

Severe Winds

Prior to a tornado, concentrate on the following areas to protect your home.

Roof

To strengthen against uplift forces:

- Make sure the roof deck is properly attached to truss/rafters with roof-wall (metal connectors/clips) connection hardware.
- Using a caulking gun, apply a 1/4 inch bead of APA AFG-01 certified wood adhesive along an intersection of the roof deck and roof support element (rafter or truss chord) on both sides of the beam. This technique can increase the wind uplift resistance by up to 3x more than nail-secured sheathing, but should only be used on roofs one year old or greater.
- Attach quarter-round wood pieces with adhesive in the corners of the roof support elements where access is limited to one side.

Porches

Check to see if the exterior walls are connected to the foundation properly.

- Ensure that the porch is properly attached with tie downs. The tie down is an internal rod within the porch column, which better connects the porch roof to the foundation, so it cannot be lifted out of place by the wind.

Manufactured Homes

- Anchor mobile homes with tie downs and inspect them annually.
- Avoid staying inside a manufactured home to ride out a storm. Always evacuate to a nearby, designated storm shelter.



Protect your home in a **FLASH** with the Federal Alliance for Safe Homes!

www.flash.org * toll-free 1-877-221-SAFE

Revised 2/08

Power Outage

Whether a power outage in your home is caused by grid failure or severe weather, you can take the following steps to prepare and respond. Include power outages in your family disaster plan, identifying alternate means of transportation and routes to home, school or work.

- Keep extra cash on hand since an extended power outage may prevent you from withdrawing money from automatic teller machines or banks.
- Keep a supply of non-perishable foods, medicine, baby supplies and pet food as appropriate on hand. Allow one gallon of water per person per day.
- Avoid opening the fridge or freezer. Food should be safe as long as the outage lasts no more than 4-6 hours.
- Have one or more coolers for cold food storage, in case power outage is prolonged. Perishable foods should not be stored for more than two hours above 40 degrees Fahrenheit.
- Have an emergency power supply for anyone dependent on medical equipment requiring electricity.
- Keep a supply of flashlights, batteries, and a battery-powered radio on hand. Do not use candles as they pose a fire hazard.
- Connect only individual appliances to portable generators and never plug a generator into wall outlets.
- Use gas-powered generators only in well-ventilated outdoor areas.
- When driving, be careful at intersections – traffic lights may be out, creating a dangerous situation.
- Turn off any electrical equipment that was in use prior to the power outage.
- Turn off all lights but one (to alert you when power resumes).
- Check on elderly neighbors, friends or relatives who may need assistance if weather is severe during the outage.

During a power outage, resist the temptation to call 9-1-1 for information – that's what your battery-powered radio is for. Don't plug emergency generators into electric outlets or hook them directly to your home's electrical system – as they can feed electricity back into the power lines, putting you and line workers in danger. Keep your car fuel tank at least half-full (gas stations rely on electricity to power their pumps). When power is restored, wait a few minutes before turning on major appliances to help eliminate further problems caused by a sharp increase in demand.

Protect your home in a **FLASH** with the Federal Alliance for Safe Homes!

www.flash.org * toll-free 1-877-221-SAFE

Revised 2/08

Hail Storm

Hail might seem like a minor concern but it can shatter windows, leave pockmarks in siding and most importantly destroy or damage roof coverings. Here are some helpful hints to protect your home.

Before

- If you need to re-roof select an impact-resistant roof covering. These products have passed the UL2218 impact test with a rating of Class 1 through 4. Class 4 (most resistant) has proven to be highly effective in hailstorms.
- Make sure your roof covering is impact-resistant. Do not rely on building codes or regulations to protect you. Look for the UL2218 label on the package and literature confirming the product has passed this test.
- Listen to weather updates and reports on hail activity.
- Stay indoors until the storm subsides.
- Close your drapes, blinds or window shades to prevent the wind from blowing potential broken glass inside.

During

- Do not try to go outside to protect your property during a storm. Stay indoors until the storm has passed.
- Stay away from skylights, windows and doors.

After

- Check the trees, shrubs and plants around your house. If they are stripped of their foliage, there is a possibility your roof is damaged. Another sign of potential roof damage is if patio covers, screens or soft aluminum roof vents are dented.
- Cover any broken windows and holes in your roof, so that no water can enter and damage your home's interior.
- When you need to re-roof select an established, licensed and insured contractor or contact the National Roofing Contractors Association at 1-800-USA-Roof or on the web at www.nrca.net.



Protect your home in a **FLASH** with the Federal Alliance for Safe Homes!

www.flash.org ■ toll-free 1-877-221-SAFE

Revised 1/07

Lightning

Electrical surges from lightning can destroy electronic devices in your house, but this damage can be lessened or prevented by installing a system of surge protection that consists of point-of-use devices and a whole house surge device.

Surge Protective Devices (SPD)

- These systems protect electronic and electrical appliances from all but the most severe electrical surges or direct strikes.
- They should be installed at all items to be protected.
- A good electrical grounding system is essential.

Lightning Protection Systems*

- The systems provide a direct path for lightning to follow to the ground rather than through the house structure and its wiring.
- Consult a qualified contractor for installation.
*Please note: a lightning protection system will not protect a home from electrical damage or fire from lightning entering through the telephone, cable or electrical lines to the house. Whole house surge protection devices are needed for this protection.

Whole House Surge Protection

- A whole house surge protection system can be installed on the electric meter or the electrical panel to help protect the appliances and electronic equipment in your house such as computers, TVs and VCRs.
- Contact your local electric company for installation information. If your utility company doesn't offer the service, a qualified electrician can install this device at your electrical panel.



Protect your home in a **FLASH** with the Federal Alliance for Safe Homes!

www.flash.org ■ toll-free 1-877-221-SAFE

Revised 1/08

Hurricanes

Preparing your home for a hurricane can be as easy as the A-B-C's!

Anchor

- Bring anything from the yard that could become wind-borne inside – ask neighbors to do the same.
- Replace gravel/rock-landscaping material with fire treated, shredded bark to reduce damage.
- Trim and anchor down foliage.
- Make sure your home has a wall to foundation (anchor bolts/re-bar) connection.

Brace

- Bolt all doors with foot and head bolts with a minimum one-inch bolt throw length.
- Reinforce the garage door and tracks with center supports*
- Brace all gable end walls with horizontal and/or diagonal braces.

*Approximately 80% of residential hurricane wind damage starts with wind entry through garage doors.

Cover

- Cover all large windows, doors, especially patio doors with securely fastened, tested and approved impact-resistant shutters with proper mounting hardware, or replace them with impact-resistant laminated window and door systems if feasible.
- To reduce potential water intrusion, make sure all doors and windows are properly caulked and/or weather-stripped.
- Install a roof covering that is rated for hurricane force winds.

Strap

- Tie down any free-standing fixtures in your yard.
- Fasten rafters/trusses to walls with hurricane straps/clips.



Protect your home in a **FLASH** with the Federal Alliance for Safe Homes!

www.flash.org ■ toll-free 1-877-221-SAFE

Revised 2/08

Earthquake

Earthquakes strike with no warning, leaving most homeowners and families unprepared for injuries and property loss. Below are helpful tips to strengthen your home and safeguard your family.

Before

- Plan and hold earthquake drills for your family. Choose a location where family members will meet if separated during the quake.
- Strap water heaters, appliances, and TV's to wall studs. Secure pictures, mirrors, and ornaments to the wall with appropriate fasteners. Know where and how to shut off electricity, gas, and water services.
- Assemble disaster survival kits to last 72 hours for each person in the household. Check with local emergency managers for additional tips and safety training.

During

- Keep calm. Expect the earthquake to last from a few seconds to a few minutes.
- If indoors, stay there until the shaking stops.
- **Drop, Cover and Hold.** Drop down to the floor and take cover under a sturdy piece of furniture or an interior wall. Hold onto the furniture and keep your position.
- If outdoors, move into an open area away from trees, buildings, utility wires, or signs. Stay in the open until the shaking stops.

After

- Check for injuries. Don't move injured persons unless they are in immediate danger.
- Use TV or radio for emergency information and instructions.
- Check utilities for gas and water leaks, or broken electrical connections. Be prepared to turn off utilities in the event they are damaged.
- Clean up medications, cleaning products, or flammable liquids. Check food and water supplies. Open cabinets carefully, to avoid objects falling out.

More information on earthquake safety is available through the Central U.S. Earthquake Consortium, www.cusec.org, or the Federal Alliance for Safe Homes, www.flash.org.



Protect your home in a **FLASH** with the Federal Alliance for Safe Homes!

www.flash.org ■ toll-free 1-877-221-SAFE

Revised 1/07

Safe Room

A safe room, or storm shelter, provides the highest degree of protection for you and your family from the dangerous forces of extreme winds and debris impacts. Consider the following information for building or installing a safe room in your home.

Safe Room Construction

- Safe rooms can be site-built or manufactured and can be installed in new or existing homes.
- Site-built safe rooms can be constructed with concrete, concrete masonry, and combinations of wood frame and steel sheathing or concrete masonry infill.
- Manufactured safe-rooms are usually built at a plant or assembled on-site.
- Issues critical to performance include:
 1. Safe rooms must be structurally isolated from the main structure of your home.
 2. Safe rooms must be securely anchored to the foundation.
 3. Safe rooms installed in or over a crawl space must have a separate foundation.
 4. All components of safe rooms, including walls, ceilings, and door assemblies, must be designed and tested to resist the specified wind forces and prevent perforation by wind-borne debris.
 5. Safe rooms must have adequate ventilation.

Location

- Safe rooms can be located anywhere on the first floor of your home, in a basement, or outside.
- Shelters located outside your home should be accessed immediately when a storm warning is issued.
- Safe rooms should not be built in flood zones or in surge zones.

Wind Forces and Debris Impacts

- Tornado safe rooms must be designed for wind speeds up to 250 mph and debris impacts from a 15 lb 2x4 board traveling at 100 mph. Hurricane safe rooms are designed to lesser debris impact criteria.

Testing and Quality Verification

- Site-built safe rooms can be constructed in accordance with the prescriptive designs of FEMA 320, Taking Shelter From the Storm: Building a Safe Room Inside Your House.
- Deviations from FEMA 320 and manufactured safe rooms must be tested at an approved laboratory such as the Wind Science and Engineering Research Center at Texas Tech University.
- Verification of compliance with National Storm Shelter Association's "Association Standard", required for membership in the Association, provides the highest level of shelter quality.

Emergency and Disaster Supply Kit

- Prepare an emergency plan and have a disaster supply kit available in your safe room.

www.flash.org ■ toll-free 1-877-221-SAFE

Revised 2/08

NOAA Weather Radio

NOAA All Hazards Weather Radio (NWR) is the 'Voice of the National Weather Service.' It provides critical life-saving weather information and other emergency messages to inform the public when properly placed within your home.

NWR Capabilities

- Broadcasts watches, warnings, and advisories immediately from your local National Weather Service office.
- Provides warning information for all hazards that may affect communities served by local NWR broadcast.
- Operates commercial-free, 24-hours daily.
- Should include seven frequency capability, Specific Area Message Encoder (SAME) technology and battery backup.

NWR Frequencies

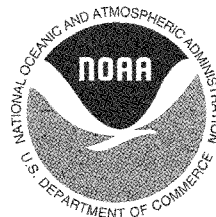
- NWR is available on the following megahertz frequencies: 162.400, 162.425, 162.450, 162.475, 162.500, 162.525, and 162.550.

Properly Placing a NWR in Your Home

- Reception is usually best if placed near a window.
- External antenna may be needed if you are located more than 30 miles from the transmitter.
- Strobe lights, pagers, computers and text printers can be connected for the visually and hearing impaired.

Helpful Web Sites

- Go to www.weather.gov/nwr/nwrbo.htm to find the nearest NWR transmitter.



Protect your home in a **FLASH** with
the Federal Alliance for Safe Homes!

www.flash.org ■ toll-free 1-877-221-SAFE

Revised 1/08

Winter Freeze

Winter storms pose serious threats to people, pets and property. Extreme cold, freezing rain, snow and strong winds can be especially dangerous. Take precautions now to protect your family and your home.

Before

- Keep space heaters away from flammable materials. NEVER leave them unattended!
- Bring pets indoors.
- When using supplemental heating sources such as fireplaces, kerosene space heaters, make sure you have proper ventilation and a carbon monoxide detector in place. Always take your space heater outside to refill it.
- Install smoke alarms and carbon monoxide detectors. Replace batteries every six months.
- Move all vehicles inside the garage if possible. Never leave a vehicle running with the garage door down.
- Prepare an emergency survival kit: battery-powered NOAA weather radio and portable AM/FM radio, blankets/sleeping bags, first aid supplies, flashlights, extra batteries, extra medicines and baby items, three-day supply of non-perishable food and water, pet items.
- Insulate all exposed water pipes outside the home.

During

- Stay inside.
- Close-off unoccupied rooms in the home.
- DO NOT use charcoal-burning devices.
- Wear layers of loose-fitting, lightweight, warm clothing. Remove layers as needed to avoid overheating, perspiration and subsequent chill.
- Set the thermostat in your house no lower than 55 degrees.
- Allow a slow trickle of water to flow especially if the faucet is on an exterior wall. (Be sure both the hot and cold faucets are flowing.)
- Open spigots to allow a small, continuous drip to prevent freezing.
- Remove garden hoses and drain water from spigots.
- Open cabinet doors to allow heat to get to uninsulated pipes under sinks and appliances near exterior walls.
- Drink plenty of non-alcoholic fluids and eat high-caloric foods.

After

- Never try to thaw a frozen pipe with an open flame or torch. Shut off the water and call a licensed plumber.
- Clear walkways and sidewalks to prevent injury, but use caution to avoid overexertion.
- Identify possible damage.
- Report damage, such as broken pipes and downed tree branches or power lines, to your utility company and avoid the area to prevent personal injury.

www.flash.org ■ toll-free 1-877-221-SAFE