

Hurricane Preparedness & Response

You may have property and/or operations that could be impacted to some degree during the hurricane season. Hurricanes may pose a significant threat to your operations, which include but are not limited to heavy rain, high winds, and potential flooding.

It is important that property owners and operators keep a serious eye on the storm, begin preparing early, and not become complacent about the situation.

To track hurricanes online, click on the following link for the National Hurricane Center - NOAA:

<http://www.nhc.noaa.gov/>

Some steps to take, but which should not necessarily be limited to the following, include:

1. Make sure someone at your site is keeping tabs on the forecasted path and intensity of this weather event so that your plans and preparations can be implemented or changed, if needed. Have a good plan for keeping communications in place, keeping in mind that the normal communications systems can be impacted. Identify and communicate with all your locations that could be impacted so that they can be well prepared.
2. Inspect your property for conditions that could make it more susceptible to the impacts of the coming storm such as high winds, heavy rainfalls, flooding, and wind-blown debris. Make permanent repairs if possible, temporary repairs if necessary. A partial list of items to check includes:
 - Inspecting roofs for damage which could make them more susceptible to leaks, ponding of water, and wind damage. Roof drains should be cleared of any debris, as should the general roof area where debris could be washed into the roof drainage system. Flashings, copings, and membranes that are damaged or loosened should be properly secured to help prevent wind damage, and subsequent water damage
 - Inspecting building envelope openings such as doors and windows, and siding materials for damage which could make them more susceptible to leaks and wind damage. Make permanent repairs if possible or take temporary measures to secure these
 - If your property is in a flood prone area and is equipped with flood gates or barriers inspecting these to insure they are in proper working order. Make sure that responsibilities are assigned for personnel who are to track weather forecasts and to deploy flood proofing measures or plans and that they are well informed of their responsibilities. If you have supplies and equipment to deal with flood problems, check these to ensure they are in good condition for use. If you suspect you will need these type items, get them on hand now. These items may include flashlights and chargers, emergency generators, sump pumps, sand bags, food and provisions for on-site staff, just to mention a few
 - On the exterior of the facility, checking storm drains and clear debris that could block them, removing or securing loose items that could be blown about by wind, and moving portable equipment to areas where flooding or wind damage potentials are as low as possible. Vehicles are often overlooked until flood waters make their

movement impossible. Move these type items now – one less thing when the wind starts to blow. Don't overlook large trees and landscaping features around the facilities. If there are trees in poor condition that you have been worried about, now might be the time to have them removed, trimmed, or otherwise stabilized

- If building or site utilities such as fuel gas systems, electrical systems, and boilers are at risk and need to be shut down, make sure that there are procedures in place for safe shutdowns and securing, and safe restoration of service after the event. Make sure that those responsible are properly trained and equipped for their situations. If supplies or equipment is identified as needed for restoration, have plans in place or have these items on hand to speed recovery efforts
3. Have a plan in place to deal with the aftermath of this event. Supplies for cleaning up, tarps, fuel for vehicles and equipment in safe storage, and lists of emergency contacts are all items that you can plan for and supply now, before the event. Make sure employees know their responsibilities and how emergencies will be communicated to them. If you have time-sensitive requirements that could be impacted by the results of the possible event, discuss these ahead of time, to formulate a plan on how to deal with this in a good faith manner.
 4. If you have contingency plans in place to deal with the potential loss of critical functions or operations, brush them off and take a look to see if the plans are current, and make sure that all personnel are aware of the plans and what their parts are. Make sure the plan will still work. If you have critical functions or operations that could be affected, and have not thought about contingency planning, now might be a good time to at least get the basics in place.
 5. If you have construction activities underway, make sure the job site is secure before the storm hits your area. Make sure all contractors have plans in place, and that they execute them, to secure their equipment, materials, and supplies. Cranes, scaffolding, and hoisting equipment should be secured against the potential winds, unsecured equipment on roofs should be properly secured in place or removed, and the same for any materials stored on the site. Any activities that could compromise site or roof drainage should be remedied before the storm hits;
 6. If you have vehicles, it is recommended that you:
 - Secure all vehicles away from physical structures that could be damaged during a hurricane/storm.
 - Secure all vehicles on higher ground.
 - Relocate and secure vehicles away from coastal areas and sources of local flooding.
 - Curtail driving vehicles during storms and monitor routes to avoid driving in areas threatened by floods or high water.
 - Avoid storing valuable items and inventory in vehicles that could be damaged.
 7. Visit the PMA Companies Risk Control Website – PMA WebSource. You can access this at www.pmacompanies.com, and use the PMA WebSource link. If you have not registered for this previously, you will need to have your seven (7) digit account number (6280473) on hand to go through the registration process. If you need assistance in registering, you can contact PMA Risk Control at RiskControl@pmagroup.com. Within PMA WebSource, you can access the materials from the Insurance Institute for Business and Home Safety (IBHS). Click on the Property link on the PMA WebSource home page for the IBHS materials. There are many good tips and tools available from IBHS for Hurricane and other emergency type event preparations. This material is available to you as a PMA Client, free of charge;
 8. The following is a Risk Control Technical Bulletin – **Windstorm Preparedness Plan**, which includes additional information and resources.

Windstorm Preparedness Plan Technical Bulletin

When a windstorm crisis or catastrophe arises, it is too late to plan and implement an adequate response in the wake of the confusion, emotional distraction, and muddled coordination. The physical integrity of the property and the continuity of the operations may very well depend upon the effectiveness of a sound preplanned windstorm crisis management plan.

The two primary goals of a Windstorm Preparedness Plan are to protect lives, property, and other assets of the organization, and to ensure a prompt and efficient transition from emergency operations back to normalcy. Failure to implement proper loss control practices can produce a direct, tangible loss that must be paid for with dollars that would otherwise be used for operations and investment.

When formulating a Windstorm Preparedness Plan for your facility, it is extremely important to understand the effects that the particular crisis or catastrophe could have on the property and continued operations. For instance, a hurricane can be foreseen by monitoring weather forecasts and allow time for efficient implementation of precautionary actions. A less foreseeable crisis that gives less warning such as a tornado requires more specialized planning involving the implementation of time related loss reduction controls and procedures designed to reduce loss severity. Properly planning for these crises by implementing pre-loss and post-loss objectives will help you reduce potential losses arising from natural catastrophes.

The Windstorm Preparedness Plan Checklist addresses two areas: pre-emergency actions (including various loss prevention and loss reduction measures), and post-emergency recovery actions.

The five basic steps associated with developing a formalized Windstorm Preparedness Plan include the following:

1. Obtain management or board of directors' support and prepare a written policy and program;
2. Establish responsibilities and authority to designated personnel;
3. Organize the plan to handle emergencies and inform employees;
4. Educate and train personnel;
5. Audit and update the plan periodically.

These basic steps are outlined and described in further detail within the attached checklist.

NOTE: There are several sources for additional information regarding specific wind resistant construction techniques and building materials including The Institute for Building and Home Safety (www.ibhs.org), The National Association of Home Builders (www.nahb.org), FEMA (www.fema.gov), NOAA (www.noaa.gov), and your local building inspection department.

Please contact your PMA Risk Control Consultant if you need assistance in setting up a Windstorm Preparedness Plan. Although the threat of these catastrophe hazards sometimes seems remote, it is always better to be prepared for emergencies before they happen. Don't wait to deal with a crisis. BE PREPARED.

If you have any questions or would like additional information, please contact your risk management consultant or PMA Risk Control Consultant.

IMPORTANT NOTICE -The information and suggestions presented by PMA Companies in this risk control technical bulletin are for your consideration in your loss prevention efforts. They are not intended to be complete or definitive in identifying all hazards associated with your business, preventing workplace accidents, or complying with any safety related or other laws or regulations. You are encouraged to alter the information and suggestions to fit the specific hazards of your business and to have your legal counsel review all of your plans and company policies.

Windstorm Preparedness Checklist

Facility Susceptibility Review

- Evaluate all structures (including buildings, storage areas, utility buildings, antennas, etc.) as to their condition and susceptibility to damage from high winds or from collapse due to ponding water or snow load. Consider modifications or additional reinforcements to any structure that would be highly susceptible to collapse or wind damage.
- Regularly inspect the grounds to assess the condition of trees and shrubs. Dead, dying, or diseased trees and dead wood (limbs, branches, or sections of tree) must be removed since these can cause significant damage or personal injury during high winds. Additionally, trees and shrubs should be trimmed so that they will not rub against the building. For large trees and expansive properties, it is strongly suggested that a tree maintenance program be implemented utilizing a certified tree expert and arborist.
- Survey the property to identify equipment, inventory, stock, furniture, decorations, etc., that are kept outside that would be susceptible to damage or being uplifted during high winds. Such items should be listed and actions established for pre-storm precautions.

Pre-Storm Precautions

- Establish a Storm Emergency Team and an Action Plan. The Action Plan should include team member responsibilities before and during a storm, and clean up, salvage and restorative operations after a storm. The plan should also have a communication plan, provisions for emergency evacuation and/or shelter in place strategies and a list of resources that could be utilized in an emergency.
- Exercise and update plan on an annual basis. This would include table top or full drills conducted by the storm emergency team and a review of all resources listed in the plan.
- Develop a list of emergency phone numbers of contractors and appoint a designated person to monitor weather reports daily.
- Train employees on the plan.
- Maintain a storm kit for the emergency team. Kit may include food provisions, water, flashlights, battery powered radio, rain gear, list of emergency contacts etc.

Buildings

- Check all building openings to make sure that windows and doors are weather-tight.
- Check windows for broken panes. Secure all loose window framing and shutters.
- Provide storm shutters or board up all windows and doors at first sign of advancing storm.
- Before and during the storm, close all windows, doors, or other building openings and keep these openings closed and covered. An open door or window can allow wind to blow into the building, possibly increasing damage to the roof.
- Inspect roof coverings. All loose coverings should be nailed down or covered with sandbags (without blocking roof drains).
- Inspect ballasted (stone) roof coverings. Ensure that roof ballasts are uniformly dispersed. If scoured, the ballast should be redistributed or additional material provided.
- Inspect roof perimeter flashing. Nail down loose sections. Replace rusted nails or anchor bolts as needed.
- Brace unsupported structural members with struts, cables, or additional diagonal bracing, and laterally support all non-reinforced block walls on both sides at construction sites.
- Secure or remove work in-progress, temporary storage, temporary structures or trailers, and scaffolding.

Stock, Inventory, Outside Furniture/Amenities, Storage or Equipment

- Review inside storage arrangements and relocate all susceptible materials to safe areas away from windows, doors and other openings. Place stock that is susceptible to water damage on skids or on other support structures so that it is off the floor.

- ❑ Remove outside furniture and building amenities (such as awnings, lamps, etc.) that would be susceptible to high winds relocating them to inside areas. Anchor yard storage or furniture that cannot be moved.
- ❑ Secure, remove, or otherwise protect fine arts and valuables inside, especially those items close to window openings.
- ❑ Secure hoisting or loading equipment such as cranes and bulk cargo loaders.
- ❑ Anchor, brace, or secure combustible/flammable liquid tanks.
- ❑ Relocate outside combustible/flammable/chemicals liquid drums or portable containers inside or to a properly sheltered area.
- ❑ Inspect storm drains to ensure they are open and flowing. Clear and maintain the area of debris that may clog the drain during the storm.

Utilities/Electronic Data Processing Equipment

- ❑ Institute an emergency repair program with utility contractors to restore the loss of electricity, gas, telephone services, water supply, or other necessary utility service.
- ❑ Anticipate worst-case scenarios and evaluate the need for systems providing emergency power.
- ❑ Ensure data processing software, files, records, etc., are properly backed up and transported offsite to a “safe” location.
- ❑ Shut off all gas supplies. Shut off all flammable and combustible liquid and gas lines at their source to prevent the discharge of such materials from piping broken by windblown debris. Support or protect exposed piping, if possible.
- ❑ Shut off electrical equipment in areas that might be flooded. If the entire facility is exposed, shut off building power at the main building disconnects.
- ❑ At locations where power loss is likely or expected, shut down (following normal shut down procedures) all electrical equipment where unexpected power loss will cause significant loss to products or equipment. For example, if the equipment requires electricity to keep materials from solidifying (specifically molten metals). Otherwise, ensure that there is a reliable alternative power supply for this highly damageable equipment or process.
- ❑ Establish a reserve fuel supply equal to the normal supply or provide a safe alternate fuel source for sufficient duration.
- ❑ Fill the fuel tanks for emergency generators or other back up power sources.

Fire Protection Equipment/Domestic Water Lines/Plumbing

- ❑ Keep fire protection equipment operational. Install barriers around sprinkler risers and control valves to protect them from floating debris from possible floodwater.
- ❑ Inspect and repair all fire protection equipment. Activate all systems as soon as possible.

The following precautions are needed in the event of flooding caused by the windstorm:

- ❑ Lubricate sprinkler control valves and locks to reduce future rusting and ensure ease of operation.
- ❑ Label location of outside sprinkler control valves and hydrants for easy visibility. Routinely inspect valves.
- ❑ Protect fire pump equipment or boilers in a flood prone area with sandbags or other diking material.
- ❑ Review location and condition of hand-operated domestic valves that prevent the backflow through plumbing fixtures or drain sewers. Install valving if necessary.
- ❑ Clear floor and yard drains. Monitor these drains during the storm to make sure they remain clear.
- ❑ If water is expected to enter the facility despite all physical barriers, apply a rust preventative compound to pumps, blowers, and compressors that can't be relocated.
- ❑ Develop an emergency contingency plan in case the surrounding area is impassable.
- ❑ Contact manufacturers and contractors of critical machinery to establish a contract for priority support with backups.

Post-Storm Actions

- Immediately initiate salvage activities including returning fire protection systems to service looking for downed live power lines, leaking flammable liquid or gas transfer lines, and structures in danger of collapse. Separate damaged materials from undamaged materials; cover equipment and stock that is now exposed to weather; utilize the “Hot Work” Permit System when necessary, eliminate ignition sources as much as possible, and institute a fire watch until normal operation are resumed.
 - Develop plans to secure facility against looters and trespassers.
 - Provide updated communication to employees.
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For additional information, please contact:

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