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Resiliency in the built environment must go beyond robust facility designs to include proactive measures that address operational vulnerability prior to a crisis situation.

Regional Natural Disasters Preparation and Recovery

Ready for Anything

Proactive strategies sustain a culture of preparedness

By Erica Bender

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Prism of Resiliency Offers Clarity in Disaster Response

In the built environment, the concept of resilience alludes to a culture of preparedness where robust facility designs are championed to mitigate existing or emerging threats to property or quality of life. Such disruptive incidents can range from natural disasters and severe weather events to acts of terrorism, cyberattacks, active shooter situations, riots and pandemics.

"Through the prism of resiliency, we often do not think about how to cope with uncommon occurrences—terrorism, riots, pandemics, etc.—until they are already happening. In every single circumstance, it takes more time, resources and capital to resolve these issues after the fact," says J. Woody Thompson, the commissioning and energy region leader for RS&H, a global provider of architecture, engineering and consulting services.

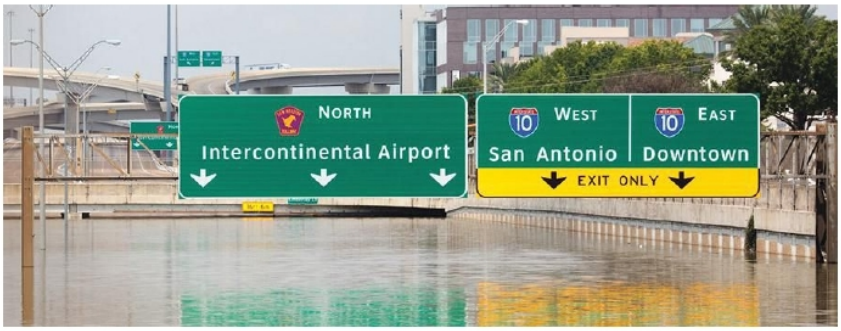
Resiliency begins with design, Thompson affirms, and physical fortifications and security are only part of the solution. Preparedness is also about taking proactive measures to address operational vulnerability—a crucial element to ensuring proper contingency plans, emergency protocols, personnel and other resources are in place and reliable prior to a crisis situation.

"Resiliency boils down to the insurance policies that you put into place for when a disaster hits—and proactivity is the 'secret sauce' to overcoming this type of challenge," Thompson says.

He continues, "When it comes to resiliency, owners and design team members must recognize the long-term need of the building. How important is the facility? What is its mission? Is there an alternative facility that can be rapidly modified if you lose the existing one? You have to start thinking about these things long before an event occurs." These considerations are especially important for facilities that support critical needs in a community, such as emergency response providers, public hospitals and private-sector medical clinics, military bases, financial institutions, grocery stores and community-assistance programs like food banks.

RS&H has a four-step resilience assessment process to help governmental agencies, municipalities, businesses and other organizations respond successfully to disruptive events. This methodology is broken down into understanding hazards, reducing risk, adapting to changing conditions and prioritizing vulnerabilities.

After identifying the hazards that could threaten critical assets or operations, the next step is to understand the broader impact of each risk, be it negligible or catastrophic. This knowledge aids in evaluating the adaptive capacity of assets/operations, which in turn helps decision-makers prioritize vulnerabilities and identify effective strategies to avoid major operational disruption or mission degradation.



Natural disasters and catastrophic events wreak havoc on communities. Proactive strategies to shore up contingency plans and emergency protocols are crucial.

J. Woody Thompson, Commissioning and Energy Region Leader, RS&H

Ben Moore, Energy, Environment and Sustainability Planner, RS&H

"A resilience assessment can be a standalone activity, or it can be incorporated into commissioning projects, facility condition assessments or master planning efforts," explains Ben Moore, an energy, environment and sustainability planner at RS&H. "After the assessment process, tools such as life-cycle cost analysis and cost-benefit analysis can help in finding the best possible means of navigating through disruptive events."

"Agility is key to resilience," Thompson adds. "Any instructions and activities for contingency operations need to be considered as a continuous exercise and directives as living documents. To know that your plans are successful and working, your organization must run drills and make procedural adjustments when appropriate. Otherwise, the instructions in contingency operations plans may get lost or implemented improperly."

Most building owners and their facility managers will agree that disaster preparedness is both sensible and valuable. However, resilience assessments—which are tailored to meet the unique needs of each property—can still be a tough sell to clients who want assurance of success. "The concept is easy," Thompson says. "Proving success is hard because there is no real industry standard metric other than testing structural and operational performance, conducting evacuation exercises and drills, etc. But how can we prove these solutions will be successful before the real deal hits? That is the rub." ◆