OCTOBER 2005 Volume 30, Number 10

ASCE news
The newspaper for members of the American Society of Civil Engineers

Katrina Roundtable Addresses Response And Recovery Efforts

By Mark Fitzgerald

It almost seems impertinent to refer to Hurricane Katrina in the past tense considering how the realization of loss and devastation continues to grow keener. Although the fierce winds and rains of the storm's onslaught have long since passed, the interminable footprint of its wrath still endures hauntingly in the present—in the anguish of the displaced and homeless, the labors of those involved in recovery and relief efforts, and even in the appeals for donations and assistance. Never before had a major U.S. city been so entirely vacated and all at once had its infrastructure rendered ineffectual. Exactly how vast Katrina's footprint will be—experts have estimated that recovery expenditures will exceed $125 billion, making it the costliest natural calamity in U.S. history thus far—is hard to say since it will no doubt take years for the city to rehabilitate.

Eager to ensure that the engineering, design, and construction communities work together to best advantage in the recovery effort, ASCE and The Infrastructure Security Partnership (TISP) hosted a roundtable on September 6 in Washington, D.C., at the Army and Navy Club. "We're still very much in the response phase of this effort," Lieutenant General Carl A. Strock, P.E.,M.ASCE, the head of the U.S. Army Corps of Engineers, said at the outset of the meeting. "We're just beginning to be able to process requests from people who want to donate services, materials, and expertise, but our immediate priorities are to save and sustain lives and set conditions for recovery."

The forum brought together officials from the Corps and representatives from leading nongovernmental organizations (NGOs) to survey current response activities, assess needs, and establish joint initiatives. "What we're focused on now is fixing the problem, not fixing the blame," said Strock, referring to the Corps's continuing efforts to

repair the levees in southeastern Louisiana that had failed to hold back the waters of the Mississippi and Lake Pontchartrain. The capabilities of those levees had long been questioned, and many people, particularly in the engineering community, had warned that New Orleans was vulnerable to storms of category 4 or 5 and needed a higher level of protection. “We’ll get around to holding people accountable if that’s necessary,” Strock added. “While this event will certainly require us to look at the decisions we’ve made retrospectively, I hope we can learn from it and use it to help inform our future actions rather than try to use it to blame somebody or get somebody fired—although that could occur if we find out that someone has acted wrongly or been negligent.”

Strock went on to recount the progress the Corps had made in closing the breach of the 17th Street Canal levee, which connects to the Old Hammond Highway Bridge. On August 30, New Orleans’s fire department confirmed a 61 m breach there that allowed water from Lake Pontchartrain to inundate most of the city—the depths in some areas exceeding 7 m. According to John Hall, a spokesman for the Corps, the levee’s flood wall had been overtopped by the storm surge, and the water cascading over the wall undermined the wall base, causing it to collapse outward.

“I think this recovery effort shows us how important it is to have a good sense of direction and prioritization,” continued Strock. “This nation has so many resources that we can do almost anything, but what is the right thing to be doing right now, and what are the right priorities? That’s the big question. Obviously the suffering and devastation won’t be easily forgotten, but I want to believe that because the response has improved, soon we’re going to start hearing about some of the good stories that came out of this.”

Leonard E. Kotkiewicz, the acting chief of operations for the Corps’s North Atlantic division, which includes districts in New England and the Middle Atlantic States, spoke next about how the Corps was working to create conditions that would facilitate recovery. Providing those in need with adequate water and shelter was among the Corps’s top priorities, said Kotkiewicz, who emphasized the challenges of accommodating the vast number of evacuees in need of temporary housing. “Temporary housing is a traditional Corps of Engineers mission,” Kotkiewicz said. “But because of the scope of this event, it is being handled in a nontraditional way. We’re dealing with all the people who have been relocated, including all the people who were taken out of the convention center and out of the Superdome. We’ve been taking them to the Astrodome in Texas and to other parts of Texas, so these people are a long way from what they once called home. But there are also a large number of people who heeded the warnings . . . and got out of town before the storm and may now be sitting in hotels in Kentucky and Tennessee and in parts of Mississippi and Arkansas. These people will eventually need to start coming back to assess the level of damage in their communities, and they may also need temporary shelter. So this is a mission that has a lot of potential to grow, and since we really don’t have good numbers yet, we don’t know yet how exactly it’s going to grow and how it’s going to be staged.”

In the two weeks immediately following the hurricane, the Federal Emergency Management Agency (fema) spent well over $2 billion. In the days following the storm, Kotkiewicz said, fema was overwhelmed with phone calls from people who wanted to help. “There were some very good ideas and some ideas that weren’t quite as good,” said Kotkiewicz. “There were a lot of offers for material and equipment and a lot of offers for labor, but at that time we didn’t have a real good capacity to analyze those offers and sort them out. Now we have a quicker system to analyze and handle those requests. So we’ve started to make progress and we expect that progress to continue, but as the [de]watering process continues, you’re going to see other problems crop up. We’ll have to start analyzing structures to find out what homes are habitable, find out what hotels can be recovered quickly, find out whether we should begin repairing the Superdome, et cetera. There are a whole host of things that will require a lot of expertise.”

NGO representatives from the engineering, design, and construction communities suggested ways of effecting a unified response to the devastation. Participants in the roundtable discussion agreed that an independent, federally funded advisory panel for New Orleans should be established to serve as the primary adviser to local officials as they rebuild the city and the surrounding areas. It was also suggested that technical experts play a role in any federal agency involved in the reconstruction work. As envisioned by the participants, the independent panel would function in the following way:

- It would serve as the primary adviser on the rebuilding of the city to the mayor of New Orleans and to parish, city, and state government bodies.
- It would include experts from engineering, architecture, planning, and other fields related to design and construction.
- Its recommendations would include ways of minimizing the effects of future storms and other hazards.
- Its primary goal would be to improve the way of life of the citizens of the metropolitan New Orleans area.
- It would seek to incorporate features that would promote sustainable development.
- It would help coordinate the efforts of other federal agencies supporting the reconstruction.
- It would function in an advisory capacity only and have no authority to mandate solutions.

On September 9, engineers from ASCE’s Coasts, Oceans, Ports, and Rivers Institute (COPRI), Structural Engineering Institute, Architectural Engineering Institute, and Geo-Institute visited the Corps’s headquarters, in Washington, D.C., to discuss the formation of teams that will assess the storm’s effect on infrastructure and consider the challenges that will be encountered in rebuilding beleaguered towns and coastlines. “We want mainly to evaluate the coastal flooding and the effect the hurricane had on bridges and

ports," said John R. Headland, P.E.,M.ASCE, who led the team COPRI sent to southern Asia to study the effects of the tsunamis that struck last December. ASCE's institutes will be dispatching a number of teams to study the effects of Katrina, a hurricane that in Biloxi, Mississippi, generated storm surges of 10 m, the highest ever observed in this country.