

Introduction

The pre-emergency plan is usually thought of as a preplan for fires since fire is one of the emergencies most frequently encountered. However, dealing with fire emergencies is only one of the situations a pre-emergency plan should include. The pre-emergency plan should spell out a course of action that directs personnel in acting immediately and correctly during all types of emergencies such as fire, explosion, bomb threats, tornadoes, hurricanes, etc. The local fire department should be invited to tour your facility and should offer assistance in developing your pre-emergency plan.

The main objective of any pre-emergency plan should be to provide a safe environment for employees during an emergency.

The pre-emergency plan should include a diagram of the facility showing construction, occupancy, utility shut-offs, hazardous materials, flammable liquids storage and use areas, and fire protection equipment. This diagram should be provided to the local fire department and CNA. Any time it is necessary to evacuate the facility due to an emergency the emergency team is responsible to make sure everyone is out of the building. Therefore, there should be a meeting place for groups and a headcount should be taken.

The pre-emergency plan outlined should include an emergency team with detailed duties during an emergency. The size of emergency team will vary with the size and complexity of the company it protects. The emergency team must be custom fitted to a company's needs so that enough people are assigned to handle all emergency functions adequately. While team members should be specifically trained to handle any emergency and minimize injury to employees and damage to property, all employees should have basic and general knowledge of the entire pre-emergency plan and what is expected of them.

The basic emergency team will include an emergency coordinator, floor captain/group leader, exit guide, searcher, notifier, and salvage squad. In certain cases, some of the duties may not be applicable or there may not be enough personnel for a separate individual to fill all of the above mentioned assignments. Therefore, the fire squad may double as the salvage squad or a person may have more than one responsibility. If the facility operates more than one shift, emergency team members should be present on every shift. Also, alternates should be trained in case regular emergency team members are on vacation or out sick.

Hurricane

A hurricane is defined as a storm with pronounced rotary circulation, winds exceeding 74 mph, and are normally accompanied by torrential rains and flooding. The majority of hurricanes occur from mid-June to mid-November. In planning for hurricanes, a detailed checklist should be developed indicating the order in which processes are to be shut down and the facility secured.

The length of time needed to accomplish these tasks should be determined in advance so that appropriate actions can be initiated at the proper time.

The emergency coordinator should monitor the storm advisories issued by the National Weather Service and decide if conditions warrant a shut down. Precautions should be taken and appropriate actions implemented as soon as a hurricane warning has been announced.

When the worst of the storm has passed:

1. An immediate damage assessment should be made.
2. Special attention should be paid to possible fire, flooding, or impairments to fire protection equipment.
3. Openings in walls or roofs should be temporarily repaired or the contents of the building covered with tarpaulins to minimize rain damage.
4. Salvage operations should be initiated.



5. Roof drains should be cleared of debris to prevent water from ponding on the roofs which could lead to roof collapse.
6. Extreme care should be exercised around damaged power lines. The utility company should be advised of necessary repairs.
7. Emergency crews and salvage teams should be cautioned not to smoke or use heat producing devices if there is a possibility that flammable liquids or gases are present.

Flooding

Flooding is commonly defined as the rise and overflow of a body of water that covers land not usually under water.

Detailed information, about the susceptibility of a site flooding in the United States, has been compiled by the U.S. Department of Housing and Urban Development. The Army Corps of Engineers provides information and assistance in flood related matters. They maintain a file of flood plain information, surveys and other reports. During flood emergencies, the Corps can assist states and communities by providing materials, equipment, and personnel for flood fighting and construction of temporary levees or other protective structures.

During floods, the greatest effort should be made to keep water out, rather than planning to remove it once it fills the building. In planning for floods, a detailed list should be developed indicating the order in which processes are to be shut down and the facility secured. Flood shields will keep water out. These are permanent parts of a structure, but need to be slid into place or bolted on before the flood waters rise. If your facility doesn't have flood shields, sandbags or sheet metal coverings can be used to seal openings but these supplies must be on hand. It is important to keep boiler houses and pump rooms as dry as possible.

Stored goods might have to be raised off the floor or moved to higher floors, especially in basement areas. Storage tanks either within the building or nearby should be filled if they are not anchored securely enough to keep from floating. Barriers can be placed around sprinkler risers and gravity tank risers to keep them from being damaged by floating debris. The emergency team should turn off all open flames, shut off the main gas valve and close discharge valves on all tanks that contain flammable liquids or dangerous chemicals. Those chemicals that produce heat or noxious gases when reacted with water should be raised or moved to upper stories.

When the flood waters recede, the emergency team should supervise the following activities:

1. An immediate damage assessment should be made.
2. Special attention should be paid to possible fire or impairment of fire protection equipment.
3. Salvage operations should be initiated.
4. Care should be exercised around damaged or submerged power lines. The utility company should be advised of necessary repairs.
5. Drains should be cleared of debris.
6. Emergency crews and salvage teams should be cautioned not to smoke or use heat-producing devices if there is a possibility that flammable liquids or gases are present.

Summary

A pre-emergency plan must be tailored for each individual facility. The attached forms (Hurricane Checklist, Hurricane Tracking Data with Map, and Flood Checklist) should be used, along with the preceding information as a reference guide in preparing a sound and effective pre-emergency plan.





Suggested Flood Checklist

When preparing for a flood, a detailed checklist should be developed indicating the order in which processes are to be shut down and the facility secured. The length of time needed (expressed in hours or days) to accomplish these tasks should be determined in advance so that appropriate actions can be initiated at the proper time. Then, as each task is completed during either a flood watch or flood warning, check it off and move on to the next one.

Action		Time Needed	Done
1.	Shut down processes safely, and drain open tanks of flammable or combustible liquids.		
2.	Brace unsupported structural members at construction sites.		
3.	Update important back-up records, and move them to a location not vulnerable to flooding.		
4.	Anchor yard items that can be moved by flood waters, such as trailers, lumber, or loose yard storage. Move stored materials inside if practical.		
5.	Assemble the following supplies and equipment at a central, secure location:		
	<input type="checkbox"/> Portable pumps and hose	<input type="checkbox"/> Mops and squeegees	
	<input type="checkbox"/> Emergency lighting	<input type="checkbox"/> Tarpaulins	
	<input type="checkbox"/> Lumber and nails	<input type="checkbox"/> Power and manual tools	
	<input type="checkbox"/> Sandbags	<input type="checkbox"/> Shovels and axes	
6.	Ensure that the emergency crew remaining on the premises has the following:		
	<input type="checkbox"/> Non-perishable food	<input type="checkbox"/> First aid equipment	
	<input type="checkbox"/> Radio receivers	<input type="checkbox"/> Stored drinking water	
	<input type="checkbox"/> Lighting		
7.	Fill emergency generator and fire pump fuel tanks.		
8.	Inspect all fire protection equipment to be sure it is in service.		
9.	Check travel brakes on movable cranes and bridges. Anchor them in accordance with the manufacturers' out of service instructions.		
10.	Place sandbags at vulnerable openings. Divert water from critical areas such as holes in foundations, doorways, and sills.		



Action		Time Needed		Done
11.	Move important machinery, stock, and reports to higher elevations. By knowing the past flooding history of the area, reasonably safe areas can be selected.			
12.	Shut off all flammable and combustible liquid lines at their source to prevent the discharge of such liquids from piping broken by floating debris. Support exposed piping properly.			
13.	Make sure above and below ground tanks are properly anchored to prevent flotation. Fill empty tanks with water or product, and extend vent lines on active tanks above the anticipated maximum water level.			
14.	Lash down portable containers of flammable or combustible liquids.			
15.	Shut off electrical power at the main building. Disconnect when that building is in imminent danger of flooding.			
16.	Install flood doors/covers.			



Suggested Hurricane Checklist

When planning for hurricanes, a detailed checklist should be developed indicating the order in which processes are to be shut down and the facility secured. The length of time needed (expressed in hours or days) to accomplish these tasks should be determined in advance so that appropriate actions can be initiated at the proper time. Then, as each task is completed during either a hurricane watch or hurricane warning, check it off and move on to the next one.

Action		Time Needed	Done
1.	Shut down processes safely.		
2.	Inspect roof edging strips, gutters, flashing, covering, and drains.		
3.	Inspect sign and stack supports, guy wires, and anchorages.		
4.	Check for weak door and window latches or hardware or for insecure panel fastenings. Expedite repairs.		
5.	Protect vulnerable windows from flying debris.		
6.	Brace unsupported structural members at construction sites.		
7.	Protect important records from wind, debris, and rain.		
8.	Update important back-up records, and move them to a location not vulnerable to the same incident.		
9.	Fill above ground tanks to capacity with product or water to minimize wind damage.		
10.	Anchor structures in the yard that can be moved by high winds, such as trailers, lumber, or any loose yard storage. Move stored materials inside where practical.		
11.	Assemble the following supplies and equipment at a central, secure location:		
	<input type="checkbox"/> Emergency lighting	<input type="checkbox"/> Caulking compound	
	<input type="checkbox"/> Lumber and nails	<input type="checkbox"/> Tarpaulins	
	<input type="checkbox"/> Tape for windows	<input type="checkbox"/> Power and manual tools	
	<input type="checkbox"/> Sandbags	<input type="checkbox"/> Shovels and axes	
	<input type="checkbox"/> Roofing paper	<input type="checkbox"/> Chain saws	
12.	Ensure that the emergency crew remaining on the premises has the following:		
	<input type="checkbox"/> Non-perishable food	<input type="checkbox"/> Radio receivers	
	<input type="checkbox"/> First aid equipment	<input type="checkbox"/> Stored drinking water	
	<input type="checkbox"/> Lighting		



Action		Time Needed		Done
13.	Fill emergency generator and fire pump fuel tanks.			
14.	Inspect all fire protection equipment to be sure it is in service.			
15.	Take extraordinary measures to secure outdoor traveling cranes and bridges. Besides setting rail clamps, secure with wedges and cable anchors.			
16.	Clean out drains and catch basins.			
17.	Be sure to prepare the Flood Checklist as well as the Hurricane Checklist.			
Add other items unique to your facility.				



Hurricane Tracking Data With Map

Storm Name						Central			
						Maximum	Pres- sure	Forward	
Date	Time	Latitude	Longitude	Miles _____ From		Wind	Inches	Speed	Direction
	(Deg.N)	(Deg. W)				(MPH)	(HG)	(MPH)	



How To Track A Hurricane

Advisories are numbered consecutively for each storm, and describe the present and forecast position and intensity of the storm. Tropical cyclone advisories are issued at six-hour intervals—at midnight, 6 a.m., noon, and 6 p.m., Eastern Daylight Time. Bulletins provide additional information. Each message gives the name, eye position, intensity, and forecast movement of the tropical cyclone.

When you receive a tropical cyclone advisory, note the advisory number, eye position, intensity, and forecast direction of movement in the table at right. Then mark the eye position on the tracking chart. Because hurricanes change direction very quickly, you should concentrate more on where the storm will go than where it has been.

Hurricane eye positions are given by latitude (for example, 13.2 degrees North) and longitude (for example, 57.8 degrees West), to the nearest one-tenth of one degree. When the storm moves within range of the radar fence eye position may also be given as statute miles and compass direction from a specified point.

