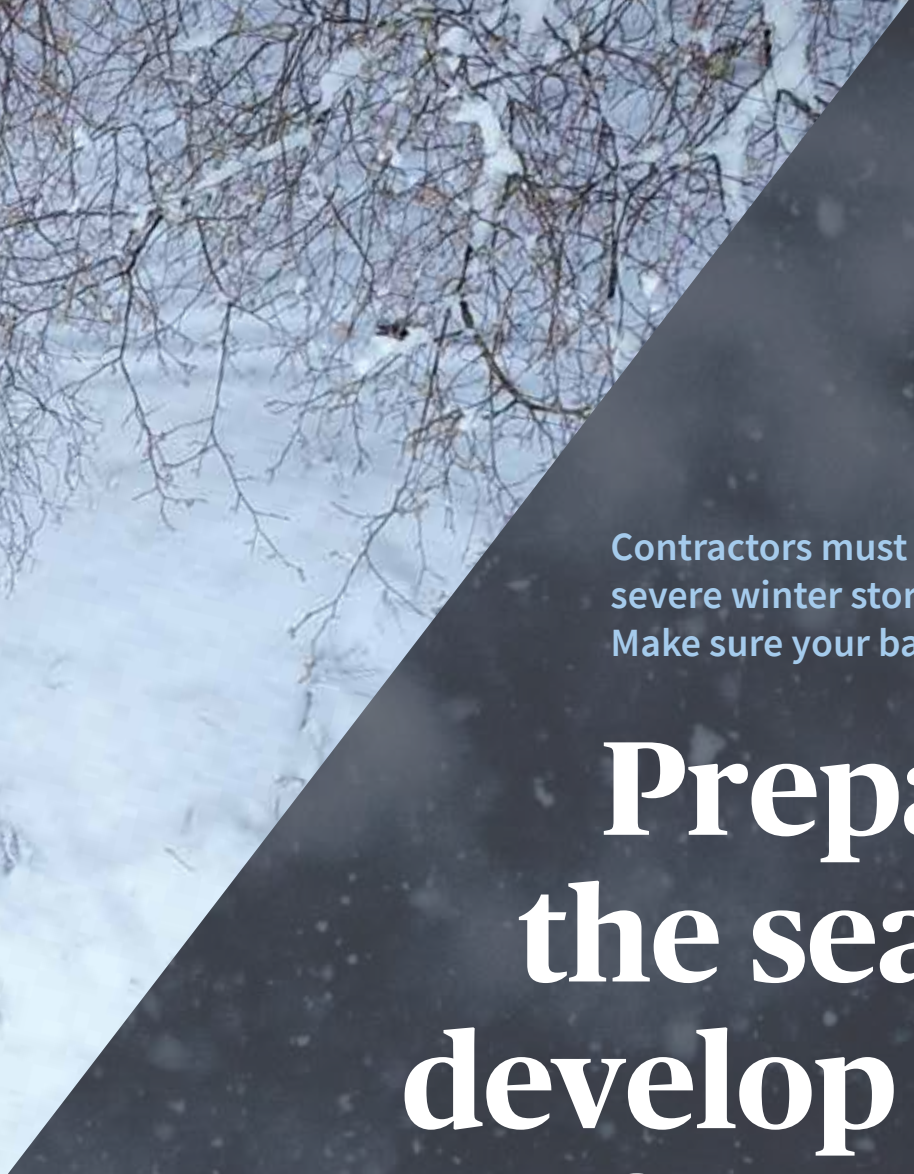
AXA

XL Insurance

Winter storms

Severe storm preparedness guide for construction projects



Contractors must be ready to respond to severe winter storms and weather events. Make sure your bases are covered:

Prepare before the season and develop an action plan for when a storm strikes.

About winter storm season

U.S. Winter Storm Season

November 1- April 30

Frequency

Recent seasons have seen above-average winter storm activity with more than 20 named storms.

Types of Events by Region

The Northeast, Midwest, and Mountain West regions usually experience the most severe winter weather with freezing temperatures, strong winds, significant snowfall, freezing rain, and sleet. The West Coast has experienced more winter storms with heavy rains and snowfall in recent years. In the South, storms may include high winds, freezing rain, and/or sleet, and snow is always possible.

Potential Losses

The primary losses that AXA XL sees from winter storms are water damage and other problems from freezing pipes, fires from heaters, and roof collapse and/or leaking from heavy snowfall and ice dams.

Pre-season planning

Planning before winter storm season is the most important thing contractors can do to prevent losses.

Review project schedule for winter activities
Determine which project activities may take place during the upcoming winter storm season. Evaluate the potential exposures and hazards specific to those activities and develop action plans to eliminate or mitigate the risks.

Questions to consider:

- Are you working on the structural frame?
- Will the building be open and exposed to snow and wind?

Exposures: damage from snow accumulation and wind pressure

- Is the roof in place, and how much snow would it be able to bear?
- If the roof is not in place, what is the load capacity of the top-most completed level (exposed metal deck or completed concrete slab) where snow could accumulate?

Exposures: roof collapse and water damage

- When are the pipes for the building being installed?
- When are they being insulated?
- When will the pipes be filled?

Exposure: frozen pipes and water damage

- Will temporary heat be provided to maintain production? If so, evaluate the risks associated with different types of heating systems.

Exposures: fire, indoor air quality, interior humidity, and condensation

- Are there materials or equipment that will be stored at the project site that may need additional protection from wind, rain, snow, ice, and freezing temperatures?

Exposures: material damage and associated delays

Assemble winter weather task force

- Who are the team members and subcontractors that should be involved in preparing for winter storms (both in the planning phases and immediately before an event)?
- Who will review the project timelines and identify potential exposures for the winter season?
- Who will draft the pre-event plan for each exposure? (See “Create Pre-Event Exposure Plan” section.)

Develop communication and notifications plan

- Who will lead communication and notification efforts?
- How will you communicate this planning and prevention process to subcontractors and require their participation?
- Who will monitor events and coordinate execution of the plan when a storm has been identified (assign preparation work activities and inspect for completion)?
- How will you communicate to all stakeholders before, during, and after a storm (to let them know about job site closures, etc.)?

Materials and equipment

- Make sure you have the necessary materials/equipment and that the items are in good condition. (See materials checklist)
- Where is equipment stored?

Using your list of construction activities and possible exposures, create initial response plans covering all exposures. Be sure to flag any reminders and/or open questions (i.e., have the pipes been fully insulated yet?) so you can supply this information closer to the event and finalize the plan.

In your planning, consider the following exposures and questions.

Create pre-event exposure plans

Exposure: Snow build-up and ice dams on the roof, threatening collapse

Questions to consider:

- What level of snowfall would be too much for the roof to bear?
- Do you have a plan for snow removal?
  - Do you have a way to access the roof in heavy snow?
  - Is a fall protection system installed for workers removing snow?
  - Do you have snow removal equipment ready (shovels, etc.) and a plan for moving these to the site, if necessary? Will there be other equipment on site that can be used for snow removal?
  - Will you have a third-party contractor remove the snow? Do you have their information and know their policies/availability should a storm occur? What is your plan to notify the third party when you need snow removed?
  - Where will you stockpile the removed snow?
- Do you need temporary shoring?
  - If the structural support system is not complete, could temporary supports prevent roof collapse?
  - Have you consulted with the structural engineer about this possibility for the winter season?

Exposure: Water damage from frozen pipes

Questions to consider:

- What is the planned status of your water distribution systems, including fire sprinklers, during the winter storm months?
  - Will any of the systems have water in them yet?
  - Will the pipes be insulated? Does it make sense to accelerate the insulation process?
  - Can you drain the pipes, if necessary, before a storm?
- Are you considering using temporary heating systems during a storm?
  - What heat sources are available?
  - Will the building be enclosed enough to contain the heat? If not, will you enclose the building with plastic sheeting or other temporary enclosures?
  - Are you planning to use direct-fired heaters, electric heat, or indirect heat?
  - Does your planned heating source require electricity? If so, make a contingency plan in case of power outages.
  - If using direct-fired heaters, are they fired with natural gas, propane, or kerosene?
  - If using indirect heat, what fuel does the boiler use?
- What is the contingency plan if fuel delivery is suspended due to the storm? How much fuel will be required each day? How much fuel will you need on-site to maintain operation? Where can the fuel be stored safely and be accessible for use?
- Who will monitor the temporary heat and inspect the project for damage during operation, and how often will this monitoring occur? If using direct-fire heaters, remember that air quality and humidity levels should be monitored as well.

Exposure: Open building, exposed to precipitation and wind

Questions to consider:

- What is the potential damage to the structure in its open state?
- Do you have material or equipment inside the building that could be damaged? If so, make sure to remove or protect the material or equipment.
- Do you need to install plastic sheeting to protect the building?

Before a storm

72 HOURS IN ADVANCE

When a winter storm is forecast to strike the site area within the next 72 hours, review and update response plans with current information, assign roles/tasks, and begin preparing the site.

- **Review and update pre-season plans.**
  - Update plans to reflect the current site status, work activities, and the weather forecast.
  - Answer any remaining questions or flagged items in the plan. (Revisit questions to consider in Pre-Event Exposure Plans section to address all items.)
  - Assign final tasks and roles to personnel.
- **Initiate notifications.**
- **Begin preparing the site**
  - Remove and secure loose equipment, construction materials, and debris.
  - Call trash disposal vendor to empty dumpsters.
  - Trim and dispose of any landscaping that could become wind-blown debris.
  - Make sure equipment (snow shovels, plastic sheeting, etc.) is accessible and available for use before, during, or after the event.
  - Following the updated pre-event plan, install plastic sheeting, insulation, fall protection system, etc., and make arrangements for safeguarding pipes and removing snow.

48 HOURS IN ADVANCE

- Remove any remaining equipment or supplies that may need to be stored in safer conditions.
- Install remaining plastic sheeting and insulation as necessary.
- Inspect temporary enclosures, make repairs as needed, and inspect anchors to make sure panels and tarps are securely attached to the structure.
- All trades should inspect their stored materials in the building to make sure stacks are stored on dunnage (off the floor), securely tied down, and appropriately covered.
- Communicate with personnel and subcontractors as weather details are updated.
- Procure and store fuel for temporary heaters.
- Police the structure and remove as much trash, debris, and loose material as possible.

24 HOURS IN ADVANCE

- Lower crane booms to a safe position. Ensure tower cranes are released so they can “weathervane” in the wind. Lower hoist cabs to the ground and secure.
- Consider draining any water-filled piping to avoid freezing.
- Have all trades secure tools and materials.
- Remove as much trash, debris, and loose material from the project as possible. Cover dumpsters to prevent wind-blown debris.
- Update notification lists and issue a first notice with instructions for the next 24 hours (including information about whether the site will be open during the storm).
- Confirm who is responsible for checking on the project during the storm (re-fueling heaters, inspecting for damage, etc.)

DURING THE STORM EVENT

As conditions allow, monitor the project to check snowfall levels or storm damage such as torn or unsecured plastic heating. Address as necessary.

POST STORM EVENT

- Inspect all areas of site for damage.
- Photograph any damage.
- Inform insurance carrier.
- Take corrective actions.

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Materials Checklist

Item	Inspected for Season	Storage Location
Batteries		
Extension cords		
Fall protection system		
Fire extinguishers		
Flashlights		
Flood lights		
Generators		
Generator fuel		
Heaters		
Heating fuel		
Ladders		
Plastic bags		
Plastic sheeting		
Ropes		
Salt/kitty litter for ice/snow		
Snow shovels		
Tape		
Tarps		
Tie down kits		
Utility knives