

Lessons From Louisiana

Preparation is critical to surviving a disaster

By Pam Blair

More than six months after a pair of hurricanes slammed into the Gulf Coast, communities and businesses are still struggling to recover.

Thousands of residents remain displaced, their homes ripped apart by high winds and rendered uninhabitable by floodwaters.

Electrical distribution systems that were snapped like toothpicks have been rebuilt in most areas, although isolated sections near New Orleans remain without power.

The damage was massive.

Hurricane Katrina was blamed for at least 1,417 deaths and caused an estimated \$300 billion in damage, making it the most expensive natural disaster in the nation's history. Less than a month later, Hurricane Rita caused another \$10 billion in damage.

"We have done hurricanes for many years," said Randy Pierce, executive director of the Association of Louisiana Electric Cooperatives. "We expect at least one a year. But we did not anticipate a lot of things with these twin storms."

Pierce visited Oregon in December, offering electric cooperative leaders in the Northwest the benefit of his hard-learned experience.

No matter the disaster or the location, the key is to consider all possibilities and be prepared, Pierce said, noting that in Louisiana, "the hurricane situation isn't *if* but *where*."

Statewide and individual co-op emergency plans were activated in late August, when Katrina barreled toward Louisiana, with sustained winds of 150 miles per hour.

More than 1 million people were rendered homeless, and 5 million were without electricity.



Above, only a partial shell remains at the Washington-St. Tammany Electric branch office in Slidell, Louisiana. Photo by Billy Gibson, Association of Louisiana Electric Cooperatives. *Opposite page*, an aerial view showing the aftermath of Hurricane Rita. Photo by Claude Ledet, Southwest Louisiana EMC.

Katrina damaged five co-op areas in Louisiana, while Rita damaged all 10 co-op service territories.

Housing the 5,000 workers from 32 states who arrived to help with power restoration was a challenge.

"Every single hotel room in Louisiana and a four-state region were filled," Pierce said.

Four tent cities were established to house relief workers, providing everything from laundry service and catering to fuel for vehicles, at a cost of \$10 million a day.

Criticisms notwithstanding, the Federal Emergency Management Agency (FEMA) was a key partner.

"Our co-ops would have been bankrupt without FEMA's financial support," Pierce said. "FEMA is incredibly helpful, but it is a bureaucracy. You must constantly communicate with them."

Lack of a working communications system was an obstacle.

"We couldn't find someone until they walked up to us in the parking

lot," Pierce said, noting cell service remained spotty in December. "None of us understood the devastation that would come by not being able to make a phone call."

While devastating hurricanes are uncommon in the Northwest, other natural disasters—such as earthquakes and tsunamis—are probable.

"A Cascadian earthquake off our coastline would be our Katrina," Yumei Wang, a geotechnical engineer with the Oregon Department of Geology and Mineral Industries, told the Oregon co-op leaders.

The Cascadia subduction zone is an 800-mile-long earthquake fault along the Pacific Coast, extending from the Brooks Peninsula on Vancouver Island to Cape Mendocino in Northern California.

It is where the Juan de Fuca plate meets the North American plate. These two pieces of the Earth's crust constantly push against each other. The process is responsible for development of the Cascade Range.



Experts cannot say when a major quake will strike the region, but “we are due for the big one,” Wang said.

Major subduction zone earthquakes have occurred from 200 to 1,000 years apart, with an average of 500 years between them. The last one was on January 26, 1700.

Alaska also is at risk to earthquake and tsunamis. The second-largest earthquake recorded in modern times, a magnitude 9.2, occurred near Valdez in 1964.

The Good Friday earthquake shook for about four minutes, as the Pacific plate slid under the North American plate. The tilted floor of the Gulf of Alaska caused tsunamis that ate up shorelines, reaching 100 feet above sea level in Shoup Bay near Valdez and 60 feet at Kodiak.

Twelve people died from the earthquake and 119 from the tsunami, which destroyed the waterfronts of coastal towns and damaged bridges, electric transmission lines and pipelines.

In Crescent City, California, more than 1,500 miles from Alaska, waves washed over five streets parallel to the beach, killing 12 people.

The coasts of British Columbia, Washington and Hawaii were damaged, and Japan’s oyster and pearl harvest was disrupted.

According to the Geophysical Institute, based at the University of Alaska Fairbanks, geologic studies suggest an earthquake like 1964 may repeat every 500 to 600 years around Prince William Sound, while magnitude 8 earthquakes strike Kodiak about once a century.

Wang said geologic parallels exist between the Cascadia subduction zone and the conditions that led to the earthquake in Sumatra, Indonesia, in December 2004.

The Sumatra quake created 100-foot tsunami waves that severely damaged low-lying coastal regions of Indonesia, Thailand, Sri Lanka and India, and killed more than 250,000.

“This could happen to us,” Wang

said. “We do not have a robust warning system on our coast.”

While a Cascadia quake would be felt strongest along the coast, inland areas from British Columbia to California would feel the shaking and likely be affected by disruption of utilities and transportation systems, Wang said.

“Earthquakes are 100 percent going to happen,” she said. “It may not be in your lifetime, but they are going to happen.”

Planning is key to survival.

During a tsunami, run inland and uphill. During an earthquake, duck, cover and hold.

Pierce warns that no amount of planning will consider all scenarios.

Louisiana officials had forgotten about security at the tent cities. They ended up bringing in New York Police Department officers who had worked the 9-11 disaster.

“You think you think of everything, and you don’t,” Pierce said. “You just do the best you can.” ■