



# Weather Protection for Your Organization



The Protection Series<sup>SM</sup>

Ways to make  
sure your facilities  
and vehicles  
are ready for  
rough weather.

*Since we started protecting  
worship centers and people  
in 1897,* we've seen that preparation  
can make the difference when severe  
weather rolls in.

Whether it's severe winter storms, lightning, wind, tornadoes or floods, the safety of your organization depends on the steps you've taken beforehand. That is why we have prepared this booklet as a guide to minimizing the loss of both physical property and human life when harsh weather occurs. When appropriate, we've included handy checklists to use as you tour your facility and identify what additional work might be needed to guard against nature's worst.

This guide is not intended to be a complete safety manual. Yet, we are confident that when you combine the steps outlined with your own good judgment, your chances of being prepared for severe weather will greatly improve.

Sincerely,

A handwritten signature in black ink that reads "Michael E. Ravn". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Michael E. Ravn

*CEO*

**Church Mutual Insurance Company**



## *Winter protection — don't leave your building in the cold.*

If your building is not properly prepared, cold weather and winter storms can be quite destructive. So when the leaves start to turn and cold weather is on the horizon, get ready for the raw, bitter weather ahead. Even if you are located in a warmer weather area, preparation is key.

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## *Heating equipment.*

Your heating system is the last thing you want to do without in winter. So follow these suggestions to help reduce the possibility of breakdowns.

### **OK    NEEDS WORK**

- Inspect and thoroughly clean heating systems well before cold weather sets in.
- Inspect chimneys and vent pipes annually for cracks, missing mortar, rust holes and anything that might be plugging them. Correct any damage immediately.
- Maintain a minimum temperature of 50°F inside all buildings.
- Do not leave buildings unattended for extended periods of time during the winter months. Make daily checks, if possible, to ensure that the heating system is operating properly.

### Portable electric heaters.

Electric space heaters can be quite dangerous if sensible safety precautions aren't followed. Here are some safety precautions and operating measures to keep in mind.

### **OK    NEEDS WORK**

- Read and follow manufacturer's instructions and warning labels.
  - Keep flammables, combustibles, furniture and curtains at a distance.
  - If an extension cord is necessary, use one that can handle 1,500 watts or 12½-amps, not the common amp-type extension cord.
  - Keep the electric heater away from water.
  - Do not use on the same circuit for other high-wattage items.
  - Inspect the wall outlet and heater plug regularly for excessive heat while the unit is on.
  - Unplug the heater when not in use.
  - Make sure the element on your radiant electric heater is free of flammable material. Cleaning the reflector of dust improves the heater's efficiency.
  - Since heater cords get warm, don't cover or leave coiled or knotted.
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## *Plumbing.*

It is important to check the plumbing of your buildings every year to ensure that it's in good working condition and protected against freezing. Leaks and burst pipes can cause extensive damage to floors, walls, electrical equipment and your contents. These tips can help you avoid such problems.

## Occupied buildings.

### OK NEEDS WORK

- ○ Insulate all water or drain pipes that travel through poorly heated areas, such as cupboards, closets, corner areas and areas against outside walls.
- ○ Wrap the pipes with two layers of 1-inch insulation wrap.
- ○ Secure in place with duct tape.
- ○ Be sure not to compress the insulation unnecessarily, as this will reduce the insulating value.
- ○ Pipes in attics, exterior walls and other unheated areas are particularly susceptible to freezing. Consult your local plumbing or heating contractor for necessary modifications to prevent freezing.
- ○ Remove all garden hoses from outside faucets.

## Unoccupied buildings.

### OK NEEDS WORK

- ○ Shut off water services to vacant buildings at the stop box.
- ○ Open all faucets to drain remaining water.
- ○ Turn off electricity or gas to the water heater.
- ○ Drain the water heater and water softeners.
- ○ Sponge out water in toilet tanks. Pour nontoxic antifreeze, rated for plumbing systems, into bowls.
- ○ Well pumps serving vacant buildings should be equipped with adequate drain fittings and switched off. Make sure well access is adequately insulated.

### OK NEEDS WORK

- ○ All pocketed or trapped water lines should be cut and drained. (The help of a professional plumber might be necessary for this.)
- ○ Have someone in the building when normal heat is restored. Often, pipes begin to leak when thawed.

If a leak is detected, take immediate action to reduce damage to your building and contents. Turn off the water to stop the leak, move endangered items, begin cleanup operations and have the pipe repaired. Report the loss to your insurance company — coverage might apply.



## *Sprinkler systems.*

Don't neglect your sprinklers when you're winterizing your building. Here are a few things to keep in mind that will keep your system ready for a winter emergency.

## Wet pipe sprinkler systems.

Sprinkler systems that are constantly charged with water receive the greatest exposure to cold weather.

### OK NEEDS WORK

- ○ Maintain temperatures of at least 50°F in all areas covered by these systems.
- ○ Place thermometers in the coldest areas of all buildings and frequently check them.
- ○ If your wet pipe sprinkler system has a special antifreeze system, make sure the installation company services it properly.

## Dry sprinkler systems.

### OK NEEDS WORK

- ○ During sub-zero weather, conduct daily checks of the auxiliary drains located in cold areas.

**OK   NEEDS WORK**

- Drain piping all the way back to the dry valve or to auxiliary drains if they are installed in your system. If pipes are improperly installed, they can trap water, which can then freeze and damage your entire system.
  - Keep the dry valve enclosure in good repair and make sure the heating device can maintain a temperature at 50°F.
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*Roofs.*

A fairly common winter problem is heavy snow buildup. Snow melts and refreezes, working its way under shingles, which is where damage begins. And major structural damage can occur as the ice under the shingles eventually melts. Never attempt to melt ice from drains or roof surfaces with blow torches or similar devices. Be careful when walking on roofs to avoid surface damage and falls.

Occasionally, it might be necessary to clear your roof of major snow accumulation. If heights or climbing are involved, seek professional help for this potentially dangerous task. A professional has the knowledge and tools to do the job safely. Here are some other ways to keep a strong roof.

**OK   NEEDS WORK**

- Keep ice and snow away from drain areas on roofs by clearing a path from the roof center to the drains.
- On a pitched roof without drains, open paths leading to the roof edge to assure proper drainage.
- When building, make sure the footings, walls and roof are designed to handle the snow expected in your area. Use of a qualified contractor is recommended.



*Insulation.*

Putting the time and money into good insulation is well worth the effort. Completely insulating a poorly sealed building can give you substantial savings on annual heating costs. And most insulating jobs are relatively easy do-it-yourself projects, requiring no special skills and very few tools. All it takes is the initiative to begin the project and see it through completion.

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*Caulking.*

Sealing exterior cracks and seams with caulk is an important part of building maintenance. Caulking reduces the amount of air and moisture that can pass in and out of a building, saving on the energy needed to heat or cool the structure. Caulk should be applied wherever two different materials or parts of the building meet.

For example:

- Windows and doors — between the frames and siding; at the top (drip caps), sides and under the bottom sills.
- At inside corners — where siding boards meet.
- At sills — the bottom of the building where the wood structure meets the foundation.
- Around openings cut for water faucets, electric or gas services, or other special breaks in the outside surface of the building.
- Where chimney or other masonry meets siding.
- Under overhanging floors.



### *Weather stripping.*

This type of insulation can really help make your winter energy bills more manageable. Several kinds of weather stripping are available for both windows and doors, and each one offers a different degree of effectiveness and ease of installation. Choose the one that best suits your needs.

## Windows.

### **Thin spring metal or plastic.**

- Thin metal and plastic weather strips have one side flared out. When the window (or door) is closed, strip pressure against the flared side makes a tight fit. The plastic is adhesive-backed and is the easier type to install. Both are very durable and neither is visible when the window or door is closed.

### **Vinyl tube.**

- For general purpose use, vinyl tube weather-strips are available with or without a metal or wood attachment strip. They can be applied to wood or metal with tacks, staples, screws or a good commercial adhesive. They are durable and easy to install. However, they are visible after installation.

### **Foam rubber or plastic with adhesive backing.**

- Install adhesive-backed foam on all kinds of windows, but not at points of wear, such as the sides of sliding windows. On double-hung windows, apply it only on the bottom and top rails. You can use foam strips in many more places on other kinds of windows.
- Cover stained and art glass with Lexan® or Plexiglas®. This serves a dual purpose — it helps insulate and protects the valuable glass from acts of vandalism.

### **Glazing compound.**

- Sometimes referred to as putty, this sealant is “doughy” in texture, and is applied with a putty knife. It is used to seal glass panes to movable window frames. Old sealing material that has cracked or chipped away causes air infiltration problems through windows. Check for this and completely remove and replace any older material with new glazing compound.



### *Attic insulation.*

You should be aware of the National Electric Code which requires that insulation be kept 3 inches away from recessed light fixtures, and that no insulation be placed on top of the fixture. Failure to follow this rule can create a fire hazard. A simple four-sided box or other rigid metal form can be used to shield the fixture from insulation.

- Provide adequate ventilation.
- Treat electrical wiring with care. Don't try to pull or bend it out of the way. Have wiring replaced if it's in poor condition.
- Do not cover electrical junction boxes that face into the attic with insulation. Use a barrier around them or, if there is enough slack in the wires, raise the boxes above the insulation.
- Keep insulation at least 3 inches away from recessed light fixtures and other heat sources.
- Never use cellulose to insulate around the chimney.



*Vehicle winterization — it's a must.*

Don't forget to winterize your vehicles. In the winter, your automobile can be your best friend or worst enemy. To make sure you're ready for any weather, keep your vehicle prepared year-round. Always check the following items before winter weather sets in:

**OK    NEEDS WORK**

- Ignition
- Battery
- Lights
- Tire tread
- Cooling system
- Fuel system
- Lubrication
- Exhaust system indicator
- Heater
- Brakes
- Wiper blades
- Defroster
- Snow tires
- Chains
- Antifreeze
- Winter grade oil
- Full gas tank to keep water out



*When it comes to your vehicle, don't trust your luck.*

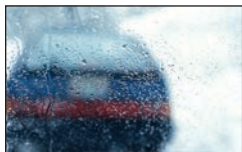
Winter storms develop quickly, which means what you have on board your vehicle can make a life-threatening situation a survivable encounter. Always keep the following items on hand:

**HAVE    NEED**

- Blankets or sleeping bag
- Matches and candles
- Empty 3-pound coffee can and plastic cover
- Facial tissue
- Paper towels
- Extra clothing
- High-calorie (nonperishable) food
- Compass and road maps
- Knife
- First-aid kit
- Shovel
- Sandbag
- Flashlight or signal light
- Windshield scraper
- Booster cables
- Two tow chains
- Fire extinguisher
- Ax
- Emergency road reflectors

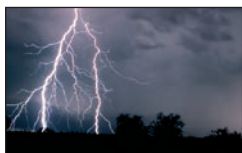
## You're trapped in a vehicle; what now?

- Avoid overexertion and exposure.
- Stay in your vehicle. Don't panic.
- Keep fresh air in your car.
- Beware of the silent killers, carbon monoxide and oxygen starvation.
- Exercise by clapping hands and moving arms and legs vigorously.
- Turn on dome light at night for visibility.
- Keep watch — do not permit all occupants to sleep at once.



*Severe weather doesn't always come with a warning. Be ready.*

Lightning storms, tornadoes, hailstorms, floods, hurricanes — when severe weather bears down, you need to be as well prepared as possible.



*Your building might be a natural target for lightning.*

When it comes to lightning striking objects, a building with high peaks is extremely vulnerable. Typically, the building is located between large parking lots and vast expanses of wide open grounds that offer little protection. And if your building is hit, all the air conditioning, audiovisual and extensive electronic equipment can act as conductors, sending current throughout your structure.

## Lightning rods — protection through prevention.

Your best protection against lightning damage is a lightning protection system that has been certified by the Lightning Protection Institute (LPI) or Underwriters Laboratories (UL).

Contact these organizations for more information about equipment, installation and maintenance of lightning protection systems. Their addresses and phone numbers are printed toward the back of this booklet.



*Keep people safe from lightning.*

An average of 40 people per year are killed by lightning in the United States. Although some situations are unavoidable, risks can be decreased by taking the proper precautions during a thunderstorm. While you're inside the building, stay clear of open doors and windows. Also, get away from large appliances which can conduct lightning. And don't use the phone except in emergency situations.

If you're caught outside the building, try to find immediate protection. Don't touch metal fences or objects and don't seek protection under lone trees, taller trees or in unprotected shelter structures.

If you are hiking, a cave or cliff overhang is one of the safest areas to seek shelter. Keep the people in your group spread a few feet apart. If a cave or overhang isn't available, head for a low spot. Or seek shelter in a clump of head-high bushes.

If you're at the beach, leave as soon as lightning is spotted. Do the same if you're on a pier, dock or boat. Once lightning is present, get out of any body of water immediately, whether it's a pool, lake or ocean.

You can also decrease your chances of being struck by keeping away from railroad tracks and out of open spaces.





## *Wind damage — how to lessen the blow.*

High winds can occur at any time, whether they are associated with a tornado, hurricane, severe storm or just a change in atmospheric conditions. With the proper preparation, you can protect your facility from the havoc and destruction caused by ill winds.

### OK NEEDS WORK

- Keep buildings free from overhanging branches and trees.
- Immediately replace broken windows and doors.
- Check latches on doors and windows.
- Install storm windows and keep them securely closed.



## *Protect your facility from high water.*

When the rain refuses to stop and rivers begin to swell, your chances of protecting your building and its contents from significant damage greatly increase if you've taken steps to waterproof your building. A few of the ways you can minimize property damage include:

### OK NEEDS WORK

- Repair basement cracks and leaks, which invite water problems.
- Contact a local contractor for information or an evaluation of the condition of your basement walls.
- Keep valuable equipment like electrical appliances, woodwork or antiques off the floor with pallets or bricks.
- Check gutters regularly to keep them free from leaves and twigs.

### OK NEEDS WORK

- Check window sills during rainstorms for dampness due to leaks. Caulk leaks and cracks immediately.
- During rainstorms, watch for moisture leaks in the roof and ceiling. Repair leaks as soon as possible.
- Move valuable property to safe areas.
- Run a dehumidifier in damp places, making sure excess water is drained properly and the cord is kept out of water.
- Place rocks or bricks under downspouts to prevent erosion damage.
- Plant or maintain trees, shrubs and grass to prevent erosion damage.

## Flood stage — planning, not panicking.

Taking the proper precautionary measures before a flood occurs can make the storm less traumatic and less costly in terms of damage.

### OK NEEDS WORK

- Check with local planning office to see how close your facilities are to a flood plain.
- Prepare and know your evacuation route.
- Know how and when to shut off utilities: electricity, gas and water.
- Keep materials — such as sandbags, plywood, plastic sheeting and lumber — on hand.
- Install check valves in building sewer traps to prevent water from backing up in sewer drains.
- Keep first-aid supplies on hand.
- Keep automobiles fueled.
- Keep a stock of food that requires little cooking.
- Keep emergency cooking equipment, lights and flashlights in working order.



## *Understanding the National Weather Service's watch/warning system.*

Your preparedness for a severe storm depends on your knowledge of the National Weather Service's watch/warning system. Keep portable radios and televisions at your facility to take full advantage of alerts.

**Tornado or severe thunderstorm watch** — tornadoes and/or severe thunderstorms are possible (conditions are right).

**Tornado or severe thunderstorm warning** — tornadoes and/or severe thunderstorms are occurring. The National Weather Service defines a severe thunderstorm as having winds of 58 miles per hour or more and/or hail of 3/4-inch in diameter or larger.

In most localities, an outdoor siren warning system will alert you when an emergency situation exists. Generally, a continuous siren for three minutes in duration is used as a tornado warning. When you hear it, immediately tune to local television or radio to learn specifics. Wavering sirens also could be used for other alerts and warnings. Make sure you know your local warning signals.

### **Reacting to a warning.**

If a tornado or severe thunderstorm warning occurs while you're in a building, do not leave. Seek shelter in storm cellars or well-constructed basements. If neither of these options exist, take cover under a sturdy table, desk or stairway in the lowest floor of the building, or in a closet or bathroom in the center of the building.

Do not open windows. Most structures have sufficient venting to allow for the sudden drop in atmospheric pressure. Opening a window, once thought to be the way to allow inside and outside pressure to equalize, thereby minimizing damage, is not recommended. Furthermore, opening the wrong window can actually increase damage.

Remember, stay in your protected area for at least 15 to 30 minutes after the thunderstorm.



## *For additional weather safety information, contact:*

**Church Mutual's Risk Control Department**  
riskcontrol@churchmutual.com

**National Safety Council**  
or your local gas, electric and fire departments.

**National Weather Service**  
1325 East West Highway  
Silver Spring, MD 20910  
(301) 713-0689  
www.weather.gov

**Underwriters Laboratories, Inc.**  
2600 N.W. Lake Road  
Camas, WA 98607  
(877) 854-3577  
www.ul.com

**Lightning Protection Institute**  
P.O. Box 99  
Maryville, MO 64468  
(800) 488-6864  
www.lightning.org

In most cases, information is free.

### **Emergency Telephone Numbers:**

Police: \_\_\_\_\_

Fire: \_\_\_\_\_

Gas: \_\_\_\_\_

Electric: \_\_\_\_\_

Ambulance: \_\_\_\_\_

Hospital: \_\_\_\_\_

Church Mutual Insurance Company: (800) 554-2642

## *Other Protection Series Booklets.*

Visit our website at [www.churchmutual.com](http://www.churchmutual.com) to view, print or download additional copies of this booklet and others in the Church Mutual Protection Series at no cost.

- Crime-Proof Your Worship Center
- Fire Safety at Your Worship Center
- Make Activities Safer for Your Congregation
- Recognizing Your Liability Risks
- The Road to Safer Transportation
- Safety at Your Playground
- Safety Begins With People
- Safety Outside Your Worship Center
- Safety Tips on a Sensitive Subject:  
Child Sexual Abuse
- Youth Safety and Your Congregation

For more information, contact [info@churchmutual.com](mailto:info@churchmutual.com).

Para obtener asistencia inicial en español puede telefonar al (800) 241-9848 o enviar un correo electrónico a la dirección [espanol@churchmutual.com](mailto:espanol@churchmutual.com).

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