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# news

## Forum Advances Strategies for Rebuilding New Orleans, Fosters Fervor for Resurgence

**By Mark Fitzgerald**

The Louisiana Superdome, which just over a year ago served as a designated refuge for those who remained in New Orleans during Hurricane Katrina, officially reopened on September 25. A capacity crowd of more than 70,000 cheered beneath its new roof, a \$32.5 million restoration project, as the New Orleans Saints played their first home game in a city still widely disrupted and unpopulated since the storm last year. An estimated 460,000 pre-Katrina residents have not returned and thousands of homes, particularly in the Lower Ninth Ward, remain eviscerated and empty.

“I’m running around the city trying to act professional, but the truth is I’m about to rip off this suit and put my jersey on,” Mitch Landrieu, the lieutenant governor of Louisiana, said a few hours before kickoff during a forum focused on rebuilding the region. “It has been a truly unbelievable year. This state and everybody in it—in such a deep and personal and even professional way—has been just stressed to the limits. So I think everyone is just trying to assimilate what tonight and that engineering and architectural marvel that most of you know as the Louisiana Superdome is really going to mean and what it will bring to the spirit of this region.”

Held September 24–26 at the Omni Royal Orleans Hotel in New Orleans, the forum—which was funded by the United Engineering Foundation and organized and co-hosted by ASCE, the Georgia Institute of Technology, and several other universities in the region—brought together leaders in academia, industry, and government to discuss various issues associated with planning and rebuilding, including hurricane protection, infrastructure systems, risk and reliability, technology and innovation, energy, communications, human factors, and sustainability.

“This is where our families are from, this is where our homes are, and this is where broken hearts lie today,” added Landrieu. “So as we have tried to pull ourselves together and hug each other, we have also been forced to look hard at ourselves and think about what it is that we really want to rebuild. If there was ever a time for Louisiana to look closely at itself in the mirror, now is the time. We have a culture, we have a way down here. Our food is wonderful, our music is terrific. But our roads are crumbling and our schools are not teaching our kids as they should be taught. Shame on us if we don’t have a very aggressive debate about what we should be. I know that Louisiana can do better than it has before. We need to take responsibility as a people to develop a plan from the ground up that is comprehensive, disciplined, and will make sense today and ten years from now.”

At the outset of the forum, G. Wayne Clough, P.E., M.ASCE, the president of the Georgia Institute of Technology and the current chair of the National Academies’ Committee on New Orleans Regional Protection Projects, emphasized collaboration and called on the engineering community to advance steps towards reconstruction. “This forum offers us an important opportunity to step back and look at the breadth of challenges that face the New Orleans region and place those challenges into a broader context,” he said. “Our job here is to not only understand why the levees failed or how things performed or didn’t perform, but to use this information to look forward and rebuild this area.”

Robert B. Gilbert, P.E., M.ASCE, a professor of civil, architectural, and environmental engineering at the University of Texas at Austin and the member of ASCE’s External Review Panel (ERP) who is overseeing the final wording of the chapter on risk in that panel’s report later discussed risk and reliability factors associated with the hurricane protection system. “I’m skeptical that we can do a lot in terms of improving

the reliability of the system,” he admitted. “I think we can do something, but I don’t know that we can improve it by three or four orders of magnitude very easily or within the constraints of the cost that would be involved in doing that.”

Last year, at the behest of Lieutenant General Carl A. Strock, P.E., M.ASCE, the Corps’s commander and chief of engineers, ASCE established the ERP to peer-review the work of the Interagency Performance Evaluation Task Force (IPET)—the body commissioned by the Corps to review the performance of the hurricane protection system in New Orleans and southeastern Louisiana. Since then the panel has endeavored to provide an objective technical review of the IPET report findings. The scope of the work has included data collection associated with the condition of the hurricane protection systems before and after Hurricane Katrina; a review of project construction and maintenance; numerical modeling to characterize the storm surge; an analysis of floodwalls, pumping stations, and levee performance; an evaluation of the impacts of economic decisions associated with hurricane protection systems; and an examination of the engineering and operational risk and reliability of the system, which is currently in progress.

“The risk assessment that the IPET has been doing is behind right now,” explained Gilbert. “But the task force spent the first six months of the investigation not doing any risk assessment. That time was spent trying to figure out what is the system. What does the system look like as a whole? How high are the elevations? No one had done that before Hurricane Katrina. There is a tremendous amount of information that needs to be maintained and updated constantly as we get new information, as areas subside, as transitions change jurisdiction; we need all of that to be kept track of and to be accessible to somebody.”

The following day Dennis S. Mileti, Ph.D., a professor emeritus at the University of Colorado, Boulder, the vice chair of the California Seismic Safety Commission, and a member of the ERP offered insights into the human factors associated with the devastation wrought by Hurricane Katrina, the path to recovery, and a sustainable future in the New Orleans region. “We do not live on safe planet,” he said. “We never have and we never will. However, human beings think it’s safe. Because of the desire to live on a safe planet, human beings misinterpret all the good work of engineers and reach the conclusion, despite what is built, that they, as a result of these labors, are totally safe. But

part of what has made places like New Orleans and San Francisco so attractive to human beings is because of how risky they are. It's risky going down Bourbon Street. It's risky living under the level of the sea. It's risky living where plate tectonics are tearing continents apart.”

During the summary roundtable discussion at the close of the forum, various participants offered suggestions on rebuilding strategies as well as near-term and long-term initiatives for the future of the region. Some of these suggestions included ensuring that a single person or office has overall authority over the hurricane protection system, reexamining and improving the levees, communicating the risks to the public and deciding how much risk is acceptable, and demanding higher standards of engineering quality.

As it turned out, the New Orleans Saints defeated the Atlanta Falcons 23 to 3, but according to Fredrick Hollywood, a local artist who participated in a panel discussion focused on the social impacts of the region's devastation, many from New Orleans cheered with mixed emotions. “The game last night was a beautiful thing,” he said. “But I watched it in a FEMA trailer. When you jump up and down in a trailer like that the whole thing shakes. So many people here are still hurting and devastated. I just tore my house down last week. Recovery? I don't think we can even use that word, because I don't think we'll ever recover. But we ought to at least be able to heal.”