



Conquering Winter's Wrath

Winter weather precautions

It is never too early to start preparing for winter. In fact, waiting until autumn to make preparations may be too late when a surprise cold snap or early snow causes problems that could have been prevented through planning, inspections, and maintenance.

Southern states are not immune to damage from inclement wintry weather. Many times, due to different building codes and less insulation, power outages and freezing temperatures can cause more acute emergencies.

This report outlines steps that you can implement before, during and following the winter season. In addition to protecting your facility, many of these principles can be instituted at your residence.

Steps to prepare for winter storms

01	02	03	04
Perform a building inspection looking for broken windows, poorly latching doors, and damaged weather stripping.	Inspect and perform maintenance on heat-producing equipment.	Inspect and repair any damage to your roof. Ensure that drains, gutters and scuppers are clear of leaves and other debris. Know the maximum safe snow depth for your roof and when emergency action may be required.	Check to make sure that outdoor equipment and product is protected. Remove tree branches close to power lines and winterize sprinklers.
05	06	07	08
Review your emergency response plan and make updates as necessary. The plan should include the location of emergency shutoffs for water, gas, and electricity.	Verify that emergency contact numbers of key personnel, including facility engineering, are up to date.	Review contracts for vendors and service providers that will provide snow-plowing services, clear snow from roofs, assist in disaster recovery, and deliver emergency fuel.	Check in-house supplies of ice melt, snow shovels, snowblowers, and spare floor mats. Maintain an adequate fuel supply for emergency generators and other equipment.
09	10	11	
Audit the procedures for data backup and recovery.	Review the procedures for reporting a property claim to your insurance carrier.	Confirm that the sprinkler systems are receiving regular inspection, testing and maintenance. Alarms, such as water flow, low air, and low temperature (dry pipe), should be operational and monitored by an alarm service.	

Late summer/early autumn

- Perform a “building envelope” inspection and schedule repairs for broken windows, replace damaged weather stripping, ensure that doors close and latch securely, and note any concealed spaces where there may be insufficient heat, such as dropped ceilings or dock areas.
- Schedule inspection and/or maintenance for heat-producing equipment, including boilers, furnaces, water supplies, and returns. Is HVAC ducting adequate for all critical areas to prevent freezing temperatures?
- Determine whether you have the recommended levels of insulation in attic areas for your region. Ensure that wall and panel insulation is properly affixed. Reinsulate as necessary.
- Inspect your roof and ensure that drains, gutters, and scuppers are clear of leaves and other debris. Schedule repairs of any damage to the roof surface as well as the underside of the roof. Does water drain to safe areas away from sidewalks?
- If your building is equipped with roof or downspout cable heaters, test these devices to verify that they work properly.
- If you are unsure or if there has been rooftop equipment added, have a structural engineer determine the designed snow load for the roof. This will help determine the maximum safe snow depth and when emergency action may be required.

- Determine what outdoor equipment or landscaping needs attention. Is product stored in outbuildings adequately protected from freezing? Are there tree branches too close to power lines? Have lawn sprinklers been winterized? Are there any garden hoses still attached to spigots?
- Review your emergency contingency plan and make updates as necessary. The plan should include the location of emergency shutoffs for water, gas, and electricity. Are emergency lighting units working?
- Consider adding a property response team to your emergency response procedures to communicate when and how decisions regarding property damage are made, including authorized spending limits.
- Verify that emergency contact numbers of key personnel, including facility engineering, are up to date.
- Review contracts for vendors and service providers that will provide snow-plowing services, clear snow from roofs, assist in disaster recovery, and deliver emergency fuel. Contracts should contain favorable risk transfer wording, certificates of insurance should be in place with acceptable limits, and your company should be listed as an additional insured. Your insurance broker can provide support on this effort.
- Check in-house supplies of ice melt, snow shovels, snowblowers, and spare floor mats. It is advisable to have water cleanup supplies, including tarps, a wet/dry vacuum, squeegees, plastic sheeting, duct tape, nails, a hammer, and furring strips (1 x 2 lumber) on hand for unexpected problems.



- Maintain an adequate fuel supply for emergency generators and other equipment. Provide proper storage for flammable liquids stored inside the building (UL-listed/FM-approved containers and cabinets), and store them away from heat sources.
- Audit the procedures for data backup and recovery. Verify that data is being taken off-site to a safe location. Ensure that uninterrupted power supplies are functioning.
- Review the procedures for reporting a property claim to your insurance carrier, including the policy number, reporting protocol (call-in or online), documentation of damage, and saving receipts for items used to prevent further property damage.

Consider adding a Property Response Team to your emergency response procedures to communicate when and how decisions regarding property damage are made, including authorized spending limits.



Fire sprinklers

- Confirm that the sprinkler systems are receiving regular inspection, testing and maintenance. Alarms, such as water flow, low air and low temperature (dry pipe), should be operational and monitored by an alarm service.
- Contact the alarm-monitoring company and verify that it has updated contact names and phone numbers.
- For wet pipe systems, ensure that the pipes are adequately protected from freezing temperatures through introduction of building heat and insulation.
- For dry pipe systems, drain drum drips and verify that the air compressor is operating properly. The heating unit inside the sprinkler valve room or enclosure should be checked for operation.
- If your building is protected with a dry pipe sprinkler system, verify that the air compressor is connected to an emergency power source or backup nitrogen system. Otherwise, it may be necessary to impair the system if it starts to lose air pressure. (See Loss of Building Heat section.)
- Test the concentration in antifreeze loops.
- Review instructions for emergency shutdown of the sprinkler system, including who is authorized to close the valve and under what conditions.

Freezing temperatures/snowfall

- Monitor weather channels for anticipated snow and ice accumulations; take necessary actions to ensure the safety of staff and customers, including sanding or salting walkways, modifying work hours with early closure or working from home, and provisions for staffers who may have to stay overnight.
- Maintain access to fire hydrants, fire lanes, and fire department connections. Instruct plowing contractors to push snow away from these areas.
- Patrol all areas of the building, observing any water leaks, drops in temperature, temperatures in concealed spaces, or any other conditions that could cause damage. Windows can break due to thermal stress. Observe the roof for signs of deflection due to excessive weight.
- Consideration should be given to providing ongoing patrols, including evenings and weekends.



Loss of building heat

Based on the duration of an outage and indoor temperatures, it may be necessary to take precautions to prevent the freezing of water lines, including potable water and fire sprinkler systems. Sometimes the public utility may have an estimate of when services are expected to be restored; other times, restoration plans are uncertain and the outage could last for several days.

- If equipped with an emergency generator, ensure adequate fuel supplies and determine if it can be used to provide building heat. Follow procedures to disconnect from the public utility to prevent backfeeding the electrical system. Follow appropriate lockout/tagout and arc flash protection.
- Monitor the indoor temperature. As temperatures drop below 40 degrees Fahrenheit and approach freezing (32 degrees Fahrenheit), it becomes necessary to start planning to turn off water to the sprinkler system.
 - Notify the alarm company and fire department (nonemergency number) that the sprinkler system is shut down. The fire alarm (smoke and heat detectors) should remain in service.
 - Shut down the control valve at the sprinkler riser.
 - Implement the sprinkler impairment program, including notifying your insurance carrier about the sprinkler shutdown.
 - Suspend any hazardous activities, including hot work such as welding and grinding.
 - Institute a fire watch to be on-site continually, performing regular inspections in the affected areas.
- When the sprinkler system is shut down, take provisions to prevent the fire pumps from operating. Both diesel and electric pumps should be placed in the manual mode to prevent them from churning for prolonged periods of time.
- Determine the appropriate procedures to shut down the domestic water supply, including turning off the incoming water, draining pipes and restroom fixtures.
- If using portable generators, follow the manufacturers' instructions for fueling procedures as well as distance requirements to prevent the introduction of carbon monoxide inside the building.
- If using space heaters, ensure that the devices are UL-listed and/or FM-approved. Follow the manufacturers' instructions for clearance-to-combustibles requirements.



Critical snow depths

- Monitor snow depths to determine if it is necessary to clear snow from the roof, which is frequently 50% of the safe maximum depth. Predetermine whether this task will be performed in-house or contracted.
- Identify and clearly mark the location of any skylights. Utilize appropriate fall protection if workers are exposed to an elevated fall exposure.
- Snow drifts should be cleared first, which typically is around rooftop equipment, parapets, penthouse walls, multilevel roofs, and building additions.
- Designate a safe place to drop the snow; avoid piling snow on other sections of the roof.
- Consider using plastic shovels to avoid damaging roof membranes. Do not use products that will void the roof warranty, such as ice melts or salt.
- Remove snow in layers uniformly across the roof to prevent unbalanced loads.
- Clear snow and ice from drains and catch basins. Clogs should be removed. Verify that melting snow is draining appropriately.
- Do not send staff onto the roof once the snow load approaches the load capacity.



One inch of ice on the roof is equivalent in weight to close to 20 inches of light, dry snow.

Resuming operations

- Follow established procedures for restoring building heat, including lighting pilot lights on gas-fired appliances. Once building heat has been restored and water has been turned back on, employees should patrol the areas, observing any water or leaks.
- Return the fire pump to automatic operation.
- Once the sprinkler system is back in service, terminate the Sprinkler Impairment Program by notifying your insurance carrier, fire department, and alarm-monitoring service.
- Check liquid levels (fuel, oil, and coolant) for fire pump and emergency generators. Replenish as necessary.
- Verify that there is not excessive weight from snow or ice on the roof. One inch of ice on the roof is equivalent in weight to close to 20 inches of light, dry snow.
- Inspect concealed areas for hidden damage, such as attics, crawl spaces, and underground vaults.

While the preceding checklist is designed for property and building protection, consideration should be given to protecting your staff when performing weather-related activities, including:

- Driving in inclement weather.
- Strenuous activities (strains, overexertion, heart attacks).
- Hypothermia and frostbite (appropriate clothing).
- Slips and falls.
- Working at heights (fall protection).
- Electrical (lockout/tagout and arc flash).

If you have questions or need assistance in preparing for winter emergencies, please contact your Lockton service team.



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