

## Irvine Team CEO Discusses Hurricane Preparedness



**F**or Irvine Team, hurricane preparedness is more than an action item; it is a priority. In this first-in-a-series interview, Dennis Irvine reflects on last year's hurricane season and its impact of construction costs and lays the groundwork for preparing your business for this year's storm season.

### Reflecting on 2005, will last year's hurricane season be remembered as one of the worst?

Dennis Irvine: In all, 2005 was marked by 26 named storms and nine hurricanes, six of which were intense, that reeked devastation, destruction, displacement and discord from Florida to Texas's lower Gulf Coast and up the East Coast shores as well. Hurricane Katrina was the most economically destructive storm to hit our nation and one of the worst natural disasters in U.S. history. On its coattails, Hurricane Rita caused billions of dollars of damage to Texas and already-devastated Louisiana.

### What impact did the 2005 storms have on construction costs?

Dennis Irvine: The answer to that question is ongoing. Prior to the hurricane devastation wrought on Gulf shores in fall 2005, the catalyst behind the escalation in construction costs was blamed on steel exported to China to meet demand for the country's building spree. After Hurricanes Katrina, Rita, and Wilma pounded the United States, rising construction costs were blamed on the amount of materials required for the Gulf Coast reconstruction effort. For example, wood prices from framing lumber rose 15 percent after the hurricanes, according to the National Association of Home Builders, creating a gap between supply and demand. However, the real story is that a rise in overall construction-related costs as a direct result of rebuilding has yet to materialize ten months later because the reconstruction efforts have lagged, if not dragged.

There is one common thread between these schools of thought: rising energy costs. After nine Gulf Coast refineries were knocked out of commission, according to the federal Minerals Management Service, oil prices spiked costs — as high as \$70 a barrel — which consequently then increased the cost to transport materials. These price spikes also impacted construction material costs for crude oil- and gas-based building products such as PVC pipe, roofing materials, insulation, asphalt, even paint and carpet, as well as building materials that are energy-intensive to produce — concrete, cement, drywall. The domino effect comes into full play when hefty fuel surcharges are added to the delivery price tag.

### What is the forecast for the 2006 storm season?

Dennis Irvine: We're in store for another active Atlantic basin tropical cyclone season, which runs from June 1 — November 30, with 16 named storms and nine hurricanes forecasted. Based on data released by the Department of Atmospheric Science, five of these storms will be intense hurricanes— Category 3, 4, or 5 — and there is a 47% probability of at least one of those making landfall along the Gulf Coast from the Florida Panhandle westward to Brownsville.

Concerns are particularly mounting this year, with evidence of 2005's hurricanes still dramatically apparent. A year down the road, damage assessments have not been finalized, although preliminary data indicate a catastrophic tens of billions of dollars in damage from Katrina alone, making it one of the worst national disasters in U.S. history, destroying countless businesses, and leaving hundreds of thousands homeless in Louisiana, Mississippi, and Alabama. And local news stories frequently recall the century-ago devastation of the Galveston Hurricane of 1900 — No. 1 on the hurricane fatalities list — that all but wiped Galveston off the map.

Which leads to the big unknown. Will this be the year a Category 5 storm makes landfall with winds of 155 miles per hour or greater? From a historical perspective, only three such storms have made landfall since records began: The Labor Day Hurricane that devastated the Florida Keys in 1935, Hurricane Camille that ravaged the Mississippi Gulf Coast in 1969, and Hurricane Andrew that leveled much of southern Florida's Miami-Dade County in 1992. If such a storm does come, the big question is whether the construction industry is prepared to respond in a timely and affordable fashion.

### If this forecast becomes a reality, will there be a backlash on materials availability and construction costs?

Dennis Irvine: Certainly the forecast for 17 storms has raised ongoing concern about the potential for rising construction costs, even higher energy prices and dampened materials availability.

The bottom line is predictably unpredictable: There simply is no clear-cut answer. However, research conducted by the nation's leading construction firms, financial institutions, and industry analysts does allow for education predications about the construction industry's future.

According to Ken Simonson, chief economist for Associated General Contractors of America (AGC), many construction materials are likely to be more scarce and pricey because the 2005 storms wiped out a great deal of supply. Even if demand does not pick up, the loss of substantial oil and natural gas production should affect supplies and prices for diesel fuel, asphalt, roofing materials, insulation, polyvinyl chloride (PVC) pipe, membranes, coatings, and assorted construction plastics.

### What can a business do to prepare for the storm season?

Dennis Irvine: As the saying goes, no one plans to fail, although many fail to plan. And hurricane preparedness is no exception, as damage from hurricanes can break your business if you fail to plan ahead.

An action plan is perhaps the single most important step you can take now to prepare for hurricane season. Many of these steps, which are offered as general recommendations, are proactive, while others require timely implementation during the days leading up to a hurricane's landfall. Now is the time to start preparing for the unknown, as it takes time, money, resources and coordination to pull together a solid plan.

A comprehensive preparedness plan can be broken down into several key steps:

- Step 1: Form a hurricane preparedness team
- Step 2: Develop an emergency plan
- Step 3: Keep supplies in stock
- Step 4: Communicate with employees

Having a team in place is a vital first step. If your company doesn't have a team in place, refer to the guides offered free of charge by many supermarkets, television stations, and other mass media on their web sites and at publicized locations. These guides contain an extensive amount of information — emergency numbers, supply recommendations, shelter locations—that will be beneficial before, during, and after a storm. Your local fire and police departments may also be able to provide resources, advice, or recommendations for your preparedness plan.

This hurricane preparedness team will serve as the core for your emergency planning endeavors. In selecting team members, it's important to remain mindful of the time commitment involved in serving on the team and assemble your group accordingly. As examples, a manager who travels overseas 40 percent of the time and a single parent who has a second job and also attends night school may not be the best candidates to take on more responsibility of an urgent nature.

Once the team is formed, a team head should be named and a company spokesperson to spearhead communications should be designated. Depending on the size of an organization, these positions may be filled by two people or the same person, ranging from the owner or president to a human resources officer or other person who has good verbal and written communications skills.

A preparedness plan will vary by company type, size, and geographic location. However, every company will need to decide whether records, files, computers, and other equipment needs to be secured or relocated, and special precautions will need to be taken if flooding is a concern.

Stock up on key supplies now. Companies that wait until a storm is announced may find themselves standing in unnecessarily long lines or unable to obtain needed supplies. Many of these are the same as those items found in personal emergency supply kits, including batteries, battery-operated radios, plastic containers or plastic storage boxes, garbage bags, bottled water, non-perishable food items, and first-aid kits. These items are particularly important to businesses that might require sheltering in place by some or all of their employees.

Above all, communication is key. Discussing the company's proactive planning endeavors in advance of a potential storm will help calm employee fears and dispel any concerns that it's every man for himself. Some companies hold "training"

sessions for emergency evacuations, and this additional step positions a company as a responsible employer and concerned corporate citizen. Knowing how and where to reach employees in the event of an emergency is equally important, and contingency plans must also be outlined in the event a loss of power cuts off the ability to communicate by phone, fax, or e-mail. Finally, a company should share its floor plan and preparedness plan with the fire and police departments in the event of an emergency, as truer words were never spoken than 'better safe than sorry.'

In order to talk the talk, make sure your team understands the terminology. The difference between a hurricane watch and a hurricane warning is significant. Open dialogue with employees is also vital, and employees should also be educated on terminology and know what to expect during each phase of the action plan. Employees should be trained on the dos and don'ts during each stage of hurricane preparedness and action plan execution.

### What potential damage can be expected at the various storm levels?

Dennis Irvine: The standard Saffir-Simpson hierarchy scale based on damage measures the severity of hurricanes and categorizes them by five levels, ranging from minimal to catastrophic.

#### CATEGORY ONE HURRICANE (MINIMAL)

- Winds 74-95 mph
- Storm surge generally 4 – 5 ft. above normal
- Damage
  - no real damage to building structures
  - minor pier damage
  - some damage to poorly constructed signs
- Flooding
  - some coastal roads

#### CATEGORY TWO HURRICANE (MODERATE)

- Winds 96-110 mph
- Storm surge generally 6 – 8 ft. above normal
- Damage:
  - some damage to roofing materials, doors and windows
  - considerable damage to shrubbery and trees
  - considerable damage to mobile homes, piers and poorly constructed signs
- Flooding
  - coastal and low-lying escape routes 2-4 hours before eye makes landfall

### CATEGORY THREE HURRICANE (EXTENSIVE)

- Winds 111 – 130 mph
- Storm surge generally 9 – 12 ft. above normal
- Damage:
  - some structural damage to small residences
  - some structural damage to utility buildings
  - minor curtain wall failures
  - damage to shrubbery and trees, foliage blown off trees, and large trees blown down
  - destruction of mobile homes and poorly constructed signs
- Flooding
  - low-lying escape routes cut by rising water 3 – 5 hours before eye makes landfall
  - smaller structures destroyed by coastal flooding
  - larger structures damaged by floating debris
  - inland flooding eight miles or more of terrain continuously lower than 5 feet above sea level

### CATEGORY FOUR HURRICANE (EXTREME)

- Winds 114 – 135 mph
- Storm surge generally 13 – 18 ft. above normal
- Damage:
  - more extensive curtain wall failures
  - some complete roof structure failures on small residences
  - extensive damage to doors and windows
  - shrubs, trees and all signs blown down
  - complete destruction of mobile homes
- Flooding
  - low-lying escape routes may be cut by rising water 3 – 5 hours before eye makes landfall
  - major damage to lower floors of structures near the shore
  - terrain lower than 10 feet above sea level may be flooded as far as six miles inland

### CATEGORY FIVE HURRICANE (CATASTROPHIC)

- Winds greater than 155 mph
- Storm surge generally greater than 18 feet above normal
- Damage:
  - complete roof failure on many residences and industrial buildings
  - some complete building failures
  - small utility buildings blown down or away
  - all shrubs, trees and signs blown down
  - complete destruction of mobile homes
  - severe and extensive window and door damage
- Flooding
  - low-lying escape routes may be cut by rising water 3 – 5 hours before eye makes landfall
  - major damage to lower floors of all structures located less than 15 feet above sea level and within 500 yards of the shoreline

### CLOSING THOUGHTS FROM DENNIS IRVINE...

Without question, businesses and individuals alike are keeping one eye on hurricane tracking charts with the certainty that hurricane season will indeed come and go. Only time will tell in what fashion. Until the page turns to the next chapter of a new season, the best course of action is to plan ahead to minimize potential hurricane havoc knowing that while sticks and stones can break your bones, a hurricane can destroy your business.



*Dennis Irvine has more than 25 years of design-led program and project management experience. He is president & CEO of Houston-based Irvine Team (<http://www.irvineteam.com>), the first-of-its-kind innovator with extensive experience in the commercial design + construction industry. In 2005, Irvine Team spearheaded the hurricane preparedness endeavors for and sheltered in place with the heart and vascular institute of one of Houston's largest healthcare institutions during Hurricane Rita.*

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