

HURRICANE WORRIES OVER? BUSINESS OWNERS PREPAREDNESS BEGINS NOW

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We saw the surrealistic images on television and in the newspapers of the piles of rubbish in Florida where employees' homes once stood and where business owners wrestled with how to support the needs of their communities if they were fortunate enough to continue conducting business. From our distant view, businesses in Hampton Roads know that next time it could easily be the roofs on our buildings destroyed, or our trucks smashed under uprooted trees, and our employees unable to get to work because of their own disasters.

Every business owner in our region must ask the question: How prepared are we for a hurricane? Here are some typical misconceptions about hurricane preparedness and what planning should be spread out over the next ten or so months before Hurricane Season 2005.

Assumption #1: Our facility is well maintained and besides, if I had any hurricane damage, our insurance would cover it. Unfortunately, you can't make this assumption without significant research and then voicing your concerns adequately with your insurance broker so that you can receive the expert advice on how to proceed. For example, most insurance policies do not cover flooding which is generally defined as rising waters (wind blown waters, storm surge, or an overflow of any body of water above normal). These conditions are covered by Federal flood insurance, if you have it. Rain entering through wind-damaged windows, doors, or a hole in a wall or roof, resulting in standing water or puddles, is considered windstorm rather than flood damage, which should be covered under the property insurance policy. But a clogged storm drain in a parking lot, which causes the water to back up inside your building, will not be covered. Make sure you maintain these types of drainage structures free and clear of obstructions, because as we saw during the summer of 2004, intense rainfall often accompanies the remnants of hurricanes as they expend their remaining energy over the Mid-Atlantic States.

Many insurance policies don't cover upgrades to the property or building as the result of changes in building regulations as the result of the storm without the purchase of an additional policy rider to cover such changes. Many times, building code departments will increase the requirements for roof attachment, so that the replaced roofs are better able to resist storm winds in the future. However the basic insurance covers just the cost of replacement in kind and not the cost associated with the additional requirements required by the building department. Speak to your insurance advisors about obtaining additional coverage you may need

Assumption #2: We have a warranty which would cover any problem we might have with our roof. The scenarios are endless when it comes to warranty protection. After a business owner has built several buildings, some of the roofs develop leaks. The owner discovers that the warranty was written by the roofing contractor which has since gone out of business. Often times the owner's warranty from the roofing manufacturer is void because the roofing contractor never paid the roofing manufacturer in full for the warranties issued

by the manufacturer. According to the fine print in the warranty, no warranty exists unless all outstanding charges had been paid. Another owner purchases a fairly new building and receives a copy of the 20-year roof warranty. When reviewing the warranty some time after closing on the purchase of the building, it is apparent that it requires the roof to be inspected and repaired with a fee paid before the warranty can be transferred. A roof leak develops during a hurricane or even a severe thunderstorm and the manufacturer is called to effect warranty repairs on the roof only to be told that the windstorm had winds in excess of 38 mph. The business owner upon inquiring as to why that matters, is told that the warranty has a 'Gale Force Wind Exclusion' so there is no coverage for damage caused by that storm. The National Roofing Contracting Association in its Project Pinpoint found that 90% of roofing failures were the result of workmanship. Often the roofing manufacturer's warranty covers defective material and not the quality of the roofing installation. Keep in mind that warranties are written by the manufacturer to protect the manufacturer, so research and clearly understand what the warranty covers and plan accordingly.

Assumption #3: Our employees understand their role in our disaster plan and will do their part to keep us up and running. Employees may understand their role while they are being trained in the company's disaster plan on a calm sunny day before the storm. But as soon as the hurricane hits, their focus will shift to how to protect their families. If they can get out of their neighborhoods, the only place they are going is to pick up their children or to get more supplies. The interruption caused by downed trees and home destruction makes it impossible to depend on the very best of employees, even if your business was unscathed by the hurricane. One company's plan depended on key employees maintaining mission critical functions by returning to the plant where they worked to fulfill key operational requirements immediately following the storm. However, the plan failed to account for how those key employees could get to the plant since the single route to the plant regularly flooded. Recall the disruption caused by flooding from Hurricane Floyd to the city of Franklin and Newport News, VA in 1999 or Hurricane Gaston to Richmond in 2004 to see if similar flooding could cause this to happen to your business.

Assumption #4: We have a disaster plan which covers any possible damage. Yes, many plans account for evacuation of employees, roof destruction on part of a building, four feet of water, or the lack of electricity, but one of the most commonly forgotten issues is security. A major business loss during hurricanes is from theft. The police are busy with homeowners, stranded drivers and traffic control. The lack of power has disabled your security system and your battery backup will only last for 24 hours. Critical to your plan should be an analysis of all access points and having an emergency contract for physical security services in place before the hurricane season starts if you run a high value or high profile business.

Once you have gotten beyond assumptions, take the steps to be assured that you are ready for the next hurricane season. Remember, half the battle is understanding how hurricane winds impact structures and establishing a company disaster plan which minimizes your risk, identifies processes for what to do when a hurricane is coming your way, and establish a recovery plan. If your disaster recovery plan involves rebuilding, reroofing, pumping

water, drying or other activities involving people, make sure you contract with an contractor that can pull people and resources from regions outside the area affected by the hurricane. Otherwise, your plan may go unexecuted because the people who were supposed to be there are busy dealing with the impact of the storm on their own property.

It is important to understand what wind does in a hurricane. Strange as it may sound, it is easier to understand wind when you think of a stream of water. You may have noticed that the flow of water in a creek speeds up when it passes between stones. This is what happens with the flow of wind between buildings. The wind speeds up between buildings which explains that even though winds may be recorded as fifty miles per hour at Cape Henry, the winds passing between the high-rise buildings along the Virginia Beach resort strip can be hurricane force or higher.

Winds also tend to pile up at building corners, which explains why the loss of roofing or wall siding is more prevalent at those locations. Roofing at the eaves, gables and ridges are much more prone to failure because of the locally higher wind pressures in these areas of the roof. Greater methods of roof and siding attachment are required in these areas to resist these wind pressures. When it comes time to rebuild or replace the exterior wall cladding, make sure the wind pressure calculations are done by a licensed professional so that the correct attachment of the roofing or siding may be made to resist these higher wind speeds.

You should also understand the impact of positive and negative aspects of wind pressure. Looking in that same stream, you would notice eddying after the water passes the stones, when the downstream water is lower because of the negative pressure. If you have ever ridden a motorcycle, you know what the force of wind feels like. The negative pressure on the back of your jacket is what causes the jacket to bellow out from your body. The same thing happens to buildings. In a hurricane, the negative pressure on the leeward side of the building is usually equal to the positive pressure and that is why it is not a good idea to leave a window or overhead door open during a violent windstorm. The open window will pressurize the interior of the building, adding to the negative pressure acting on the leeward side of the building, which may be enough to knock the building down.

Harden your building against the affects of hurricanes, windstorms and flooding. Most damage is done with the loss of the integrity of the building envelope (walls, windows, doors and roofing) from wind pressure or damage from flying debris. Masking tape applied to windows will not help protect you from shards of glass broken by flying debris in a windstorm. The trick is to protect the glass from breakage in the first place. If you don't have laminated glass in your windows (similar to automotive glass) then invest in storm shutters or have on hand a stack of plywood that can be attached to the face of windows. Besides protecting the building envelope from flying debris, it will also continue to provide security against casual intrusion from looters after the storm.

The roof first fails at its edge. Understand that roofs blow up, not down. Edges of buildings have to be stronger than the rest of the structure to resist the higher wind pressures there. You should look for deficiencies that might need to be repaired now before the storm season as often roofing projects can take awhile to complete, especially if contractors are

required to work in a manner that keeps your business up and running during the repairs. Unfortunately, all too often businesses decide not to do the work once the repair work has been quoted, assuming that the replacement project can wait.

It didn't even take a hurricane, just a major squall line on Virginia Beach's Atlantic Ocean, to lift a six month old roof off a 40 year old two story motel and flip it completely over onto the ground. Its failure was traced to modifications to the means of attachment of the new roof deck, which was installed at the same time. Roof shingles are often lost along the edge of roofs and these areas now require more fasteners to hold them in place. This and other extra reinforcement work on roofing around the perimeter of the roof can make the difference in a roof's integrity during high winds.

If you work in a building with a low-slope roof, be sure to examine the attachment of the roof-top HVAC, (heating, ventilating, and air conditioning), equipment. Often the HVAC contractor installs it on the roof by mounting their equipment on top of 4 x 4 wood sleepers, with no anchorage to the roof structure. Or the equipment is placed on top of a steel frame or curb without any anchors to hold it in place. The winds will push the roof-top equipment around, often slicing the roof membrane and opening holes that admit large amounts of water into the building. As bad as was the reported wind damage from Hurricane Andrew in south Florida in 1992, the greatest loss of property was from water damage caused by water, which entered buildings from damaged roofs. Five weeks without power to run air-conditioning and the water soaked buildings and their contents quickly started to mold and had to be replaced.

Next, review and rework or develop your Disaster Plan. Your plan should include specifics on preparation such as safety for documents in a flood and wind proof area, processes for covering file cabinets and computers, communications processes for office closure or changes in schedules, sandbag protection for obvious areas where high water may enter the building, and removal of objects surrounding the building which may become wind borne projectiles in high winds. Preparation for recovery is just as important. Document the damage with pictures and good notes and determine the processes for removing the debris right away. Determine what your security plan will be until you can reopen your facility in case there is significant damage.

It is critical to understand that no conditions resulting from the effects of a hurricane are exactly the same. As outlined above, an understanding of buildings and materials can help you predict and prepare for these effects. Who would think that the stones from the ballasted roof on the building next door would become missiles shattering your window panes or that your own chain link fence would break free from the weight of an uprooted tree and tumble onto your company truck. However, with attention to timely repairs or upgrading and a well-defined disaster plan, businesses can be prepared for future hurricane seasons.