations.

2.2.2 Home fire sprinklers work along with smoke alarms to save lives. Fire sprinklers automatically respond to a fire while it is still small, controlling the spread of deadly heat, flames, and toxic smoke.

2.3 Maintenance

2.3.1 The home fire sprinkler installer must provide instructions on inspecting, testing, and maintaining the system, a simple process that can be performed by the home occupant. A visual inspection should be done each month to ensure that the water valve on the sprinkler system is open.

2.3.1.1 Make sure that your home fire sprinkler system is working properly by

- (A) Conducting a visual inspection of all home fire sprinklers each month to make sure nothing is blocking them and nothing is hung from or attached to them
- (B) Doing a water flow test on the sprinkler system every six months (or having a fire sprinkler contractor do the test) to ensure all water flow devices are working
- (C) Keeping home fire sprinklers clear and free of objects that can interfere with their proper use
- (D) Inspecting tanks, if present, each month to make sure that they are full
- (E) Starting the pump, if present, each month to make sure that it works and that it does not trip any circuit breakers.
- (F) Not painting fire sprinklers. If you are painting in the area, cover the sprinkler head with a bag and remove after the work is done

Carbon Monoxide

3.1 Dangers of Carbon Monoxide

3.1.1 Carbon monoxide (CO) is a gas you cannot see, taste, or smell. It is often called "the invisible killer." It is created when fossil fuels such as kerosene, gasoline, coal, natural gas, propane, methane, or wood don't burn completely. CO gas can kill people and pets.

3.1.2 Carbon monoxide (CO) poisoning can result from gas-, gasoline-, and diesel-fueled vehicles idling inside garages or

from malfunctioning or improperly vented water heaters, clothes dryers, furnaces and other heating appliances, and portable generators.

3.1.3 Headache, nausea, and drowsiness are symptoms of carbon monoxide (CO) poisoning.

3.1.4 Exposure to carbon monoxide (CO) can be fatal.

3.2 Installation

3.2.1 Choose a carbon monoxide (CO) alarm that is listed by a qualified testing laboratory.

3.2.2 Install and maintain carbon monoxide (CO) alarms inside your home to provide early warning and reduce risk of death from carbon monoxide.

3.2.2.1 When traveling or staying away from home, bring a travel carbon monoxide (CO) alarm.

3.2.3 Install and maintain carbon monoxide alarms (CO) outside each separate sleeping area, on every level of the home, and in other locations as required by laws, codes, or standards. Follow the manufacturer's instructions for placement and mounting height.

3.2.4 For the best protection, have CO alarms that are interconnected throughout the home. When one sounds, they all sound.

3.2.5 If you have combination smoke-carbon monoxide (CO) alarms, follow the directions for smoke alarm installation.

3.2.6 Carbon monoxide (CO) alarms are not substitutes for smoke alarms and vice versa. Know the difference between the sound of smoke alarms and the sound of CO alarms.

3.3 Testing and Replacement

3.3.1 Test carbon monoxide (CO) alarms at least once a month and replace them if they fail to respond when tested. The sensors in CO alarms have a limited life. Replace the CO alarm according to manufacturer's instructions or when the end-of-life signal sounds.

3.3.2 Know the difference between the sound of the carbon monoxide (CO) alarm and the smoke alarm, and the low-battery signals. If the audible low-battery signal sounds, replace the batteries or replace the device. If the carbon monoxide (CO) alarm still sounds, get to a fresh air location and call 9-1-1 or the fire department.

3.3.3 To keep carbon monoxide (CO) alarms working, follow manufacturer's instructions for cleaning. The instructions are included in the package or can be found on the internet.

3.4 Inside the Home

3.4.1 Have gas appliances, fuel-burning heating equipment, and chimneys inspected per the manufacturer's instructions.

3.4.2 Before using the fireplace, open the damper for proper ventilation. When finished, leave the damper open until the fire is completely extinguished to prevent smoke and gases generated by embers from entering the home.

3.4.3 Never use an oven or stovetop to heat your home.

3.4.4 Purchase heating and cooking equipment that is listed by a qualified testing laboratory.

3.4.5 Vent the exhaust from fuel-burning equipment to the outside to avoid carbon monoxide (CO) poisoning. Keep the venting clear and unblocked.

3.4.6 Use only battery-powered lights in confined areas, such as tents.

3.5 Motor Vehicles

3.5.1 Remove vehicles from the garage right away after starting. The carbon monoxide (CO) gas can kill people and pets.

3.5.2 Never run a vehicle or other fueled engine or motor in a garage, even if garage doors are open. The carbon monoxide (CO) gas can kill people and pets.

3.5.3 Make sure the exhaust pipe of a running vehicle is not blocked with snow, ice, or other materials. The carbon monoxide (CO) gas can kill people and pets.

3.5.4 If your vehicle has an automatic engine starter, check to make sure your vehicle is off if it is in the garage. The carbon monoxide (CO) gas can kill people and pets.

3.6 Appliances

3.6.1 Make sure vents for the dryer, furnace, stove, and fireplace are clear of snow and other debris.

3.6.2 Always use barbecue grills outside, away from all doors, windows, vents, and other building openings. Grills can produce carbon monoxide (CO) gas. Never use grills inside the home or the garage, even if the doors are open.

3.6.3 Generally, a minimum of 3 feet (1 metre) provides enough distance between the grill and anything that can burn (deck, railings, walls, for example) so that heat from the grill does not pose an ignition hazard.

3.7 Portable Generators

3.7.1 Use portable generators outdoors in well-ventilated areas at least 20 feet (7 metres) from all doors, windows, and vent openings. Measure the 20-foot (7-metre) distance from the generator to the building.

3.7.2 Never use a generator in an attached garage, even with the door open.

3.7.3 Place generators so that exhaust fumes cannot enter the home through windows, doors, or other openings in the building. The exhaust must be directed away from the building.

3.7.4 If you are using a portable generator, make sure you have battery-operated carbon monoxide (CO) alarms or plug-in CO alarms with a battery backup in the home.

3.7.5 If you are buying or renting a portable generator, choose one that is listed by a qualified testing laboratory.

3.7.6 Do not stand or sit downwind of generator exhaust. If you can smell exhaust, you are inhaling it. Exhaust is toxic and deadly.

3.8 Marina and Boating

3.8.1 Poorly tuned engines produce more carbon monoxide (CO). Keep your engine properly maintained. Follow the manufacturer's instructions for service.

3.8.2 Proper ventilation for engine and generator exhaust vents must be clear and pipes should be inspected for leaks.

3.8.3 Get into fresh air right away and get help if you feel symptoms of carbon monoxide (CO) poisoning. These include headache, fatigue, confusion, dizziness, nausea, or seizures. The symptoms can be similar to seasickness. Assume it is CO exposure until you are sure the boat is safe.

3.8.4 Do not swim near the boat's exhaust vents. Carbon monoxide (CO) accumulates there.

3.8.5 Install carbon monoxide (CO) alarms inside your boat. Test CO alarms before each trip.

3.8.6 Choose a carbon monoxide (CO) alarm that is listed by a qualified testing laboratory.

3.8.7 If the carbon monoxide (CO) alarm sounds, move to a fresh air location.

3.9 If Your Carbon Monoxide (CO) Alarm Sounds

3.9.1 Immediately move to a fresh air location outdoors. Make sure everyone is accounted for.

3.9.2 Call 9-1-1 or the fire department from the fresh air location. Remain there until emergency personnel declare that it is safe to reenter the home.

Home Fire Escape

4.1 Planning

4.1.1 Install smoke alarms in every sleeping room, outside each separate sleeping area, and on every level of the home, including the basement. Larger homes may require additional smoke alarms to provide a minimum level of protection. Make sure everyone in your home knows the sound and understands the warning of the smoke alarm and knows how to respond.

4.1.2 Make a home escape plan. Draw a map of each level of the home. Show all doors and windows. Go to each room and point to the two ways out. Practice the plan with everyone in your household, including visitors.

4.1.3 Children, older adults, and people with disabilities may need assistance to wake up and get out. Make sure that someone will help them.

4.1.4 Teach your children how to escape on their own in case you cannot help them. Make sure they can open windows, remove screens, and unlock doors.

4.1.5 Have a plan for everyone in your home who has a disability.

4.1.6 Practice your home fire escape drill with overnight guests.

4.1.7 Know at least two ways out of every room, if possible. Make sure all doors and windows that lead outside open.

4.1.8 If a room has a window air conditioner, make sure there is still a second way out of the room.

4.1.9 If allowed in your community and approved by code as a secondary means of escape, windows with security bars, grills, or safety guards should have easy-to-use quick-release devices that are accessible from inside the home.

4.1.10 A closed door may slow the spread of smoke, heat, and fire.

4.1.11 Install smoke alarms in every sleeping room and outside each separate sleeping area. For the best protection, make sure all smoke alarms are interconnected. When one smoke alarm sounds, they all sound.

4.1.12 If you sleep with the bedroom door closed, install smoke alarms inside and outside the bedroom. For the best protection, make sure all smoke alarms are interconnected. When one smoke alarm sounds, they all sound.

4.1.13 Make sure everyone in your home knows how to call 9-1-1, or your local emergency number, from a mobile phone or a trusted neighbor's phone.

4.1.14 Have an outside meeting place (something permanent, like a tree, light pole, or mailbox) a safe distance in front of the home where firefighters will easily find you.

4.1.15 Make sure your house number can be seen from the street both day and night.

4.2 Practicing the Home Fire Escape Drill

4.2.1 Push the smoke alarm button to start the drill.

4.2.2 Practice what to do in case there is smoke. Get low and go. Get out fast.

4.2.3 Practice using different ways out.

4.2.4 Close doors behind you as you leave.

4.2.5 Get out and stay out. Never go back inside for people, pets, or things.

4.2.6 Go to your outside meeting place.

4.2.7 Practice your home fire escape drill at least twice a year with everyone in your home. Practice at night and during the daytime.

4.2.8 After you have practiced your home fire escape drill, evaluate it and discuss what worked and what needs to be improved. Improve it and practice again.

4.3 If There Is a Fire

4.3.1 When the smoke alarm sounds, get out and stay out. Go to the outside meeting place. Call 9-1-1 or the fire department.

4.3.2 If there is smoke blocking the door or first way out, use your second way out.

4.3.3 Smoke is poisonous. If you must escape through smoke, get low and go under the smoke to your way out.

4.3.4 Before opening a door, feel the doorknob and then the door. If either is hot, leave the door closed and use your second way out.

4.3.5 If there is smoke coming in from around the door, leave the door closed and use your second way out.

4.3.6 If you open a door, open it in a slow manner. Be ready to shut it if heavy smoke or fire is present.

4.3.7 If you cannot get out, close the door and cover vents and cracks around the door with cloth or tape to keep smoke out. Call 9-1-1 or your fire department. Say where you are and then signal for help at the window with a flashlight or a light-colored cloth.

4.3.8 If you cannot get to someone needing assistance, leave the home and call 9-1-1 or the fire department. Tell the emergency operator where the person is located.

4.3.9 If pets are trapped inside your home tell firefighters right away. Never re-enter a burning building.

4.4 People Who Are Deaf or Have Hearing Loss

4.4.1 Install a bedside alert device that responds to the alert sound of the smoke alarms and provides a bed shaker to wake you up.

4.4.2 Install a smoke alarm with a strobe light in your living space to alert to smoke when you are awake and not wearing your hearing aids or implant(s).

4.4.3 As part of your home fire escape drill, include who will wake up a child or adult who is deaf or has hearing loss and help them to escape.

4.4.4 It is safest for people who need more time to escape to sleep on the ground floor and in a room with a door to the outside.

4.4.5 Practice the home fire escape drill and include waking and assisting people who are deaf or have hearing loss to escape and meet others at the family meeting place.

4.4.6 Sleep with your mobile phone and your hearing aids or implants close to your bed.

4.5 People Who Use a Mobility Device (This applies to people who use a cane, walker, wheelchair, or a scooter.)

4.5.1 Install a bedside alert device that responds to the alert sound of the smoke alarms with a low frequency sound and a bed shaker. The alert from this device gives you more time to escape.

4.5.2 As part of your home fire escape drill, include who will wake up a child or an adult who uses a mobility device and help them to escape.

4.5.3 It is safest for people who need more time to escape to sleep on the ground floor and in a room with a door to the outside.

4.5.4 Practice the home fire escape drill and include waking and assisting people who use a mobility device.

4.5.5 Sleep with your mobility device and mobile phone close to your bed.

4.5.6 If someone in your family uses a mobility device and can self-transfer, include this action when you practice your home fire escape drill: wake up, transfer to your wheelchair, get your walker or cane, and get out of your home in less than 2 minutes.

4.6 People Who Are Blind or Have Low Vision

4.6.1 Install a bedside alert device that responds to the alert sound of the smoke alarms with a low frequency sound and a bed shaker. The alert from this device gives you more time to escape.

4.6.2 People who are blind or have low vision may be disoriented when they can't hear the common household sounds that are used to navigate through the home over the continuous high-decibel smoke alarm sound. Practice the home fire escape drill to make sure you can escape while the smoke alarms are sounding.

4.6.3 Sleep with your glasses and mobile phone close to your bed.

4.7 People with Multiple Disabilities

4.7.1 Protect people who are deaf or have hearing loss and another disability using the messages in section.

Fire Safety Away From Home

5.1 Hotels/Motels

5.1.1 Choose a hotel/motel that is protected by smoke alarms, carbon monoxide (CO) alarms, and fire sprinklers. Some versions of carbon monoxide alarms are available for travel.

5.1.2 When you check in, ask the desk clerk what the fire alarm sounds like. If you are deaf or hard of hearing, ask for a room equipped with a smoke alarm and accessories that will awaken you or a portable smoke alarm made specifically, for people who are deaf or hard of hearing. You may want to consider bringing one with you.

5.1.3 Read the escape plan posted in your room.

5.1.4 Count the number of doors between your room and the nearest two fire exits. If the exit doors are not alarmed, open them to be sure they are unlocked.

5.1.5 Keep your room key by your bed and take it with you if there is a fire. If you cannot escape, you may have to return to your room.

5.1.6 If you hear an alarm, leave and close all doors behind you.

5.1.7 Use the stairs to get out. Typically you should not use the elevator unless directed by the fire department. Some buildings are equipped with elevators intended for use during an emergency situation. These

types of elevators will clearly be marked that they are safe to use in the event of an emergency.

5.1.8 If you must escape through smoke, get low and go under the smoke to the exit.

5.1.9 If all escape routes are blocked, return to your room. Shut off fans and air conditioners. Stuff wet towels or bedding in the cracks around the doors and vents. Call 9-1-1 to let them know your location. Wait at a window and signal for help with a flashlight or light-colored cloth.

5.1.10 Bring a flashlight; keep it near your bed.

5.2 Peer-to-Peer Hospitality

5.2.1 Working smoke alarms are in every sleeping room. They are outside each separate sleeping area. They are on every level of the home.

5.2.2 Working smoke alarms are interconnected, if possible. When one alarm sounds, they all sound.

5.2.3 Portable fire extinguishers are in the home and are easy to reach. Working carbon monoxide (CO) alarms are outside each separate sleeping area. They are on every level of the home and in other locations as required by laws, codes, or standards.

5.2.4 The owner has posted a floor plan. It notes all escape routes and exits and provides emergency contact information.

5.2.5 Everyone knows the address of the home.

5.2.6 Everyone staying in the home has identified two ways out of every room and how to escape in an emergency. All doors and windows that lead outside are able to be opened.

5.2.7 An outside meeting place has been chosen. It is a safe distance away from the

home. Everyone knows how to call 9-1-1 or the local emergency number from a mobile phone from outside.

5.2.8 If smoking is allowed, a smoking area has been designated and is well away from the structure. Deep, sturdy ashtrays have been provided.

5.2.9 All pathways are free and clear of tripping hazards. Electrical outlets are free from multiple cords and adaptors.

5.2.10 The stovetop is clear. Anything that can catch fire is not near the stovetop, such as curtains and towels.

5.3 Motor Home, Camper, and Recreation Vehicle Safety

5.3.1 Install smoke alarms. Make sure they work.

5.3.2 Stay in the kitchen while you cook. Keep anything that can catch fire away from the stovetop.

5.3.3 Only use one heat-producing appliance plugged into a receptacle outlet at a time. Major appliances should be plugged directly into a wall receptacle outlet.

5.3.4 Refrigerators, furnaces, ovens, and stovetops often use propane. Check them for leaks. Keep an updated gas leak detector on board.

5.3.5 Have your propane system inspected to make sure it still works properly. Know two ways out. Make sure windows open easily.

5.3.6 Have everyone practice the home fire escape plan.

5.3.7 Do not keep camping heaters and lanterns on while sleeping. Before setting up a campfire, make sure it is allowed.

5.3.8 If campfires are allowed, they need to be at least 25 feet (8 metres) away from anything that can burn.

5.3.9 Have your vehicle serviced by a qualified mechanic.

5.3.10 Keep a portable fire extinguisher on board. Only adults who know how to operate it should use it. Only use it if the fire is small and can be contained. Make sure everyone else is leaving. Make sure someone is calling the fire department.

5.4 Safety in Places of Public Assembly

5.4.1 Before you enter, take a good look around. Does the building appear to be in a condition that makes you feel comfortable? Is the main entrance wide and does it open outward to allow easy exit? Is the outside area clear of materials stored against the building or blocking exits?

5.4.2 Have a communication plan. Identify a relative or friend to contact in case of emergency or if you are separated from family or friends.

5.4.3 Plan a meeting place. Pick a meeting place outside to meet family or friends with whom you are attending the function. If there is an emergency, be sure to meet them there.

5.4.4 When you enter, take a good look around. When you enter a building, you should look for all available exits. Some exits may be in front and some in back of you. Be prepared to use your closest exit. You may not be able to use the main exit.

5.4.5 Check for clear exit paths. Make sure aisles are wide enough and not obstructed by chairs or furniture. Check to make sure your exit door is not blocked or chained. If there are not at least two exits or exit paths are blocked, report the violation to management and leave the building if it is not immediately addressed. Call the local fire marshal to register a complaint.

5.4.6 Do you feel safe? Does the building appear to be overcrowded? Are there fire sources such as candles burning, cigarettes or cigars burning, pyrotechnics, or other

heat sources that may make you feel unsafe? Are there safety systems in place such as alternative exits, sprinklers, and smoke alarms? Ask the management for clarification on your concerns. If you do not feel safe in the building, leave immediately.

5.4.7 During an emergency, react immediately. If an alarm sounds, you see smoke or fire, or some other unusual disturbance, immediately exit the building in an orderly fashion.

5.4.8 Get out, stay out! Once you have escaped, stay out. Under no circumstances should you ever go back into a burning building. Let trained firefighters conduct rescue operations.

5.5 Car Fire Safety

5.5.1 What to do if your car is on fire.

5.5.2 Pull over as quickly as it is safe to do so, be sure to use your signal as you make your way to a safe location off the road, such as the breakdown lane or rest stop.

5.5.3 Once you have stopped, TURN OFF the engine.

5.5.4 GET everyone out of the car. Never return to a burning car for anything.

5.5.5 MOVE everyone at least 100 feet (30 metres) from the burning car and well away from traffic.

5.5.6 CALL 9-1-1.

5.6 How to Prevent a Car Fire

5.6.1 Have your car serviced regularly by a professionally trained mechanic. If you spot leaks, your car is not running properly, get it checked. A well-maintained car is less likely to have a fire.

5.6.2 If you must transport gasoline, transport only a small amount in a certified gas can that is sealed. Keep a window open for ventilation.

5.6.3 Gas cans and propane cylinders should never be transported in the passenger compartment.

5.6.4 Never park a car where flammables, such as grass, are touching the catalytic converter.

5.6.5 Drive safely to avoid an accident.

5.6.6 Know the danger signs, which include cracked or loose wiring or electrical problems, including a fuse that blows more than once; oil or fluid leaks; oil cap not on securely; and rapid changes in fuel or fluid level or engine temperature.

College and University Housing

6.1 On- and Off-Campus Housing

6.1.1 Look for housing with fire sprinklers when choosing a dorm or off-campus housing. This is the best fire protection.

6.1.2 Make sure you can hear the building alarm system when you are in your bedroom.

6.1.3 Learn your building's evacuation plan and practice all drills as if they are the real thing.

6.1.4 Keep halls, exits, and stairs clear. If there is a fire, you need to leave quickly.

6.1.5 Keep your room key, building key, and/or access card near your bed when you sleep. Take them with you when you hear the fire alarm and leave the building.

6.1.6 Read any emergency information cards posted in your area.

6.1.7 When the fire alarm sounds, get out of the building quickly and stay out.

6.1.8 Make sure carbon monoxide (CO) alarms are installed in dorm rooms,

apartments, or houses to provide early warning of CO.

6.1.9 Stay in the kitchen when cooking.

6.1.10 Cook only when you are alert, not sleepy or drowsy from medicine or alcohol.

6.1.11 Check your school's rules before using electrical appliances in your room.

6.1.12 If you smoke, smoke outside and only where permitted. Use sturdy, deep, non-tip ashtrays. Do not smoke in bed or when you have been drinking or are drowsy.

6.1.13 Many schools do not permit the use of traditional candles. Consider using flameless candles. They come in many sizes, colors, and scents and look like wax candles.

6.1.14 Call 9-1-1 to report fires or if you suspect fire activity.

6.2 On-Campus Housing

6.2.1 If you live in a dormitory, make sure your sleeping room has a smoke alarm, or your dormitory suite has a smoke alarm in each living area as well as the sleeping room. For the best protection, all smoke alarms in the dormitory suite and building should be interconnected so that when one sounds, they all sound.

6.3 Off-Campus Housing

6.3.1 If you live in an apartment unit or house, make sure smoke alarms are installed in each sleeping room, outside every sleeping area, and on every level of the apartment unit or house. For the best protection, all smoke alarms in the apartment unit or house should be interconnected so that when one sounds, they all sound.

6.3.2 Know two ways out of every room and practice the escape plan with your roommates.

6.3.4 Test all smoke alarms and carbon monoxide alarms (CO) at least monthly.

6.3.5 Never remove batteries or disable the smoke alarms or carbon monoxide (CO) alarms.

If You Are on Fire

7.1.1 If your clothes catch fire, stop, drop, and roll. Stop, drop to the ground, and cover your face with your hands. Roll over and over or back and forth until the fire is out.

7.1.2 If you cannot stop, drop, and roll, keep a blanket or towel nearby in case of fire to help you or others smother flames. Cover the person with a blanket to smother the fire. If you use a wheelchair, scooter, or other device and are able to get to the floor, lock the device to stay in place before getting on the floor to roll until the flames are out.

7.1.3 Once the flames have been smothered, remove loose clothing or clothing with elastic bands, belts, and jewelry.

7.1.4 Treat a burn right away by putting it in cool water for 3 to 5 minutes. Cover with a clean, dry cloth. Do not apply creams, ointments, sprays, or other home remedies. Get medical help right away by calling 9-1-1 or the fire department.

Cooking

8.1 Stay Alert

8.1.1 To prevent cooking fires, you must be alert. You will not be alert if you are sleepy, have consumed alcohol, or have taken medicine or drugs that make you drowsy.

8.2 Watch What You Heat!

8.2.1 The leading cause of fires in the kitchen is unattended cooking.

8.2.2 Stay in the kitchen when you are frying, boiling, grilling, or broiling food. Turn off the burner if you leave the kitchen for any reason.

8.2.3 If you are simmering, baking, or roasting food, check it regularly and stay in the home. Use a timer to remind you that you are cooking.

8.3 Keeping Things That Can Catch Fire Away from Heat Sources

8.3.1 Keep anything that can catch fire—oven mitts, wooden utensils, food packaging, towels, curtains—away from your stovetop.

8.3.2 Keep the stovetop, burners, and oven clean.

8.3.3 Wear short, close-fitting, or tightly rolled sleeves when cooking. Loose clothing can dangle onto stove burners and can catch fire if it comes in contact with a gas flame or an electric burner.

8.3.4 Keep things that can catch fire away from heat sources. Never use your oven or microwave as storage space. This can cause a fire.

8.4 What to Do if You Have a Cooking Fire

8.4.1 Always keep a lid nearby when you are cooking. If a small grease fire starts in a pan, smother the flames by sliding the lid over the pan. Turn off the burner. Do not move the pan. To keep the fire from restarting, leave the lid on until the pan has cooled.

8.4.1.1 Never pour water on a cooking pan grease fire.

8.4.1.2 Only trained adults should use a fire extinguisher on a grease fire. Only Class K fire extinguishers are rated for the purpose of putting out grease and animal fat fires.

8.4.2 In case of an oven fire, turn off the heat and keep the door closed until it is cool. Only open the door once you are confident

the fire is completely out, standing to the side as you open the oven door.

8.4.3 After a fire, the oven should be checked by a licensed professional and/or serviced before being used again.

8.4.4 When in doubt, just get out! When you leave, close the door behind you to help contain the fire. After you leave, call 9-1-1 or the fire department from a mobile phone or a trusted neighbor's phone.

8.5 Keeping Children and Pets Away from the Cooking Area

8.5.1 Have a "kid-free zone" of at least 3 feet (1 metre) around the stove and areas where hot food or drink is prepared or carried.

8.5.2 Never hold a child while you are cooking, drinking a hot liquid, or carrying hot foods or liquids.

8.5.3 Keep pets off cooking surfaces and nearby countertops to prevent them from knocking things onto the burner.

8.6 Electrical Cooking Equipment Safety

8.6.1 Always use cooking equipment—slow cookers, electric skillets, hot plates, griddles, etc.—that is listed by a qualified testing laboratory.

8.6.2 Follow the manufacturer's instructions and code requirements when installing, using, or cleaning cooking equipment.

8.6.3 Plug microwave ovens or other cooking appliances directly into a wall outlet. Never use an extension cord for a cooking appliance—it can overload the circuit and cause a fire.

8.6.4 When possible, to prevent an electric stovetop fire, replace standard coil burners with temperature-limiting control electric coils. Make sure the replacement coils are listed by a qualified testing laboratory as compatible with the specific range.

8.6.5 When replacing an electric coil cooktop, consider a temperature limiting appliance to prevent cooking fires.

8.6.6 Check electrical cords or any part of the appliance for cracks, breaks, damage, or overheating. Have a professional repair the appliance or cord as needed or replace the appliance.

8.6.7 Place cooking equipment where it won't get bumped or knocked over.

8.7 Portable Cooking Equipment Safety

8.7.1 A slow cooker is designed to be left on while you do other things, even things outside of the home. That said, there are conditions:

- (A) Follow the manufacturer's instructions on where and how to use a slow cooker
- (B) Keep things that could catch fire away from the slow cooker
- (C) Inspect the cord to the slow cooker to be sure that it has not been damaged. Do not use any appliance with a damaged cord
- (D) Make sure the slow cooker is in a place where it won't get bumped. If the lid gets dislodged, the liquid could boil away, the appliance could overheat, and a fire could occur

8.7.2 Follow the manufacturer's instructions when using a hot plate, griddle, or electric skillet.

8.7.3 Stay with the hot plate, griddle, or electric skillet when cooking.

8.7.4 Touching the surface of a hot plate, griddle, or electric skillet can burn you. Avoid touching the surface.

8.7.5 Do not operate a hot plate, griddle, or electric skillet with a damaged cord or plug.

8.7.6 Unplug a hot plate, griddle, or electric skillet when not in use and before cleaning. Allow the appliance to cool before cleaning it.

8.7.7 Do not immerse heat control, cord, or plug of a hot plate, griddle, or electric skillet in water or other liquid.

8.8 Microwave Ovens

8.8.1 Always keep microwave ovens clean and free of clutter.

8.8.2 Place or install the microwave oven at a safe height within easy reach of all users. If possible, the face of the person using the microwave oven should be higher than the front of the microwave oven door to reduce the risk of a scald.

8.8.3 Always supervise children when they are using the microwave oven.

8.8.4 Use only microwave-safe cookware (containers or dishes). Never use aluminum foil or metal objects in a microwave oven.

8.8.5 Do not leave a microwave oven unattended when microwaving popcorn, since the heat buildup can cause fires. Heat the popcorn according to the written instructions.

8.8.6 Open microwaved food away from the face. Hot steam escaping from a container of microwaved food, or the food itself, can cause burns.

8.8.7 Verify cooking time and set the timer accurately on the microwave oven so that food does not burn and/or start a fire. Microwave oven wattages vary.

8.8.8 Never heat a baby bottle in a microwave oven because it heats liquids unevenly. Heat baby bottles in warm water from the faucet.

8.8.9 If your microwave oven is mounted over your stove, use extra caution to reduce the risk of spills and scalds. Avoid leaning over hot burners or pans when putting things in or getting them out of the microwave oven.

8.8.10 If you have a fire in your microwave oven, turn it off immediately. This will stop the fan, so it won't feed oxygen to the flames. Do not open the oven door until the fire is out. If in doubt, call the fire department.

8.9 Barbecue Grills

8.9.1 Propane, charcoal, and wood pellet barbecue grills must only be used outdoors. Indoor use can kill occupants by causing a fire or carbon monoxide poisoning.

8.9.2 Place the grill well away from siding and deck railings and out from under eaves and overhanging branches according to the manufacturer's instructions. Do not store or use a grill on a porch or balcony, including any porch or balcony on an upper level of the building.

8.9.3 Place the grill a safe distance from lawn games, play areas, and foot traffic.

8.9.4 Keep children and pets away from the grill area. Have a 3-foot (1 metre) "kid-free zone" around the grill.

8.9.5 Use long-handled grilling tools for plenty of clearance from heat and flames when cooking.

8.9.6 Periodically remove grease or fat buildup in the tray(s) below the grill so it cannot be ignited by a hot grill.

8.9.7 Never leave a hot barbecue grill unattended.

8.10 Charcoal Grills

8.10.1 Use one of the following methods to start charcoal for cooking:

- (A) If you use a charcoal chimney to start charcoal for cooking, use a long match to avoid burning your fingers when lighting the paper
- (B) If you use an electrical charcoal starter, be sure to use a grounded extension cord
- (C) If you choose to use lighter fluid, use only fluid intended for charcoal grills

8.10.2 Never add charcoal starter fluid to coals or kindling that has already been ignited.

8.10.3 Never use gasoline or any other flammable liquid except charcoal starter or lighter fluid to start a charcoal fire.

8.10.4 Store the charcoal starter fluid outside, out of reach of children, and away from heat sources.

8.10.5 Dispose of charcoal coals only after they are cool. Empty the coals into a metal container with a tight-fitting lid that is used only to collect coals. Place the container outside away from anything that can burn. Never empty coals directly into a trash can.

8.11 Gas Grills

8.11.1 Whether it's assembly, use, maintenance, cleaning, or storage, follow the gas grill manufacturer's instructions.

8.11.2 Check the gas tank hose for leaks before using it for the first time each year and after each time the gas tank is reconnected. A soap-and-water solution (1/3 liquid dish soap and 2/3 water) applied to the hose and connection will quickly reveal escaping propane by causing bubbles to form. If you determine by smell or by the soap bubble test that your gas tank hose or connection has a gas leak, do the following:

- (A) Turn off the gas tank and grill
- (B) If the leak stops, get the grill serviced by a professional before using it again
- (C) If the leak does not stop, call the fire department

8.11.3 Use only equipment that is listed by a qualified testing laboratory. Follow the manufacturer's instructions on how to set up the grill and maintain it.

8.11.4 Always store propane gas tanks outside of buildings or garages. Vapors leaked indoors can be easily ignited by pilot lights or electrical equipment, causing

an explosion. If you store a gas grill inside during the winter, disconnect the tank or cylinder and leave it outside.

8.11.5 Light a propane grill only with the cover open. If the flame on the propane grill goes out, turn the grill and gas off and wait at least 5 minutes before relighting.

8.12 Turkey Fryers

8.12.1 NFPA continues to believe that turkey fryers that use cooking oil, as currently designed, are not suitable for safe use by even a well-informed and careful consumer. These types of turkey fryers use a substantial quantity of cooking oil at high temperatures. Units currently available for home use pose a significant danger that hot oil will be released at some point during the cooking process. In addition, the burners that heat the oil can ignite spilled oil. The use of turkey fryers by consumers can lead to devastating burns, other injuries, and the destruction of property. NFPA urges those who prefer fried turkey to purchase from a professional establishment, such as grocery stores, specialty food retailers, and restaurants.

8.12.2 Consider a new type of turkey fryer that has been listed by a qualified testing laboratory, including infrared fryers, air fryers, and electric turkey fryers. Do not leave fryers unattended when in use.

Burns

9.1 Preventing Scalds and Burns in the Kitchen

9.1.1 Teach children that hot things burn.

9.1.2 Place items so they cannot be pulled down or knocked over.

9.1.3 Turn pot handles away from the stove's edge.

9.1.4 Keep appliance cords coiled and away from counter edges.

9.1.5 Keep hot foods and liquids away from table and counter edges.

9.1.6 Use dry oven mitts or potholders. Hot cookware or tableware can heat moisture in a potholder or hot pad, resulting in a scald burn.

9.1.7 If you have young children in the home, cook on the stove's back burners.

9.1.8 When children are old enough, teach them to cook safely.

9.1.9 Never hold a child while you are cooking, drinking a hot liquid, or carrying hot foods or liquids.

9.1.10 Protect your feet from burns by wearing shoes when walking on hot pavement or moving hot liquids or objects.

9.1.11 Use a travel mug with a tight-fitting lid for all hot drinks.

9.1.12 Ensure that cords are not hanging over the counter edge from any appliances, such as coffee makers, slow cookers, deep fryers, or other cooking appliances.

9.2 Hot Tap Water and Scald Burns

9.2.1 Set your water heater to 120 degrees Fahrenheit (49 degrees Celsius) or just below the medium setting. The lower temperature reduces the risk of scalds and burns.

9.2.2 For bathing and showering, the temperature of the water should not exceed 100 degrees Fahrenheit (38 degrees Celsius).

9.2.3 If you lower the temperature setting on your water heater, you will need to test the temperature at the faucet. Allow water to run 3 to 5 minutes. Test the water with a meat, candy, or cooking thermometer. If the water is hotter than 120 degrees Fahrenheit (49 degrees Celsius), adjust the temperature of the water heater and

wait a full day to allow the temperature in the tank to adjust. Retest and readjust as needed.

9.2.4 If children are in the home, do not leave the bathroom while the tub is filling.

9.2.5 Before placing a child in the bath or getting into the tub yourself, test the water.

9.2.6 Fill the tub or sink by running cool water first and then adding hot water. Turn the hot water off first. Mix the water thoroughly and check the temperature by moving your hand, wrist, and forearm through the water. The water should feel warm, not hot, to the touch.

9.2.7 When bathing a young child, seat the child facing away from the faucets so, the child cannot reach the faucet. Turn the faucet to the "COLD" position. Always supervise a child in or near a bathtub.

9.2.8 Consider installing anti-scald devices on tub faucets and shower heads to prevent scalds. These devices reduce the water flow to a trickle as the water temperature nears 120 degrees Fahrenheit (49 degrees Celsius). Anti-scald devices are available online and in some hardware stores.

9.3 Treatment of Burns

9.3.1 Treat a burn right away by putting it in cool water. Cool the burn for 3 to 5 minutes. Cover with a clean, dry cloth. Do not apply creams, ointments, sprays, or other home remedies.

9.3.2 Remove all clothing, diapers, jewelry, and metal from the burned area. These can hide underlying burns and retain heat, thereby increasing skin damage.

9.3.3 Go to your local emergency room, call 9-1-1, or see your doctor if the burn is:

- (A) on the face, hands, feet, major joints, or genital area and/or bigger than the injured person's palm

- (B) white, tight, dry (leathery), or painless
- (C) caused by chemicals or electricity
- (D) causing difficulty breathing

9.3.4 See your doctor as soon as possible if the burn:

- (A) does not heal in 2 to 3 days
- (B) becomes foul smelling
- (C) develops thick drainage, redness, or swelling
- (D) causes a fever
- (E) results in a large blister, wet weepy wound, and/or severe pain

Heating

10.1 General Heating

10.1.1 Have a 3-foot (1 metre) "kid-free zone" around open fires and space heaters.

10.1.2 Supervise children whenever a wood or oil stove or other space heater is being used. Use a sturdy metal screen to prevent contact burns, which are more common than flame burns.

10.1.3 All heaters need space. Keep anything that can burn at least 3 feet (1 metre) away from heating equipment.

10.1.4 Use heating equipment that is listed by a qualified testing laboratory.

10.1.5 Never use your oven or stove for heating. Ovens and stoves are not designed to heat your home.

10.1.7 Install stationary space heating equipment, water heaters, or central heating equipment according to local codes and the manufacturer's instructions.

10.1.7 Have a qualified professional install the equipment.

10.1.8 Make sure fuel-burning equipment is vented to the outside to avoid carbon monoxide (CO) poisoning. Carbon

monoxide is created when fuels burn incompletely. Carbon monoxide poisoning can cause illness and even death. Make sure the venting for exhaust is kept clear and unobstructed. This includes removal of snow and ice and other debris around the outlet to the outside.

10.1.9 Choose a carbon monoxide (CO) alarm that is listed by a qualified testing laboratory. Install and maintain CO alarms inside your home to provide early warning of carbon monoxide.

10.1.10 Maintain heating equipment and chimneys by having them cleaned and inspected annually by a qualified professional.

10.2 Portable Electric Space Heaters

10.2.1 Turn heaters off when you go to bed or leave the room.

10.2.2 Purchase and use only portable space heaters listed by a qualified testing laboratory.

10.2.3 Purchase and use space heaters that have an automatic shut-off—if they tip over, they shut off.

10.2.4 Place space heaters on a solid, flat surface and keep them and their electrical cords away from things that can burn, high traffic areas, and doorways.

10.2.5 Plug space heaters directly into wall outlets and never into an extension cord or power strip.

10.2.5.1 Do not plug anything else into the same circuit as the one you are using for your space heater. Doing so could result in overheating.

10.2.5.2 Check often for a secure plug-to-outlet fit. If the plug does not fit snugly into the wall outlet or if the plug becomes very hot, the outlet may need to be replaced. Have a qualified electrician replace the wall outlet.

10.2.6 Inspect for cracked or damaged cords, broken plugs, or loose connections. Replace them before using the space heater.

10.3 Fuel-Burning Space Heaters

10.3.1 Always use the proper fuel as specified by the manufacturer.

10.3.2 When refueling, allow the appliance to cool first and then refuel outside.

10.3.3 When using a fuel-burning space heater, open a window to reduce carbon monoxide exposure and ensure proper ventilation.

10.3.4 Portable kerosene heaters are illegal in some communities. Check with your local fire department before using.

10.3.5 Newer models of unvented gas-fired space heaters have an oxygen depletion sensor that detects a reduced level of oxygen in the area where the heater is operating. They still produce carbon monoxide, carbon dioxide, and nitrogen dioxide. It is recommended to only use this type of heater for emergency heat and to choose a vented gas heater, vented wood stove, or electric heater for prolonged amounts of time.

10.3.6 If the pilot light of your gas heater goes out, allow 5 minutes or more for the gas to go away before trying to relight the pilot. Follow manufacturer's instructions when relighting the pilot. Do not allow gas to accumulate, and light the match before you turn on the gas to the pilot to avoid risk of flashback.

10.3.7 If you smell gas in your gas heater do not light the appliance. Leave the building immediately and call 9-1-1, the fire department, or the gas company.

10.4 Wood-Burning and Pellet Stoves

10.4.1 Have a qualified professional install stoves, chimney connectors, and chimneys following the manufacturer's instructions.

10.4.2 Wood stoves should be listed by a qualified testing laboratory.

10.4.3 In wood stoves, burn only dry, seasoned wood. Not only is it cleaner for the environment, it also creates less buildup in the chimney.

10.4.4 In pellet stoves, burn only dry, seasoned wood pellets.

10.4.5 Start the fire with newspaper, kindling, or fire starters. Never use a flammable liquid, such as lighter fluid, kerosene, or gasoline, to start a fire. They produce invisible vapors that can easily catch fire.

10.4.6 Keep the doors of your wood stove closed unless loading or stoking the live fire.

10.4.7 Allow ashes to cool before disposing of them. Place ashes in a tightly covered metal container and keep the ash container at least 10 feet (3 metres) away from the home and any other nearby buildings. Never empty the ash directly into a trash can. Douse and saturate the ashes with water.

10.4.8 Chimneys and vents need to be cleaned and inspected by a qualified professional at least once a year.

10.5 Fireplaces

10.5.1 Always use a metal or heat-tempered glass screen on a fireplace and keep it in place. Gas fireplace doors can reach excessive temperatures of 1300 degrees Fahrenheit (705 degrees Celsius). Serious burn injuries from hot glass can happen in less than one second. Install a screen barrier.

10.5.2 Burn only dry, seasoned wood. Never burn trash in the fireplace. Not only is it cleaner for the environment, it also creates less buildup in the chimney.

10.5.3 Use artificial fire logs according to manufacturer's recommendations. Never burn more than one log at a time.

10.5.4 Use only newspaper and kindling wood or fire starters to start a fire. Never use flammable liquids, such as lighter fluid, kerosene, or gasoline, to start a fire. They produce invisible vapors that can easily catch fire.

10.5.5 Chimneys and vents need to be cleaned and inspected by a qualified professional at least once a year.

10.5.6 Keep children and pets away from the outside vents. Have a "kid-free zone" of at least 3 feet (1 metre) away from the fireplace. Glass doors and screens can remain dangerously hot for several hours after the fire goes out.

10.5.7 Closely supervise young children around fireplaces and use safety gates.

10.5.8 Make sure fireplace "on" switches and remote controls are out of the reach of children.

10.6 Central Heating

10.6.1 Furnaces need to be inspected and serviced at least once a year by a qualified professional.

10.6.2 Keep things that can burn at least 3 feet (1 metre) away from the furnace. Keep the furnace area clean and uncluttered.

10.6.3 If you smell gas, do not light the appliance. Leave the building immediately and call 9-1-1, the fire department, or the gas company.

Smoking

11.1.1 To prevent a smoking-related fire, you must be alert. You will not be alert if you are sleepy, have taken medicine or drugs that make you drowsy, or have consumed alcohol.

11.1.2 If you smoke, smoke outside. Make sure to extinguish cigarettes in an approved container.

11.1.3 Never smoke in bed.

11.1.4 Never smoke where medical oxygen is used. Medical oxygen can cause materials to ignite more easily and make fires burn at a faster rate than normal. It can make an existing fire burn faster and hotter.

11.1.5 Wherever you smoke, use deep, sturdy ashtrays. If ashtrays are not available, use a metal can or pail. Never empty smoking material directly into a trash can. Place the ashtrays or metal cans away from anything that can burn.

11.1.6 Do not throw out cigarettes into vegetation, potted plants or landscaping, peat moss, dried grasses, mulch, leaves, or other similar items—they can easily catch fire.

11.1.7 Before you throw out butts and ashes, make sure they are out. Put them out in water or sand.

11.1.8 Before going to bed, check under furniture cushions and around places where people smoke for cigarette butts that may have fallen out of sight.

11.1.9 Keep cigarettes, lighters, matches, and other smoking materials up high out of the reach of children, in a locked cabinet.

11.1.10 Fires have occurred while vaping products, including electronic cigarettes, were being used, the battery was being charged, or the device was

being transported. Never leave charging e-cigarettes unattended. E-cigarettes should be used with caution.

Electrical

12.1 Inside the Home

12.1.1 Electrical work should be done only by a qualified electrician. Some communities require that a person doing electrical work have a license. Find out about the laws in your area.

12.1.2 Have your home electrical system inspected by a qualified private inspector or in accordance with local requirements when buying, selling, or renovating a home.

12.1.3 Keep lamps, light fixtures, and light bulbs away from anything that can burn, including furniture, bedding, curtains, clothing, and flammable or combustible gases and liquids.

12.1.4 Use light bulbs that match the recommended wattage on the lamp or fixture.

12.1.5 If a fuse blows or a circuit breaker trips often, find out why and get the problem corrected before turning the breaker back on or replacing the fuse. Have a qualified electrician inspect and fix it.

12.1.6 Install tamper-resistant receptacles where needed. Tamper-resistant receptacles are required for new and replacement receptacles inside your home.

12.1.7 Major appliances (refrigerators, stoves, washers, dryers, microwave ovens, etc.) should be plugged directly into a wall outlet. Never use an extension cord with a major appliance—it can easily overheat and start a fire.

12.1.7.1 Small appliances should be plugged directly into a wall outlet. Unplug small appliances when not in use.

12.1.8 Window air conditioners should be plugged directly into a wall outlet. Many manufacturers of room air conditioners prohibit the use of extension cords. If the manufacturer's instructions allow extension cords, follow the instructions for the proper type.

12.1.9 Buy only appliances and other electronics that are listed by a qualified testing laboratory.

12.1.10 Check electrical cords often. Replace cracked, damaged, and loose electrical or extension cords. Do not try to repair them.

12.1.11 Avoid putting cords under rugs and carpets, across doorways, or where they can be damaged or pinched by furniture.

12.1.12 Use only surge protectors or power strips that have internal overload protection. Use surge protectors or power strips that are listed by a qualified testing laboratory. Follow the manufacturer's instructions.

12.1.13 Extension cords are for temporary use only. Have a qualified electrician determine if additional circuits or wall outlets are needed.

12.1.14 Replace wall outlets if plugs do not fit snugly or the wall outlet does not accept plugs with one blade larger than the other.

12.1.15 All wall outlets and switches should be covered with wall plates to prevent shocks.

12.1.16 Call a qualified electrician if you have any of the following:

- (A) recurring problems with blowing fuses or tripping circuit breakers
- (B) a tingling feeling when you touch an electrical appliance
- (C) discolored or warm wall outlets or switches
- (D) a burning smell or rubbery odor coming from an appliance

- (E) flickering lights
- (F) sparks from a wall outlet
- (G) cracked or broken wall outlets

12.1.17 Arc-fault circuit interrupters (AFCIs) protect against electrical fires and malfunctions by shutting off electricity. Have a qualified electrician install AFCIs in your home.

12.1.18 Ground-fault circuit interrupters (GFCIs) reduce the risk of shock. GFCIs shut off electricity when it becomes a shock hazard. Make sure GFCIs are installed in bathrooms, basements, garages, outdoors, at kitchen counters, and in other locations in the home where electricity is near water.

12.1.19 Test AFCIs and GFCIs once a month according to the manufacturer's recommendations.

12.2 Outside the Home

12.2.1 Electrical work should be done only by a qualified electrician. Some communities require that a person doing electrical work have a license. Find out about the laws in your area.

12.2.2 Keep ladders at least 10 feet (3 metres) away from overhead power lines. Use wooden or fiberglass ladders outdoors. Carry long equipment such as ladders horizontally.

12.2.3 Never touch a power line or anything in contact with one. You could be injured or electrocuted. Assume that all power lines are live. Stay at a safe distance.

12.2.4 Never touch anyone or anything in contact with a downed wire. You could be injured or electrocuted.

12.2.5 Report downed power lines to authorities.

12.2.6 Some power lines are underground. Call your local authority to have lines identified and marked before digging. You

can also call the national 8-1-1 "Call before you dig" number.

12.2.7 Carry all long equipment, like ladders, horizontally to avoid overhead power line contact.

12.2.8 Stay at least 35 feet (10 metres) away from downed power lines, even further in wet conditions.

12.2.9 If using an extension cord, make sure it is listed for the correct wattage being used and it is rated for indoor or outdoor use.

12.3 Pools, Hot Tubs, and Spas

12.3.1 If you are putting in a new pool, hot tub, or spa, be sure the wiring is performed by an electrician experienced in the special safety requirements for these types of installations.

12.3.2 Outdoor receptacles must have covers that keep them dry even when appliances are plugged into them.

12.3.3 Ground-fault circuit interrupters (GFCIs) are special devices designed to protect against electric shock and electrocution. They are required for most pool, spa, or hot tub equipment. They may be in the form of an outlet or a circuit breaker. Test the GFCIs monthly according to the manufacturer's instructions.

12.3.4 Electrical appliances, equipment, and cords should be kept at least 6 feet (2 metres) away from the water. When possible, use battery operated appliances and equipment such as televisions, radios, and stereos in these areas.

12.3.5 Avoid handling electrical devices when you are wet.

12.3.6 Make sure that any overhead lines maintain the proper distance over a pool and other structures, such as a diving board. If unsure, contact a qualified electrician or your local utility company to

make sure power lines are a safe distance away.

12.3.7 Do not swim during a thunderstorm.

12.3.8 Have a qualified electrician periodically inspect and, where necessary, replace or upgrade the electrical devices or equipment that keep your pool, spa, or hot tub electrically safe.

12.3.9 Have a qualified electrician show you how to turn off all power in case of an emergency.

12.4 Equipment Safety

12.4.1 Use lighting and power tools that are listed by a qualified testing laboratory and make sure they are made for outdoor use.

12.4.2 Store electrical tools indoors.

12.4.3 Keep electric tools away from children.

12.4.4 Keep the area around your electric meter and other electrical equipment clear.

12.4.5 Check lighting and extension cords for damage before using. Replace any damaged cords right away.

12.4.6 Use extension cords that are listed by a qualified testing laboratory and are marked for outdoor use.

12.4.7 Extension cords are not meant for long term use.

12.5 Marina and Boating Safety

12.5.1 Never allow swimming near the boat, marina, or launching ramp. Residual electrical current could flow into the water from the boat or the marina's wiring. This can put anyone in the water at risk of electrical shock drowning (ESD).

12.5.2 Be sure your boat is well maintained. Have it inspected each year by a qualified marine electrician.

12.5.3 Ground fault circuit interrupters (GFCIs) and equipment leakage circuit interrupters (ELCIs) should be installed and tested monthly. Run tests to find out if electrical current is leaking from the boat.

12.5.4 Only use cords intended for marine use. Never use household cords near water.

12.5.5 Know where your main breakers are on both the boat and the shore power source. This will help you respond quickly in an emergency.

Lighting

13.1 Indoor Safety

13.1.1 Follow these guidelines during a lightning storm:

- (A) Stay off corded phones, computers, and other electronic equipment that put you in direct contact with electricity
- (B) Avoid washing your hands, showering, bathing, doing laundry, or washing dishes
- (C) Stay away from windows and doors

13.2 Outdoor Safety

13.2.1 Follow these guidelines during a lightning storm:

- (A) Seek shelter immediately in a building or a hard topped vehicle
- (B) If you are in or on open water, go to land and seek shelter immediately
- (C) If you cannot get to shelter and you feel your hair stand on end, indicating that lightning is about to strike, squat low to the ground on the balls of your feet. Place your hands over your ears and put your head between your knees. Make yourself the smallest target possible and minimize your contact with the ground. This is a last resort when a building or hard-topped vehicle is not available

13.2.2 If a person is struck by lightning, call 9-1-1 and get medical care immediately. Victims of lightning strikes carry no

electrical charge, so attend to them immediately. Administer CPR if you know how and it is needed.

Candles

14.1 General Candle Safety

14.1.1 Consider using battery-operated flameless candles, which can look, smell, and feel like real candles.

14.1.2 When using candles, place them in sturdy, safe candleholders that will not burn or tip over.

14.1.3 Protect candle flames with glass chimneys or containers.

14.1.4 Keep candles at least 12 inches (30 centimetres) from anything that can burn.

14.1.5 Never leave a burning candle unattended. Burning candles can start a fire.

14.1.6 Avoid using candles in bedrooms, bathrooms, and sleeping areas. Extinguish candles when you leave a room or the home or go to bed. Keep children and pets away from burning candles.

14.1.7 Be careful not to splatter wax when extinguishing a candle.

14.1.8 Never use a candle where medical oxygen is being used. The two can combine to create a large, unexpected fire. Medical oxygen can cause materials to ignite more easily and burn at a faster rate than normal. It can make an existing fire burn faster and hotter.

14.1.9 Always use a flashlight—not a candle—for emergency lighting.

14.1.10 Use only battery-powered lights in tents, trailers, motor homes, and boats.

14.1.11 Place burning candles at least 3 inches (7.5 cm) apart from one another.

This is to make sure they do not melt one another or create their own drafts that will cause the candles to burn improperly.

14.1.12 Keep your hair and loose clothing away from the flame.

14.2 How to Burn a Candle Safely

14.2.1 Before Lighting

14.2.1.1 Before burning, always trim the wick to ¼ inch (6 mm). You can use a wick trimmer, a nail clipper, or scissors. Long or crooked wicks can cause uneven burning, dripping, or flaring.

14.2.1.2 Keep the wax pool clear of wick trimmings, matches, and debris at all times.

14.2.1.3 Always use a candleholder specifically designed for candle use. It should be heat resistant, sturdy, and large enough to contain any drips or melted wax.

14.2.2 Burn candles in a well-ventilated room.

14.2.2.1 Keep candles away from drafts, vents, or air currents. This will help prevent rapid or uneven burning, sooting, and excessive dripping.

14.2.2.2 Follow the manufacturer's recommendations on burn time and proper use. In general, it is recommended that candles do not burn for longer than four hours and cool for at least two hours before relighting.

14.2.2.3 When lighting a candle, use long matches or a utility lighter with a long reach.

14.2.3 While Burning

14.2.3.1 Never leave a candle unattended.

14.2.3.2 Never burn a candle on or near anything that can catch fire. Keep burning candles away from furniture, drapes, bedding, carpets, books, paper, flammable decorations, etc.

14.2.3.3 Keep candles out of the reach of children and pets. Do not place lighted candles where they can be knocked over by children, pets, or anyone else.

14.2.3.4 Never touch or move a candle while it is burning or while the wax is liquefied.

14.3 Candles for Religious/Ceremonial Use in Homes

14.3.1 Lit candles are used in some religious rites and ceremonies in the home. Candles should be used with care.

14.3.2 Lit candles should not be placed in windows, where blinds and curtains can close over them, causing a fire.

14.3.3 Handheld candles should not be passed from one person to another at any time.

14.3.4 To lower the risk of fire, candles should be used by only a few designated adults.

14.3.5 Candles placed on or near tables, altars, or shrines must be maintained under the supervision of an adult.

14.3.6 Place candles in sturdy, noncombustible candleholders that do not allow dripping wax to escape through the bottom of the holder.

14.3.7 If a sturdy, noncombustible candle holder is not available, place the candle on a noncombustible plate.

14.3.8 A handheld candle should be put out before the person holding it moves from the place of initial lighting. Once it is put out, the candle should be placed in an approved, noncombustible container.

14.3.9 The best way to avoid getting burned from splashed wax is to use a candle snuffer instead of blowing on the flame.

Matches and Lighters

15.1.1 Keep matches, lighters, and novelty lighters up high out of the reach of children, in a locked cabinet.

15.1.2 Purchase and use only child-resistant lighters.

15.1.3 Lighters that look like toys can confuse children and cause fires, injuries, and death. Do not buy or use them.

15.1.4 Teach young children to tell a grown-up when they find matches or lighters and to never touch matches or lighters.

Outdoor Burning

16.1 General Outdoor Burning Safety

16.1.1 Check with your local fire department or municipality for any restrictions before starting an open-air fire, recreational fire, or outdoor cooking fire. Obtain proper permits, if required. You might not be allowed to do outdoor burning in some municipalities and during some seasons (i.e., during burn bans).

16.1.2 Closely supervise all outdoor fires. Make sure the fire is out before leaving the area.

16.1.3 Supervise children around any fire outdoors, including campfires, fire pits, chimineas, and outdoor fireplaces.

16.1.4 When allowed, open fires such as bonfires, yard waste fires, trash fires, or fires for debris burning need to be at least 50 feet (15 metres) from anything that can burn.

16.1.5 Where outdoor burning is allowed, never burn plastics, construction debris, treated lumber, tires, pesticides, paint, or aerosol containers. These items contain

toxins that can be harmful to people and animals when burned.

16.1.6 When allowed, recreational fires such as campfires need to be at least 25 feet (8 metres) away from anything that can burn. Contained fires such as those in fire pits need to be at least 10 feet (3 metres) away from anything that can burn.

16.1.7 Avoid burning on windy, dry days. Embers from open burning can ignite nearby structures or cause a wildfire.

16.1.8 Where outdoor burning is allowed, never use gasoline or other flammable or combustible liquids.

16.1.9 When burning, have a hose, bucket of water, or shovel with dirt or sand nearby to extinguish the fire.

16.2 Campfire Safety

16.2.1 Before setting up a campfire, be sure it is allowed. Check with your local fire official.

16.2.2 If campfires are allowed, they need to be at least 25 feet (8 metres) away from any structure and anything that can burn.

16.2.3 Clear away dry leaves and sticks, overhanging low branches, and shrubs within at least 10 feet (3 metres) of the campfire.

16.2.4 Avoid burning on windy, dry days. It is easier for open burning to spread out of control when it is windy and dry.

16.2.5 Supervise children and pets while the campfire is burning. Make a 3-foot (1-metre) "kid-free zone" around the campfire.

16.2.6 Attend to the campfire at all times. A campfire left alone for only a few minutes can grow into a damaging fire.

16.2.7 Keep a campfire small, which is easier to control.

16.2.8 Never use gasoline or other flammable or combustible liquids.

16.2.9 Always have a hose, bucket of water, or shovel with dirt or sand nearby to put out the fire. Make sure to put it completely out before leaving the site. Apply water to all coals or remaining flames. Stir with a stick and pour more water. Observe that there is no heat, glow, or flame remaining.

16.2.10 If your clothes catch fire, stop, drop, and roll. Stop, drop to the ground, and cover your face with your hands. Roll over and over or back and forth until the fire is out.

16.2.11 Treat a burn right away. Cool the burn with cool water for 3 to 5 minutes. Cover with a clean, dry cloth. Get medical help if needed.

16.3 Fire Pit Safety

16.3.1 Check with your local fire department or municipality for any restrictions on fire pits. Obtain proper permits if required.

16.3.2 Only use fire pits outdoors and at least 10 feet (3 metres) away from anything that can burn.

16.3.3 Place the fire pit on a surface that is level and will not catch on fire, such as patio blocks, bricks, or concrete. Clear the area around the fire pit of any fall risks, including uneven ground, rocks, or sticks that hang over the pit area. Tripping and falling on or into the fire pit is a real danger. Keep the area well-lit or use a flashlight when approaching or leaving the fire pit area.

16.3.4 Keep the fire pit away from siding, decks, deck railings, tents, grass/vegetation, and out from under eaves and overhanging branches or structures.

16.3.5 Check with local authorities for regulations regarding the use of fire pit screens. A fire pit screen helps to contain sparks, embers, and ash.

16.3.6 In wood-burning fire pits, burn only clean, dry hardwood that's been seasoned at least 6 months. Use commercial fire starters to start the fire, following the manufacturer's instructions. Never use lighter fluid or gasoline to start or relight a fire in a fire pit.

16.3.7 Keep children and pets away from the fire pit. Have a 3-foot (1-metre) "kid-free zone" around the pit.

16.3.8 Arrange chairs a safe distance from the fire pit. Ask adults to stay a safe distance from the fire pit.

16.3.9 Avoid loose-fitting clothing that can be ignited by flames, sparks, and blowing embers.

16.3.10 Never leave the fire unattended even for a short period of time.

16.3.11 Use caution if cooking food over a fire pit. Use commercially available sticks that have prongs and a wooden handle when cooking food over a fire pit. These may be called roasting forks or roasting sticks.

16.3.12 Follow the fire pit manufacturer's instructions for putting out the fire. Make sure to put out the fire completely.

16.3.13 For a wood-burning fire pit, dispose of ashes after they have cooled. Empty the ashes in a metal container with a tight-fitting lid that is used only for the ashes. Place the container away from anything that can burn. Never empty the ashes directly into a trash can.

16.3.14 For a gas fire pit, be sure to turn off the fuel source after use.

16.4 Recreational Fire Use

16.4.1 Fire pots, personal fireplaces, and patio torches use gel fuel and are considered open flames. Gel fuel is highly flammable. Extreme caution should be taken when using or adding fuel.

16.4.2 Use chimineas, patio torches, personal fireplaces, and similar products outdoors only and at least 10 feet (3 metres) away from the home or anything that can burn.

16.4.3 The use of sky lanterns is prohibited by NFPA code requirements. The lanterns are made of oiled rice paper with a bamboo frame, materials that can easily catch on fire. A candle or wax fuel cell is used with the device. Once lit and airborne, a sky lantern can travel more than a mile. Wind can affect the sky lantern, blowing the sides, forcing the hot air out and sending the flaming lantern back to the ground. A flaming lantern can drop onto a rooftop, field, trees, or powerlines before the flame is fully extinguished. A destructive fire can result when a flaming lantern reaches the ground during dry conditions.

16.4.4 Never leave a lit fire pot, personal fireplace, or torch unattended.

16.4.5 Place the fire pot or personal fireplace on a sturdy surface. Keep lit fire pots, personal fireplaces, and torches at least 1 foot (30 centimetres) from anything that can burn.

16.4.6 Make sure patio torches are secure and not in the path of people or pets.

16.4.7 Have a “kid-free zone” of at least 3 feet (1 metre) away from fire pots, personal fireplaces, and torches.

16.4.8 Be careful when reaching over fire pots, personal fireplaces, and torches—clothing or hair could catch fire.

16.4.9 Use only gel fuel to refuel.

16.4.10 Citronella fuel is intended for outdoor use only.

16.4.11 Allow a fire pot, personal fireplace, or torch to cool for 30 to 45 minutes before refueling. Pouring gel fuel in a fire pot, personal fireplace, or torch that is not completely cool may result in a fire or injury.

16.4.12 If gel fuel is spilled on clothing, remove the clothing and launder immediately.

16.4.13 Store the gel fuel in its tightly sealed container away from heat sources and out of reach of children and pets.

16.4.14 The stop, drop, and roll method may not put out clothing that catches fire from splattered or spilled gel fuel. A dry chemical portable fire extinguisher can be used to extinguish the fire.

Wildfires

17.1 Wildfire Prevention

17.1.1 Recognize when the danger of a wildfire starting and spreading is higher. High fire danger conditions include high winds, low humidity, drought, and elevated temperatures. Local authorities may issue a “red flag warning” to alert you to these conditions.

17.1.2 Prevent ignitions by being careful with outdoor burning, including campfires, or avoiding any outdoor burning on high fire days. Comply with official burn bans.

17.1.3 Avoid using lawn equipment on hot, dry, windy days.

17.1.4 Do not throw out cigarettes into vegetation, potted plants or landscaping, peat moss, dried grasses, mulch, leaves, or other similar items—they can easily catch fire.

17.1.5 Make sure your vehicle’s tail pipe or towing chain does not drag or cause sparks.

17.2 Protecting Homes from Wildfires

17.2.1 Wildfires can spread to homes from blowing embers and flames. Maintain your home and landscape to reduce the chance of embers and flames igniting material on or near the home.

17.2.2 To prevent home ignitions from wildfire, start with the exterior of your home. Roofs can catch embers. Regularly clear debris from roof valleys and gutters.

17.2.3 For new homes and home improvements, look for fire-resistant materials whenever possible. Building materials, including the roof, should be listed by a qualified testing laboratory.

17.2.4 Remove anything that can burn from around your home, deck, porch, or patio out to a minimum of 5 feet (1.5 metres). This includes mulch, dead leaves or pine needles, shrubs or other plants, wood piles, and material for construction projects.

17.2.5 Any plant material that is 5 to 30 feet (1.5 to 9 metres) from your home should be well-watered and spaced to avoid fire moving from plant to plant. Remove dead material on and underneath landscape plants. Grass and weeds should be mowed to a height of no more than 2 to 3 inches (50 to 75 millimetres).

17.2.6 Attic and garage vents should be screened with 1/8-inch (3-millimetres) metal mesh material, or a fire resistive vent design should be used to prevent ember penetration during a wildfire.

17.3 Community-wide Wildfire Safety

17.3.1 If a wildfire ignites a home within a neighborhood, the burning home presents a severe threat to neighboring homes. Encourage neighbors within a wildfire risk to work together to reduce their shared ignition risk.

17.3.2 A wildfire may make it necessary for neighborhood residents to evacuate. Planning together with the local fire department and law enforcement authorities can save lives.

17.3.3 To prepare for evacuation because of a wildfire, every household should:

(A) Create a plan for evacuation. This should

include knowing alternate routes out of the danger area and having prepacked kits with essentials such as medicine, family records, credit cards, a change of clothing and enough food and water for each household member for up to 72 hours

- (B) Create a family communication plan that designates an out-of-area friend or relative as a point of contact to act as a single source of communication among family members in case of separation
- (C) Prepare a plan for the care of pets and other animals
- (D) Sign up for wildfire alerts. Get alerts when a wildfire is reported in your chosen ZIP code or within 30 miles of you
- (E) Take steps to protect family, friends, or neighbors who have disabilities. People with disabilities sometimes require assistance and additional lead time in order to prepare for a disaster

17.3.4 Stay aware of local fire conditions and, if needed, be prepared to leave at a moment's notice. When told to evacuate, go promptly. If you feel unsafe, do not wait for an evacuation order—leave immediately. Do not return home until directed by emergency personnel.

Medical Oxygen

18.1.1 Medical oxygen can cause material to ignite more easily and make fires burn at a faster rate than normal. It can make an existing fire burn faster and hotter.

18.1.2 A patient on oxygen should not smoke.

18.1.3 Never smoke where medical oxygen is used.

18.1.4 Post "No Smoking" and "No Open Flames" signs inside and outside the home to remind residents and guests not to smoke.

18.1.5 Keep oxygen cylinders at least 5 feet (1.5 metres) from a heat source, open flames, or electrical devices.

18.16 Body oil, hand lotion, and items containing oil and grease can easily burn. Keep oil and grease away from where oxygen is in use.

18.17 Never use aerosol sprays containing combustible materials near the oxygen.

18.18 If medical oxygen or an oxygen tank is used in the home, the amount of oxygen in the air, furniture, clothing, hair, and bedding can increase, making it easier for a fire to spread. This means that there is a higher risk of fires and burns.

18.19 Where medical oxygen is in use, never use a sparking toy, an open flame such as a match or lighter, a fireplace or stove, or any other device fueled by gas, kerosene, wood, or coal.

Flammable and Combustible Liquids and Gases

19.1 General Flammable and Combustible Liquid Safety

19.1.1 Flammable and combustible liquids, which include gasoline, kerosene, lacquers, paint thinner, some cleaning fluids, hair spray, and paint solvents can be fire hazards because their vapors ignite easily. Even nail polish and nail-polish remover are flammable and should not be used near an open flame. **19.1.2** Never smoke when you work with flammable or combustible liquids.

19.1.3 Do not store hazardous liquids near any source of heat, sparks, or flame. That includes electric motors, which can spark when they switch on or off.

19.1.4 Store gasoline in a tightly capped container that has been listed, labeled, and approved for gasoline. Store the container outside the home in your garage or garden shed, never in your basement.

19.1.5 Use gasoline only as a motor fuel, never as a solvent or a degreaser and never as a substitute for charcoal lighter.

19.1.6 Never bring gasoline indoors, even in small quantities.

19.1.7 Oily and solvent-wet rags can combust without a heat source. Store them in a tightly-sealed metal container, or hang them outside to dry in a cool, shady location away from structures, and then discard them. Make sure they are not in a pile.

19.1.8 If you spill a flammable liquid on your clothing, place the clothing outside to dry before laundering.

19.1.9 Keep oil-based paints and flammable and combustible solvents in their original containers and tightly capped — never store them in breakable glass containers.

19.1.10 When refueling any small motor, such as a lawnmower, snow blower, or string trimmer, make sure the motor has cooled prior to adding fuel. Spilled fuel can easily ignite and cause serious burns.

19.1.11 Never dispense gasoline into a portable container while it is located inside a vehicle or in the bed of truck.

19.2 Propane Gas Safety

19.2.1 If you smell gas or suspect a gas leak, leave the area immediately. Get everyone out of the area where you suspect gas is leaking.

19.2.2 If you suspect a gas leak, put out all smoking materials and other open flames. Do not operate lights, appliances, telephones, or mobile phones. Flames or sparks from these can trigger an explosion or a fire.

19.2.3 Shut off the gas at the tank. Turn off the main gas supply valve on your propane tank, if safe to do so. To close the valve, turn it to the right (clockwise).

19.2.4 Report the leak. Once you are safely away from the gas leak, call your propane retailer right away. If you cannot reach them call 9-1-1.

19.2.5 Do not return to the building or area until the propane retailer or emergency responder determines that it is safe to do so.

19.2.6 Get your propane system checked. Before you use propane appliances, your propane professional must check the entire propane system to ensure it is leak free.

19.2.7 Consider installing propane gas detectors, which are designed to sound an alarm if they sense propane. Choose detectors that are from a professional listing laboratory.

19.2.8 Follow the detector manufacturer's instructions regarding use. If a detector sounds an alarm, treat it as an emergency and act immediately, even if you do not smell propane.

19.2.9 If a pilot light repeatedly goes out or is difficult to light, there may be a safety problem. Do not try to fix the problem yourself. Have a propane professional relight the pilot light.

19.3 Propane Appliance Maintenance

19.3.1 To install, inspect, service, maintain and repair your appliances, please contact a propane professional.

19.3.2 Check the vents of your appliances to be sure the flue gases can flow outside. Also clear the area around your appliances so plenty of air can reach the burner for proper combustion.

19.3.3 Do not try to install, modify, or repair valves, regulators, connectors, or controls on cylinder or tank parts.

19.3.4 Have older appliance connectors inspected for cracks and breaks, which can cause a gas leak.

19.4 Gel Fuel Safety

19.4.1 Due to the serious risk of flash fire and burns when consumers add pourable gel to an already burning fire pot, NFPA and CPSC are warning consumers to immediately stop using the pourable gel fuel. Gel fuel and gel fuel pots should be considered an open flame and pose a serious danger.

19.4.2 Gel fuel can ignite unexpectedly and splatter onto people and objects nearby when it is poured in a firepot that is still burning.

19.4.3 Pouring gel fuel into a device that is not completely cool may result in a fire or injury.

19.4.4 Devices that use gel fuel will be hot during and after burning.

19.4.5 The burning gel fuel sticks to skin and is difficult to extinguish.

19.4.6 It is not easy to see the gel fuel flame, especially in daylight.

19.4.7 All pourable gel fuel, regardless of manufacturer, poses a fire hazard.

Battery Safety

20.1 Lithium-Ion Batteries

20.1.1 Lithium-ion batteries supply power to many kinds of devices, including smartphones, laptops, scooters, e-cigarettes, smoke alarms, and toys. Handle these batteries carefully. In rare instances, they can cause a fire or explosion.

20.1.2 Purchase and use devices that are listed by a qualified testing laboratory.

20.1.3 Always follow the device manufacturer's instructions.

20.1.4 Only use the battery that is designed for the device.

20.1.5 Put batteries into the device correctly.

20.1.6 Only use the charging cord that came with the device.

20.1.7 Do not charge a device under your pillow, on your bed, or on a couch.

20.1.8 Avoid excessive charging. Constantly charging a device can reduce the battery's life or cause the battery to stop working.

20.1.9 Keep lithium-ion batteries at room temperature.

20.1.10 Do not place lithium-ion batteries in direct sunlight or keep them in hot vehicles.

20.1.11 Avoid using a device in a highly damp or humid environment.

20.1.12 Store lithium-ion batteries away from anything that can catch fire.

20.1.13 Avoid crushing, bending, or dropping a device and charger.

20.1.14 Stop using the lithium-ion battery if you notice any of the following problem signs:

- (A) Odor
- (B) Change in color
- (C) Too much heat
- (D) Change in shape
- (E) Leaking
- (F) Odd noises

If it is safe to do so, move the device outside and away from anything that can catch fire. Call the manufacturer or your fire department's non-emergency number.

20.1.15 Remove the batteries from an e-cigarette before placing in a pocket or purse.

20.2 9-Volt Batteries

20.2.1 Storage of 9-volt batteries

20.2.2 Keep batteries in their original packaging until you are ready to use them. If batteries are stored loose, keep the posts covered with masking, duct, or electrical tape. Prevent the posts from coming in contact with metal objects.

20.2.3 Keep batteries someplace safe where they won't be tossed around.

20.2.4 Store batteries standing up.

20.2.5 9-volt batteries should not be stored loose in a drawer. Do not store them in containers with other batteries.

20.3 Battery Disposal

20.3.1 9-volt batteries should not be thrown away with trash. They can come in contact with other batteries or pieces of metal.

20.3.2 9-volt batteries can be taken to a collection site for household hazardous waste.

20.3.3 To be safe, cover the positive and negative posts with masking, duct, or electrical tape before getting rid of batteries.

20.3.4 Do not put lithium-ion batteries in the trash.

20.3.5 Do not put discarded lithium-ion batteries in piles.

20.3.6 Recycling lithium-ion batteries is always the best option.

20.3.7 Take lithium-ion batteries to a recycling location or contact your community for disposal instructions.

20.3.8 Some states do not allow any type of battery to be disposed of with trash. Check with your city or town for the best way to get rid of batteries.

20.4 High-Tech Luggage

20.4.1 Take precautions if you are using "smart" luggage with non-removable lithium-ion batteries. The powerful batteries can potentially overheat and pose a fire hazard during airplane flights. Some airlines no longer accept this luggage, either as checked or carry-on.

20.4.2 In some instances, "smart" bag with removable batteries can be allowed on a flight if the battery can be removed on site and taken on board with the passenger. Check with your airline for restrictions.

20.5 Hover Boards

20.5.1 Many hover boards have been linked to fires. Some of these fires have involved the lithium battery charger. Exercise caution if you are using these devices.

20.5.2 Choose a device that is listed by a qualified testing laboratory.

20.5.3 Read and follow manufacturer's directions.

20.5.4 An adult should be responsible for charging a hover board.

20.5.5 Do not leave a charging hover board unattended.

20.5.6 Never leave the hover board plugged in overnight.

20.5.7 Only use the charging cord that came with the hover board.

20.5.8 Stop using the hover board if it overheats.

20.5.9 Signs that you could have a problem with your hover board include the following:

- (A) Leaking fluids
- (B) Excessive heat
- (C) Odor
- (D) Sparking
- (E) Smoke

If you notice any of these signs, stop using the device right away and call 9-1-1. If it is safe to do so, move the hover board outside and away from anything that can burn.

Portable Fire Extinguishers and Fire Fighting

21.1 General Tips

21.1.1 As a general rule, fire fighting should be left to professional firefighters. Fire extinguishers are meant for putting out small fires or used to help escape from the area, not firefighting large out-of-control fires.

21.1.2 Only those who are trained or know how to use a portable fire extinguisher should use one.

21.1.3 Only those who are trained or know how to use a portable fire extinguisher can recognize an approved one.

21.1.4 Before trying to put out or contain a fire, be sure that:

- You know how to use the fire extinguisher and it is the correct type
- Everyone else is leaving the home and someone is calling the fire department
- The fire is small, confined, and not spreading
- You have a clear escape route and will not be overcome by smoke or toxic fumes

21.1.5 If the fire does not go out after using one extinguisher, back out of the area, close the door if possible, and get safely outside and call 9-1-1.

21.1.6 If you have portable fire extinguishers, inspect them once a month and have them serviced annually by certified personnel. Check to see if your fire extinguisher is under any U.S. Consumer Product Safety Commission recalls.

21.1.7 Where portable fire extinguishers are installed in the home, follow the

manufacturer's instructions for placement and mounting height.

21.1.8 As a general rule, where portable fire extinguishers are installed, a person should not have to travel more than 40 feet (12 metres) to reach one and never have to travel up or down stairs to reach it.

21.1.9 As a general rule, portable fire extinguishers for the home should have a rating of at least 2-A:10B.

21.2 Portable Fire Extinguishers and Children

21.2.1 NFPA believes that children should not be trained how to operate portable fire extinguishers. Teaching children to use portable fire extinguishers runs counter to NFPA messaging to get out and stay out if there is a fire. Furthermore, children may not have the maturity to operate a portable fire extinguisher properly or decide whether or not a fire is small enough to be put out by the extinguisher. They may not have the physical ability to handle the extinguisher or dexterity to perform the complex actions required to put out a fire. In the process of extinguishing flames, children may not know how to respond if the fire spreads. NFPA continues to believe that only adults who know how to operate portable fire extinguishers should use them.

Clothes Dryers

21.1.1 Have your dryer installed and serviced by a professional.

21.1.2 Do not use the dryer without a lint filter.

21.1.3 Clean out the dryer's lint filter before each use of the dryer. Remove the lint that has collected around the drum.

21.1.4 Clean lint out of the vent pipe quarterly or have a dryer lint removal service do it for you. If you notice that it is

taking longer than usual for your clothes to dry, it should be cleaned more often.

21.1.5 Rigid or flexible metal venting material should be used to sustain proper air flow and drying time to reduce the risk of fire or fire spread.

21.1.6 Make sure the air exhaust vent pipe is not restricted and the outdoor vent flap will open when the dryer is operating.

21.1.7 Make sure the correct plug and wall outlet are used and that the machine is connected properly.

21.1.8 Keep dryers in good working order. Gas dryers should be inspected by a professional to make sure that the gas line and connection are intact and free of leaks.

21.1.9 Follow the manufacturer's operating instructions. Do not overload the dryer.

21.1.10 Turn off the dryer when you leave home or go to bed.

21.1.11 Choose a dryer that is listed by a qualified testing laboratory.

21.1.12 Fabrics that have been exposed to flammable cleaning agents should be air dried after they have been washed.

Pet Safety

23.1 Pets are curious. They may bump into, turn on, or knock over cooking equipment. Keep pets away from stoves and countertops.

23.2 Keep pets away from candles, lamps, and space heaters.

23.3 Always use a metal or heat-tempered glass screen on a fireplace and keep it in place.

23.4 Keep pets away from a chimney's outside vents. Have a "pet-free zone" of

at least 3 feet (1 metre) away from the fireplace. Glass doors and screens can stay dangerously hot for several hours after the fire goes out.

23.5 Consider battery-operated, flameless candles. They can look and smell like real candles.

23.6 Watch pets to make sure they don't chew through electrical cords. Have any problems checked by a professional.

23.7 Never go back inside for pets in a fire. Tell firefighters if your pet is trapped.

23.8 Make sure pets are included in your family's wildfire evacuation plan. Build an evacuation kit for each pet in your household. Ensure each kit is a size and weight that can be quickly and easily loaded into a vehicle when packing to evacuate.

Youth Firesetter

24.1 Keep matches and lighters out of the reach of children, up high, and preferably in a locked cabinet.

24.2 Closely supervise children, making sure that they are kept away from other fire sources, including lit candles, cigarettes, bonfires, and stoves.

24.3 It is natural for young children to be curious and ask questions about fire, play with fire trucks, or pretend to cook. Use these opportunities to teach them about fire safety.

24.4 Explain that fire moves very fast and can hurt as soon as it touches them. Tell them that this is why matches and lighters are tools for adults only.

24.5 Teach young children to never touch matches or lighters. They must tell a grownup when matches or lighters are found.

24.6 Establish clear rules and consequences about unsupervised and unauthorized uses of fire.

24.7 Be a good example! Always use fire sources—matches, lighters, candles, fireplaces, and campfires—in a safe manner. Never treat them as toys, or children may imitate you.

24.8 Talk with children about what their friends or other children are doing with fire. What are they seeing online in video games, on TV, in movies, and on social media? Teach them specific ways to resist the peer pressure to misuse fire.

24.9 Give praise for showing respect and age-appropriate responsible behavior toward fire.

EDUCATIONAL MESSAGES FOR CHILDREN FROM THE LEARN NOT TO BURN® CURRICULUM

Messages for Preschoolers (ages 3–5)

Firefighters are Community Helpers

- 1. Firefighters help the community stay safe from fire.**
- 2. Firefighters wear special clothes and equipment to help them stay safe from fire and smoke.**
- 3. The equipment can look and sound scary, but it keeps the firefighter safe.**
- 4. We do not need to be afraid of firefighters even though their equipment can look and sound scary.**

When You Hear a Smoke Alarm, Get Outside and Stay Outside

- 1. Smoke alarms are very important.**
- 2. A smoke alarm will let you know if there is a fire in your home.**
- 3. Most smoke alarms make a loud “beep, beep, beep” sound if there is smoke.**
- 4. When you hear the smoke alarm, get outside and stay outside until a grown-up says it’s safe to go back inside.**

Practice a Fire Drill with Your Family

- 1. The smoke alarm makes a “beep, beep, beep” sound.**
- 2. If you hear “beep, beep, beep,” get up and walk. Do not run, but walk quickly.**
- 3. Know two ways out of every room.**
- 4. Get yourself outside quickly.**

- 5. Go to your outside meeting place with your family.**

Stay Away from Hot Things

- 1. Stay away from hot things. Do not touch them.**
- 2. Do not touch things that are sometimes hot.**
- 3. Do not touch matches or lighters. Matches and lighters are dangerous and can be hot.**
- 4. Walk away and tell a grown-up if you see matches and lighters.**
- 5. Only grown-ups should use matches and lighters.**

Tell a Grown-up if you See Matches and Lighters

- 1. Stay away from hot things. Do not touch them.**
- 2. Do not touch matches or lighters. Matches and lighters are dangerous and can be hot.**
- 3. Walk away and tell a grown-up if you find matches or lighters.**
- 4. Only grown-ups should use matches and lighters.**

Messages for Kindergarteners

Smoke Alarms are Important

- 1. You need smoke alarms in your home.**
- 2. Having a smoke alarm in your bedroom is important so the alarm will beep where you sleep.**
- 3. A smoke alarm will let you know if there is a fire in your home.**
- 4. A smoke alarm will make a loud “beep,**

beep, beep (pause), beep, beep, beep (pause)" sound if there is smoke.

5. If the smoke alarm sounds, everyone should get outside. Stay outside until a grown-up says it is safe to go back inside.

Get Outside, Stay Outside

1. Here are five important things to do if the smoke alarm sounds:
 - (A) Get up and walk. Do not run, but walk as fast as you can
 - (B) Learn two ways out of every room. It may be two doors or a door and a window
 - (C) Get yourself outside quickly. Do not stop to pick up toys or pets
 - (D) Wait at your outside meeting place with your family
 - (E) Stay at the outside meeting place until help arrives or a grown-up says it is safe to go inside

Fire Drills at School

1. When the alarm sounds, stop what you are doing and listen for instruction from your teacher or principal.
2. Go quickly and quietly to your meeting place outside the school. Stay outside.
3. Be sure to stay with your classmates. Your teacher will take attendance to make sure all students are safe.

Stay Away from Hot Things

1. There are things inside and outside the home that are hot or can get hot.
2. Things that are hot can burn and hurt you.
3. Stay away from hot things. Do not touch them.
4. If an item might be hot, stay away and ask a grown-up for help.

5. Things that are hot or could be hot include bath water, soup, stoves, radiators, flat irons, curling irons, fireplace irons, coffee, matches, lighters, and many other items.

6. Do not touch matches or lighters. Tell a grown-up if you find matches or lighters.

Matches and Lighters are for Grown-ups

1. Stay away from hot things. Do not touch them.
2. Do not touch matches or lighters. Matches and lighters are dangerous and can be hot.
3. Walk away and tell a grown-up if you find matches or lighters.
4. Only grown-ups should use matches and lighters.

Firefighters are Community Helpers

1. Firefighters help the community stay safe from fire.
2. Firefighters wear special gear (clothes and equipment) to help them stay safe from fire.
3. The equipment can look and sound scary, but it keeps the firefighter safe.
4. We do not need to be afraid of firefighters even though their equipment can look and sound scary.

Messages for Grade 1

Smoke Alarms are Important

1. A smoke alarm will let you know if there is a fire in your home.
2. It will make a loud "beep, beep, beep (pause), beep, beep, beep (pause)" sound if there is smoke.

3. If the smoke alarm sounds, everyone should leave the home right away.
4. You need smoke alarms in your home.

Get Outside, Stay Outside

1. Every room needs two ways out.
2. One way out would be the door and the second way out might be a window.
3. Make sure your bedroom or where you sleep has a smoke alarm so you will wake up quickly and be able to use the door to get outside. You must be able to hear the "beep, beep, beep" of the smoke alarm wherever you sleep.
4. It is important to have a meeting place outside the home. A good meeting place might be a neighbor's home, a special tree, a neighborhood store next door, a mailbox, or a street light.
5. If the smoke alarm sounds, get outside and go to your meeting place. Wait for your family to meet you. Grown-ups will know that everyone is safe.
6. It is important that after hearing the smoke alarm you get outside and stay outside.

Report an Emergency

1. The fire department is a community helper.
2. The fire department will help if there is an emergency. An emergency could be a fire or it could be someone in your home who is sick or hurt.
3. Remember, you call the fire department only in an emergency. Calling the fire department when there is no emergency could cause others to not get the help they need.
4. The number to call for our fire department is _____.

Stay Away from Hot Things

1. There are things inside and outside the home that are hot or can get hot.
2. Things that are hot or can get hot include bathtub water, soup, stoves, radiators, fireplaces, matches, lighters, flat irons, coffee, and many more things.
3. Stay away from anything that is hot or could be hot. This means: Do not touch anything that could be hot.
4. If you are unsure if something is hot, you should stay away from it and check with a grown-up.
5. Things that are hot can burn and hurt you.

Fire Drills at School

1. When the alarm sounds:
 - (A) Stop what you are doing
 - (B) Listen for instructions from your teacher or principal
 - (C) Go quickly and quietly to your meeting place outside the school
 - (D) Be sure to stay with your classmates. Your teacher will take attendance to make sure all students are safe

Know When to Stop, Drop, and Roll

1. Stay away from fire. Fire from a match, lighter, fireplace, or grill could catch clothes on fire.
2. Clothes on fire can cause a bad burn and hurt very much.
3. If your clothes catch fire: (Also: When fire gets on clothes:)
 - (A) Stop where you are
 - (B) Drop to the ground—lay flat with your legs out straight and cover your eyes and mouth with your hands
 - (C) Roll over and over and back and forth until the flames are out

(D) Get help from a grown-up who will cool the burn and get medical help

4. The most important thing to remember is to stay away from fire. It can catch your clothes on fire. Use "stop, drop, and roll" only if your clothes are on fire.

Messages for Grade 2

Smoke Alarms are Important

1. A smoke alarm will let people know if there is a fire in their home.
2. Every home needs working smoke alarms.
3. If there is smoke, the smoke alarm will make a loud "beep, beep, beep (pause), beep, beep, beep (pause)" sound.
4. Make sure there is a smoke alarm where people sleep so they will wake up quickly and be able to get outside. Everyone must be able to hear the "beep, beep, beep" of the smoke alarm wherever they sleep.
5. Here are four important things to do if the smoke alarm sounds:
 - (A) Stop what you are doing
 - (B) Choose the best way out of the room
 - (C) Get outside quickly
 - (D) Go to your outside meeting place

Plan and Practice Your Home Fire Escape Drill

1. Every room needs two ways out.
2. One way out would be the door and the second way out might be a window.
3. It is important to have a meeting place outside the home. A good meeting place might be a neighbor's home, a special tree, a mailbox, or a street light.

4. A home fire escape plan is a plan to get out of the home quickly in case there is a fire.

5. Families should practice their home fire escape drill at least twice a year.

6. It is important to know the home fire escape plan in each home where you sleep. It could be the home of a family member or a friend's house, but you should know the two ways out of each room and the outside meeting place in case there is a fire while you are visiting.

Report an Emergency

1. The fire department will help if there is an emergency. Examples of an emergency include fire and serious injury.
2. Remember, you call the fire department only in an emergency. Calling the fire department when there is no emergency could cause others to not get the help they need. It can also put firefighters in danger needlessly.
3. When the fire department answers the phone, tell them:
 - (A) The type of emergency
 - (B) Your name
 - (C) The location that you are calling from
 - (D) The telephone number from where you are calling
4. Stay on the telephone until the fire department tells you to hang up.

Stay Away from Hot Things

1. There are things inside and outside that are hot or can get hot.
2. Things that are hot or can get hot include bath water, a stove, a fireplace, coffee, soup, matches, lighters, and many other things.

3. Stay away from hot things. Do not touch them. If you are unsure if something is hot, stay away and check with a grown-up.
4. Do not touch matches or lighters. Matches and lighters are dangerous and can be hot.
5. Walk away and tell a grown-up if you find matches or lighters.
6. Only grown-ups should use matches and lighters.

Kid-Free Zones at Home

1. Things that get hot can cause serious burns.
2. There should be a 3-foot (1 metre) "kid-free zone" around the stove, oven, and heating sources.
3. Remind grown-ups to keep anything that can burn at least 3 feet (1 metre) away from hot things.
4. Only grown-ups should be around items that are hot or could get hot.

Know When to Stop, Drop, and Roll

1. "Stop, drop, and roll" is used when clothing catches fire.
2. If your clothes catch fire:
(Also: When fire gets on clothes:)
 - (A) Stop where you are
 - (B) Drop to the ground and cover your eyes and mouth with your hands
 - (C) Roll over and over and back and forth until the flames are out
 - (D) Get help from a grown-up who will cool the burn and get medical help

Easy-to-Read Messages

These messages are written for audiences that have limited English proficiency.

Home Smoke Alarms

1. A smoke alarm will let you know there is a fire in your home.
2. You need a smoke alarm in each bedroom.
3. You need a smoke alarm on each level of your home.
4. You need a smoke alarm outside each sleeping area.
5. Push the test button at least once a month to make sure the smoke alarm is working.
6. If the smoke alarm sounds, get outside the home right away. Call 9-1-1 or the fire department from outside.

Carbon Monoxide

1. Carbon monoxide is a gas. You cannot see it, taste it, or smell it. It is created when fuels do not burn completely. Kerosene, gasoline, coal, natural gas, propane, and wood are examples of fuels. Carbon monoxide can make you very sick or kill you.
2. A carbon monoxide alarm will let you know if high levels of the gas are in your home.
3. You need a carbon monoxide alarm outside bedrooms.

4. You need a carbon monoxide alarm on each level of your home.
5. Push the test button each month to make sure the alarm is working.
6. If you hear the carbon monoxide alarm, get outside the home right away. Call for help from outside.

Cooking

1. Stay in the kitchen when you are frying, boiling, grilling, or broiling food.
2. Keep things that can catch fire away from the stove.
3. Never cook when you are tired.
4. Keep kids and pets at least 3 feet (1 metre) away from the stove area.
5. To put out a pan fire, slide a lid over the pan. Turn off the stove and let the pan cool. Do not move the pan.
6. If you have a fire in your oven, turn off the heat. Keep the door closed until it is cool.
7. If you have a fire that does not go out, get outside the home right away. Call 9-1-1 or the fire department from outside.

Heating

1. Have your furnace cleaned every year.
2. Have your chimney serviced every year.
3. Keep space heaters at least 3 feet (1 metre) from things that can burn.
4. Turn space heaters off when you go to bed or leave the room.
5. Plug space heaters directly into a wall outlet.
6. Never use your oven to heat your home.

7. Keep children at least 3 feet (1 metre) from fireplaces, heating stoves, and space heaters.
8. Use the correct fuel for fuel-burning space heaters.
9. Choose heaters that are listed by a qualified testing laboratory.

Smoking

1. If you smoke, smoke outside.
2. Keep lighters, matches, and smoking materials up high out of the reach of children. Put them in a locked cabinet.
3. Use a deep, sturdy ashtray. Place it away from anything that can burn.
4. Do not drop cigarettes into plants, grass, or mulch.
5. Before you throw away butts and ashes, make sure they are out. Put them in water or sand.
6. Never smoke where medical oxygen is used.
7. E-cigarettes and vaping products should be used very carefully.
8. Stay in the room when you charge an e-cigarette or vaping product.

Electrical

1. Keep things that can burn, like curtains, clothes, and paper, away from lamps and light bulbs.
2. Plug appliances directly into a wall outlet.
3. Use only one appliance in a wall outlet at a time.
4. Heavy things placed on top of an electrical cord can wear out the cord and start a fire.

- 5. Do not run cords under carpets where people may walk on them.**
- 6. Use a light bulb with the right number of watts.**
- 7. Have all electrical work done by a qualified electrician.**