

Mitigation best practices



FEMA

Hurricane Rita Sparks Need for Mitigation

Hospital geared up for future storms



Memorial Hermann Baptist – Orange Hospital

ORANGE, Texas – Fearing the wrath of Hurricane Rita, staff at Memorial Hermann Baptist Hospital in this southeast Texas city hurriedly evacuated patients to the hospital's affiliate in Beaumont, Texas. Their actions came just in time. The Category 3 storm rolled in with a vengeance on Sept. 24, 2005, rendering the hospital inoperable for more than two weeks.

That hard lesson prompted hospital officials to take mitigation measures for future events.

Hurricane Rita, which made landfall in Texas and Louisiana, was the fourth most intense

Atlantic hurricane ever recorded. It also was the most intense tropical cyclone ever observed in the Gulf of Mexico. Rita's storm surge caused extensive damage along the Louisiana and extreme southeastern Texas coasts, completely destroying some coastal communities.

"We were without power for two to three weeks," said Hal Gardenhire, facilities manager for Memorial Hermann Baptist, the primary provider of health care in Orange County. "The 100 mile-per-hour winds forced water under entry doors and through weep holes above windows.

The Federal Emergency Management Agency's (FEMA's) Hazard Mitigation Grant Program (HMGP) provides grants to States, local governments, and Indian tribes for long-term hazard mitigation projects following a major disaster declaration. The purpose of the program is to reduce the loss of life and property in future disasters by funding mitigation measures during the recovery phase of a natural disaster.

"We sustained hurricane-force winds, but our windows weren't breached and wind-driven rain didn't enter through entry doors or first floor windows. We had minimal damage."



Electrical equipment moved to second floor.

"We needed to find a way to keep our facility operating and to keep our patient census during a storm or other emergency situation," he said.

Hospital officials turned to the Federal Emergency Management Agency (FEMA) for a solution — and found one. The hospital was awarded a \$933,750 grant through FEMA's Hazard Mitigation Grant Program (HMGP) to initiate mitigation measures. HMGP assists states and local communities in implementing long-term mitigation measures following a major disaster declaration. It provides up to 75 percent of a project's total cost and can be used to fund projects to protect either public or private property.

"We moved the power units that house the automatic transfer switches for our older section of the hospital from the basement to the second floor," said Gardenhire. "We also elevated the unit that houses the automatic transfer switches for our newly installed 1250-kilowatt generator 12 inches above ground level. The generator can power the entire hospital."

Electrical roll-down shutters were placed above all the entry doors and windows on the hospital's first floor, eliminating the need for the lengthy boarding-up process, and deterring wind-borne debris or water intrusion.

Gardenhire said it used to take two men a day and a half to board up all the hospital's windows. The job required drilling holes in the frames, which later had to be patched up. For Hurricane Rita, the hospital was forced to pay a contractor to do the boarding-up work so hospital employees could concentrate on other jobs, such as sandbagging.

The hazard mitigation measures the hospital took after Rita changed all that. "Now all we have to do is push a button and in 15 minutes, with two men, we are all boarded up," Gardenhire said.

The hospital didn't install shutters on the second-floor windows, which caused rain to enter through a few windows during the most recent hurricane to hit the area. But, said Gardenhire, "Hurricane Ike was a breeze for us. Our equipment remained high and dry. We sustained hurricane-force winds, but our windows weren't breached and wind-driven rain didn't enter through entry doors or first-floor windows. Most important of all, we remained in operation."



Hal Gardenhire demonstrates operation of electric roll-down shutter on hospital entry door.

Story and Photos by Bonnie HAnchett - FEMA

Hazard Mitigation Plan Required to Receive HMGP Project Grants

Local jurisdictions are required by Federal law to have a FEMA-approved hazard mitigation plan in order to receive Pre-Disaster Mitigation (PDM) or Hazard Mitigation Grant Program (HMGP) project grant funding. However, in extraordinary circumstances, HMGP funds can be awarded to communities that agree to develop a hazard mitigation plan within 12 months of receiving the project grant. Every State has a FEMA-approved hazard mitigation plan, though many local jurisdictions still do not.

HMGP Grants Available to Communities Affected by Disasters

Total grant funding:

HMGP funding is allocated using a formula based on the amount spent on Public and Individual Assistance programs for each Presidentially-declared disaster. For States with a Standard State Mitigation Plan, the amount of assistance is 15 percent of the first \$2 billion of estimated disaster costs; 10 percent for amounts between \$2 billion and \$10 billion; and 7.5 percent for amounts between \$10 billion and \$35.333 billion.

Funding formula:

FEMA pays up to 75 percent of project costs. Either the State or the applicant(s) covers the remaining 25 percent, although it need not be in cash. In-kind services and materials can be used.

More Information:

For additional Hazard Mitigation Grant Program resources and information, visit: www.fema.gov/government/grant/hmgp