



# Guide for Hurricane Preparation and Recovery

With an increasing number of significant hurricanes occurring each year, this guide provides suggestions that may help you minimize your risk of loss.

## What Is a Hurricane?

The National Weather Service (NWS) of the National Oceanic and Atmospheric Administration (NOAA) defines a hurricane as a storm with pronounced rotary circulation and sustained winds exceeding 74 mph. (If winds of this nature appear in the Indian Ocean, they are called cyclones. In the China Sea, these winds are called typhoons.) Hurricanes are normally accompanied by torrential rains and flooding.

The NWS announces a hurricane watch and warning. A hurricane watch means that hurricane conditions are possible but not imminent. A hurricane warning means that hurricane conditions are expected within 24 to 36 hours.

When the NWS issues a hurricane warning, an emergency condition should be declared. Obtain the instructions of local civil defense or emergency preparedness officials as well as any instructions of the NWS.

You can obtain additional information from FEMA (Federal Emergency Management Agency) at its Web page: <http://www.fema.gov/>—or from the NOAA Web page: <http://www.noaa.org/>.

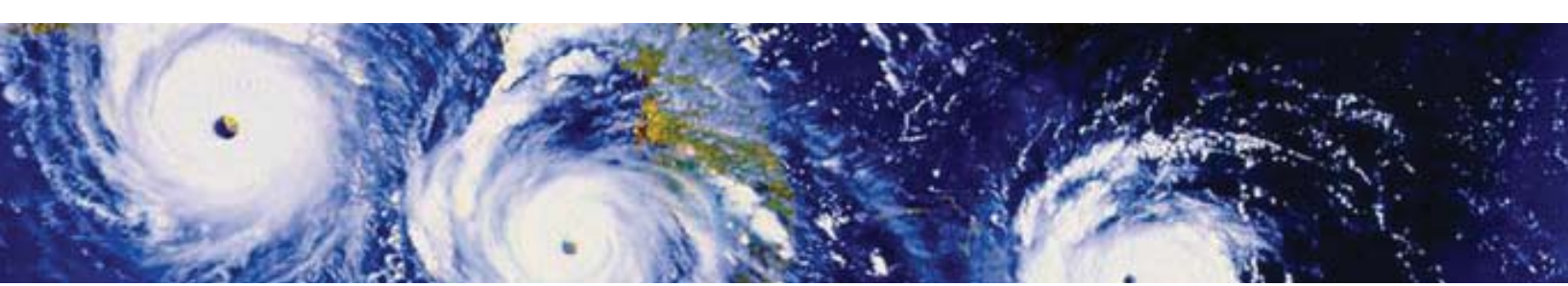
## Important Steps to Follow

Stress to your employees that their safety is the first priority. Identify those persons who are crucial to the site—the people needed for monitoring damage and utilities, and those needed to restart and maintain critical operations after the hurricane—as well as those who must leave. Arrange a meeting to determine which operations are critical and which resources are available.

Take the following precautions as soon as possible, since it may take time to obtain necessary materials to protect the building and grounds.

## Impending Hurricane—48 to 36 Hours Prior to Landfall

- Map the hurricane's progress and intensity, stay up-to-date on the storm's path, and monitor the NWS broadcasts.
- Consider stopping operations that depend on outside power sources.
- Inspect and repair roof edging strips, gutters, flashing, covering, and drains.
- Strap or anchor to the roof structure (e.g., the joists) all roof-mounted equipment such as HVAC units and exhaust vents.
- Ensure that the following supplies for the emergency response team have been assembled:
  - batteries (C, D, 9V, 6V);
  - fueled lanterns (check mantles, fuel), portable lights;
  - portable radios, cellular phones;
  - bottled water;
  - nonperishable food;
  - duct tape;
  - plastic sheets (heavy gauge), roofing paper;
  - sandbags;
  - rope, tarpaulins, power, and manual tools;
  - plywood, 2x4 studs, nails; and
  - chain saws, shovels, and axes.
- Start and run for 30 minutes or more all emergency generators, fire pumps, and sump pumps. Check their fuel supplies. Check and service boilers.
- Update employee home phone lists.
- Update phone lists of roofing, electrical, and restoration contractors.
- Protect and relocate vital records as necessary. Instruct employees to remove all loose files from floors and desks and to place in cabinets.
- Back up all electronic data and store in water- and wind-protected site.
- Install hurricane shutters or place plywood over windows and doors. Do not block emergency exits.



## Impending Hurricane—48 to 36 Hours Prior to Landfall *(Continued)*

- Anchor, secure, dispose of, or relocate anything in the yard that could potentially blow about and cause personnel injury or facility damage. Specifically:
  - Dispose of or relocate loose yard debris.
  - Relocate nonessential yard equipment.
  - Secure and relocate yard storage of flammable liquid drums. Do not move them into main buildings.
  - Anchor portable buildings (sheds, trailers, storage racks, etc.).
  - Properly rig outdoor signs with guy wires secured to anchorages.
- Inspect all fire-protection equipment such as sprinkler-control valves and fire pumps.
- Inspect all medical first-aid supplies.

## Imminent Hurricane—36 Hours Prior to Landfall

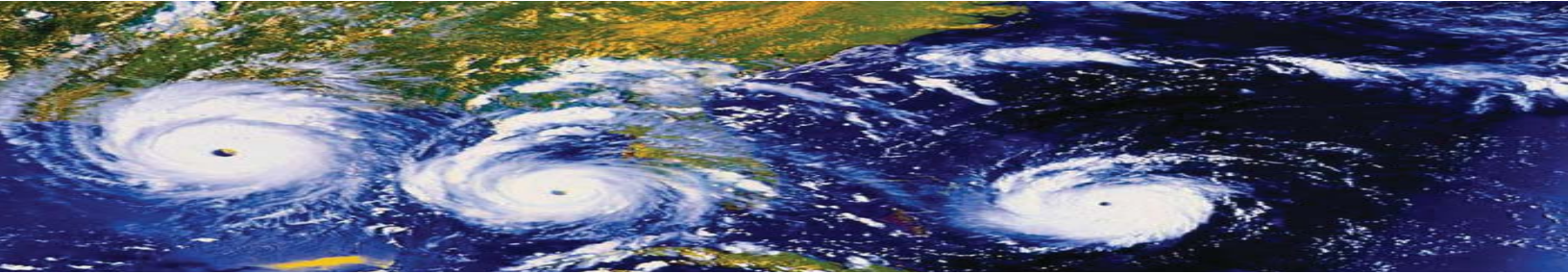
- Ensure that those employees who have volunteered to stay on site have current telephone contact lists, supplies, and equipment (potable water, nonperishable food, first-aid supplies, flashlights, walkie-talkies, or cellular telephones).
- Have cash on hand for post-hurricane needs (e.g., buying food and supplies or paying employees and contractors).
- Anchor or fill above ground tanks with product or water.
- Fill the fuel tanks of generators, fire pumps, and all company-owned vehicles.
- Clean out drains, catch basins, and roof drains.
- Cover computer, machinery, and stock with tarpaulins and waterproof covers.
- Get as many goods as possible off the floor, or ship them out of the facility.
- Isolate, neutralize, or remove any chemicals that can react violently with each other.
- Contact the gas utility. Determine if it is advisable to turn off gas valves.
- Inform employees how to obtain information on site closure.
- Notify vendors, delivery companies, truckers, and site visitors of site closure.
- Revise telephone-answering system to inform callers of site closure.
- Identify alternate customer facilities, and incorporate message in telephone-answering system.
- Tour entire property. Check yards, roofs, roof-mounted equipment, signs, doors, windows and doors covers, electrical systems, and the interiors.
- Prepare to deactivate all noncritical, nonessential, and sensitive electrical equipment.

## During the Hurricane

- Emergency response personnel should stay at the facility only if it is safe to do so.
- Remain indoors. Personnel should have a refuge available that is safe from wind and flood. Outdoors, wind-borne objects can be dangerous.
- Constantly monitor any boilers that must operate.
- If power fails, turn off electrical switches, and if possible, close main gas valves to reduce risk when service is restored.
- If power fails, check emergency generators that support critical operations.

## After the Hurricane

- Report to management any injuries, the state of the buildings or site, and the condition of utilities and community services (e.g., roads, sewers, water, etc.).
- Secure the site. Lock doors and fences.
- Inspect roofs (entire area and perimeter), roof-mounted equipment, walls, windows (outside and inside), doors, and entire yard.
- Clean roof drains and remove debris from roof to prevent drainage problems.
- Eliminate safety hazards such as leaking gas or flammable liquids, hazardous materials releases, or live wires.
- Visually check damaged bus bars, conductors, and insulators before re-energizing main electrical distribution systems. When in doubt, contact an electrician. Do not touch or move exposed bare wires.
- Check foundations and piping.
- Repair damage to automatic fire-sprinkler systems and restore protection as soon as possible. Use impairment monitoring systems whenever automatic fire sprinklers and water supplies are impaired.
- Call key personnel and restoration contractors to start repairs. Make sure safety systems are fully operational before work is allowed to begin. Control smoking. Use cutting and welding permits. Make contractors responsible for fire-safety conditions.
- Recall key employees necessary for restarting operation.
- Begin salvage as soon as possible to prevent further damage:
  - Cover broken windows and torn roof coverings immediately.
  - Separate damaged goods, but don't accumulate combustibles inside buildings.
- Contact your risk manager in case of loss.



## Meeting Your Preparation and Recovery Needs

For more help with hurricane planning and response issues, contact your Marsh representative and visit <http://www.marshriskconsulting.com>.

You may also wish to contact one of Marsh's catastrophe response (CAT) coordinators:

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