



US Army Corps
of Engineers
Mississippi Valley Division



Corps Hurricane Response

Task Force Hope Status Report

September 9, 2008

Hurricane Gustav: September 1, 2008

THE PUMPS PERFORMED, THE SYSTEM HELD

In the aftermath of Hurricane Gustav:

*An open letter from
Karen Durham-Aguilera,
Director, Task Force Hope*

First, I hope you and your families are all safe!

All team members have been fully engaged with federal, state and local partners to reduce risk for the citizens of southeast Louisiana. The results: the levee system held, the outfall canal gates worked, the pumps pumped, and the team was an inspiring example of cooperation, collaboration, training and determination.

The Corps operated the gates and the pumps at two of the three outfall canals — the first time we have done so in an actual storm event. The gates and the pumps worked as designed. (see page 4)

The pumps operated for up to 13 hours, keeping the canal water levels below the safe water elevations and allowing the Sewerage and Water Board to run its pumping stations.



The London Ave. Outfall Canal pumps and gates (shown above during a recent exercise) and the 17th Street Outfall Canal pumps and gates were put to the test by Hurricane Gustav on Sept. 1. Both structures performed as designed and allowed the Sewerage & Water Board to run its pumping stations. (USACE Photo)

The gates kept Lake Pontchartrain surge out of the canals. The Harvey Gate also operated as designed.

We made extensive use of the predictive modeling performed by the Engineering Research and Design Center (ERDC) in Vicksburg, Miss. The ERDC models predicted a surge several hours following the peak of Hurricane Gustav. This allowed us,

with the Levee Authorities, to best plan how to monitor possible trouble areas, along with being prepared to

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TOP: HESCO baskets are placed at the IHNC west wall prior to Gustav to reduce risk of flooding.

RIGHT: (Post-Gustav) HESCO baskets did their job!



Inner Harbor Navigation Canal stands up to Hurricane Gustav



ABOVE: IHNC floodwall at Lower Ninth Ward just after construction.

RIGHT: IHNC floodwall resilient to the surge of Hurricane Gustav.



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close the gates at the outfall canals.

Another Gustav test was the water coming over the Inner Harbor Navigation Canal (IHNC) West Floodwall near Claiborne Avenue. This I-wall stood through Hurricane Katrina and has since been buttressed, armored and improved. Designed to be resilient for minor overtopping, it performed as intended.

Two weeks ago we pre-positioned sand-filled HESCO baskets along an

1800-foot section of the IHNC West Floodwall as a preemptive flood fighting measure. This proved to be a wise decision. As intended, the baskets kept flood waters from putting extra pressure on the wall.

Now the team is assessing damages, and assisting FEMA by providing power, blue roofs, commodities and debris assistance. We are also monitoring other developing storm events in the Atlantic and the Gulf.

Immediately after the storm, the Corps had about 350 people in-

involved in emergency missions. Lt. Gen. Robert Van Antwerp, the Chief of Engineers; and Brig. Gen. Michael Walsh, Commander, Mississippi Valley Division; both participated in on-the-ground and aerial assessments of the system.

All repairs will be closely coordinated between the Corps, and federal, state and local leaders. Brig. Gen. Walsh summed up his visit by saying, "One of the keys to the response's success was that we

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Corps response to Hurricane Gustav

"An inspiring example of cooperation, collaboration, training and determination"

- Karen Durham-Aguilera, Director, Task Force Hope



Col. Jeffrey Bedey (left), Commander of the Corps' Hurricane Protection Office, rode out Hurricane Gustav with the St. Bernard Parish leadership team. From left after Col. Bedey, are Sheriff Jack Stephens, Parish President Craig Taffaro, and Director of Homeland Security Dave Dysart.



Col. Alvin Lee, Commander of the New Orleans District Corps of Engineers, allows a New York Times reporter to accompany him on his inspection of the Almonaster Bridge shortly after Hurricane Gustav passed.

USACE Photos

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worked as a team of teams – local, state and federal -- and we had the right people, in the right places, taking the right actions."

Brig. Gen. Walsh is right on! And the Corps family thanks you, our teammates, for your support and encouragement!

Karen Durham-Aguilera

*Karen Durham-Aguilera, P.E. SES
Director, Mississippi Division Forward /
Task Force Hope*



Corps leaders huddle during Hurricane Gustav at the Joint Field Office in Baton Rouge, La. From left are Karen Durham-Aguilera, Director of Task Force Hope; Col. Jon Christensen (standing), Commander of the St. Paul District; Col. Greg Gunter (seated), G3 for Task Force Hope; and Brig. Gen. Michael Walsh, Commander of the Mississippi Valley Division.

Gates and pumps worked as designed during Hurricane Gustav

By Lu Christie

Hurricane Gustav gave the U.S. Army Corps of Engineers the first opportunity to operate the gates and pumps at the 17th Street and London Avenue Outfall Canals in an actual storm event. The gates and the pumps worked as designed.

The pumps kept the canal water levels below the safe water elevations (SWE) and allowed the Sewerage and Water Board (SW&B) to operate its pumping stations unrestricted. The gates also successfully prevented Lake Pontchartrain surge from entering the canals.

On the evening of September 1, the Corps closed the outfall gates and ran the pumps at the 17th Street and London Avenue canals based on established safe water elevations (SWE) of 6 feet and 5 feet, respectively. The gates were closed when elevations at the mouths of the canals were one foot from reaching the SWE. Both direct-drive and hydraulic pumps at the two canals ran while the gates were closed.

Operation of the pumps and gates at the Orleans Avenue outfall canal was not necessary since canal stages never threatened to reach the

safe water elevation of 8 feet.

The Corps maintained continuous coordination with the Sewerage and Water Board (SW&B) during the storm to match the pumping flow rate between the SW&B and Corps pumping stations.



17th Street Outfall Canal pumps and gates perform during recent test.

At one point, the Corps left the London Avenue gates closed and increased their pumping of the water inside the canal in anticipation of a squall moving through Gentilly and Mid-City. This allowed the S&WB to increase their pumping into the canal for efficient removal of water from inside the City of New Orleans.

A combination of hydraulic and direct-drive pumps was used to match the flow from the S&WB pump stations and keep the water level in the canal between elevations 2 and 2.5 feet.

Both direct-drive and hydraulic pumps at 17th Street and London Avenue operated as designed.

When the lake surge subsided below safe water levels, the Corps teams opened the gates.

Embedded Corps Canal Captains at the S&WB pump stations enhanced effective communications and led to seamless coordination of discharge rates between the Corps and S&WB.

The Corps's number one priority is public safety. As part of its annual preventive maintenance program, the Corps exercises all pumps and gates monthly. During hurricane season, the Corps tests the pumps and gates at the three outfall

canals bi-weekly. When a hurricane or tropical storm approaches, the Corps conducts a readiness test of all equipment.

The pumps and gates passed the first real-life storm event test; and now the Corps and its partners are even more prepared for any future storm event.



Additional Hurricane and Storm Damage Risk Reduction System information is located at: <http://www.mvn.usace.army.mil/hps/>



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1. Have a photo ID, such as a driver's license, or proof of residency at the location.
2. Know the kind of roof you have. Structures with flat roofs, and tile roofs consisting of clay, slate or asbestos (transite) do not qualify. Mobile homes and roofs consisting of metal will be reviewed on a case-by-case basis.
3. The roof must have less than 50% structural damage to be eligible for the program.
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5. All debris must be removed before the roof can qualify.

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job to a contract roofing team.***

Operation Blue Roof is a priority mission managed by the
U.S. Army Corps of Engineers
for the Department of Homeland Security's
Federal Emergency Management Agency (FEMA).

For more information on Blue Roofs, go to this web site:
<http://www.hq.usace.army.mil/gustav/>

Post-Gustav Damage Assessment Report

By Ricky Boyett

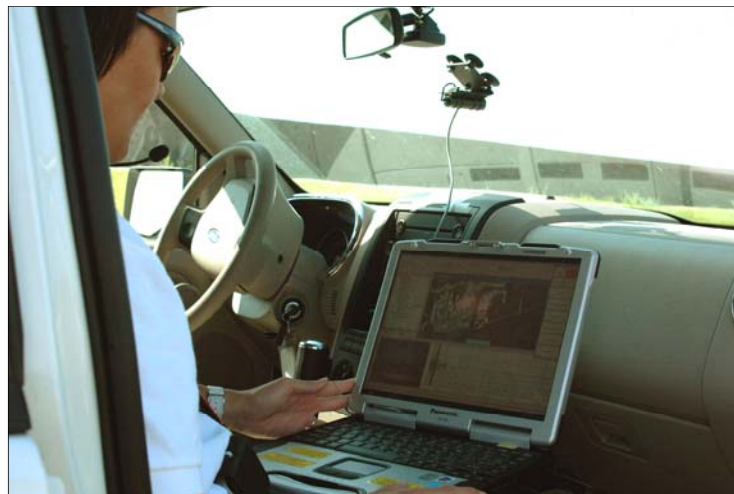
Once the immediate dangers of Hurricane Gustav subsided, the U.S. Army Corps of Engineers, along with its state and local partners, began a complete assessment of the area's Hurricane and Storm Damage Risk Reduction System (HSDRRS) and non-federal storm protection systems. The HSDRRS performed as expected during the storm. However, with a tropical event of Gustav's magnitude, some damage was anticipated. In the interest of public safety, the Corps is making every effort to expeditiously identify and repair any areas of vulnerability.

With the Gulf Coast currently at the height of its hurricane season and with the high potential remaining for additional storms in the area, restoration of these vulnerable areas is crucial to providing the levels of protection achieved during Gustav.

Immediately following the storm, the Corps deployed 12 damage assessment teams throughout Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Charles, St. Mary

and Terrebonne Parishes. The Corps personnel were accompanied by state representatives and local levee officials into the field.

Assessments were conducted in two phases. During Phase 1, two aerial teams, each equipped with Automated Route Reconnaissance Kit (ARRK) technology, began surveying and compiling data of areas prioritized by the local authorities. With



Project Engineer April Villa uses the new ARRK technology to enter data on an area of concern in the HSDRRS.

ARRK, these teams were able to compile photographs, voice recordings, global positioning system locations, accelerometer data, and gyroscope data streams in a three-dimensional analysis. This information was then used by the Corps to accurately pinpoint several areas of concern.

During Phase 2, 10 teams blanketed the identified areas for closer ground inspection of the risk reduction system. Once initial assessments were complete, many of the teams returned to conduct follow-up inspections of identified vulnerable areas.

During inspections, 30 initial work areas were identified; 17 areas were deemed critical, including:

1. At the Company Canal on the West Bank, a canal barge gate was not properly sealed when closed which resulted in significant leakage.
2. In St. Bernard Parish at the Verret to Caernarvon levee, grout placed at a railroad gate was washed out.
3. Sewerage & Water Board drainage pump station 19's sluice gates came off track.
4. At the Inner Harbor Navigation Canal near Almonaster, the soil and limestone around the railroad ties along the I-wall at Railroad Gate W-29 were significantly scoured.
5. The Grand Isle Hurricane and

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A Corps technician inspects a railroad gate along the HSDRRS that had some damage during Hurricane Gustav. (USACE Photos)

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Storm Damage Risk Reduction berm was significantly damaged during the storm.

6. As additional risk reduction measures, although no damage occurred, 18 transitional areas will be armored. These are areas where a concrete structure meets an earthen structure. Nine of these areas are along the IHNC floodwall, and nine areas are along the lake-front between 17th Street and New Orleans East.

The Corps has already begun repairing these areas with the goal to complete the work by week's end. Other areas are being worked on by state and local partners.



Aerial inspections are an important part of the Corps' assessment process.

The entire team is working diligently and swiftly to prepare the HSDRRS for potential tropical weather events while driving on to meet the goal of providing 100-year protection in 2011.

tection in 2011.



Contact Information

U.S. Army Corps of Engineers

New Orleans District
(504) 862-2201

Task Force Hope
(504) 862-1836

Hurricane Protection Office
(504) 862-1708

The *Status Report Newsletter* supports the information program for Task Force Hope and its stakeholders.

It also serves as the primary tool for accurately transmitting the Corps' hurricane recovery work to stakeholders.

This is an online publication that is open to public distribution.

This issue and past issues can be found at: <http://www.mvn.usace.army.mil/hps>

Comments and questions may be sent to the Status Report Newsletter editor at: b2fwdpao@usace.army.mil

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Status Report Newsletter

Task Force Hope
Strategic Communications
7400 Leake Ave., Room #388
New Orleans, LA 70118