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Building A Resilience Management Mindset: Using Rating Systems to Mitigate Disaster Risk

Resilience is the True Sustainability

Events like Hurricane Katrina and Superstorm Sandy have made it painfully clear that it is not enough for our buildings to have a low impact on the environment—the environment must also have a low impact on our buildings. In other words, true sustainability demands that our buildings reduce their impact on the environment both before and after disasters. In New York and New Jersey during Superstorm Sandy, there were more LEED-certified buildings than anywhere else in the world. Yet Sandy caused billions of dollars of damage, including more than 10 million cubic yards of debris that had to be hauled away, stored and eventually replaced with new building materials during the recovery. Their LEED certification was not a factor during a storm of such magnitude.

As awareness of resiliency and the impact of building performance in businesses and communities continues to develop, the market value of buildings with good expected disaster performance will increase. The US Resiliency Council, in collaboration with FM Global and AON Risk Services, recently published an important article in Risk Management Magazine about the importance of adopting a *Resilience Management* mindset.

Toward Resilience Management

To understand the importance of resiliency, consider the impact on the city of New Orleans during and after Hurricane Katrina. Before the event, New Orleans and Nashville were on similar economic paths. In 2002, in terms of real gross domestic product, New Orleans was slightly ahead of Nashville. When Katrina struck in 2005, it caused an immediate loss of more than \$80 billion to the New Orleans economy. More striking, however, is that the city's lack of resiliency may have cost it more than an additional \$100 billion between 2005 and 2012 when compared with the economic output of Nashville.

Resiliency is largely quantifiable and achievable. Given proper strategic thinking, owners and managers who want to evolve from a traditional risk management focus toward a resiliency-oriented mindset can use a variety of tools to assess and manage the risks of external hazards such as seismic activity, climate and terrorism. A comprehensive resilience management program includes elements such as:

- Assessment of assets' vulnerabilities, identifying their potential losses and quantifying impacts such as downtime, loss of use and loss of income.
- Risk reduction through a variety of available solutions and best practices, including human element programs, sprinkler protection, mechanical systems, or other building and site improvements.
- Risk avoidance that includes not acquiring or leasing sites and buildings that do not meet an owner's risk tolerance.
- Risk assignment through a more informed purchase of property, casualty, cyber, terror and other insurance products.
- Adaptation to risks that cannot be eliminated or transferred through emergency preparedness, response, recovery and contingency planning.

Developing Building Rating Systems

Already part of our everyday lives, ratings communicate the quality and expected performance of a product or service. We have ratings for car crash performance, hotel quality, restaurant cleanliness and financial transactions that enable users to compare investment options and quantitatively assess their risks.

It is a common misconception that buildings built to today's building codes will be "proof" against natural disasters such as earthquakes, hurricanes and floods. Building codes are merely intended to prevent collapse in the largest events. Protection of property and business continuity are not typically considered. Giving owners, tenants, lenders, insurers, government jurisdictions and other building stakeholders reliable information on the performance of their buildings, rating systems for buildings allow these groups to make actionable and informed decisions about purchasing, leasing, refinancing and insuring buildings, and to support development of long-term strategic risk and resilience management solutions.

U.S. Resiliency Council Building Ratings are issued based on a building's ability to withstand a natural or manmade disaster, and quantify performance along three dimensions: safety, damage and recovery. Whereas LEED ratings are typically based on principles of good environmental stewardship, building performance ratings are based on detailed engineering evaluations of structures using national technical standards.

EXAMPLE OF AN EARTHQUAKE BUILDING PERFORMANCE RATING SYSTEM	SAFETY	DAMAGE	RECOVERY
★★★★★	Blocking exit paths unlikely	Minimal damage (<5%)	Immediate to days
★★★★	Serious injuries unlikely	Moderate damage (<15%)	Within days to weeks
★★★	Loss of life unlikely	Significant damage (<30%)	Within weeks to months
★★	Isolated loss of life possible	Substantial damage (<40%)	Within months to a year
★	Loss of life likely	Severe damage (>40%)	More than one year

Improving Resilience with Building Rating Systems

Building owners can implement some practical steps to create a resilience management program with the help of their risk managers, insurance brokers and design professionals.

1. Create an inventory of building assets and use experienced engineering professionals to employ the **USRC Building Rating System** to rate the most important properties along the dimensions of safety, repair cost and recovery.
2. Rank buildings according to their performance and identify which ones are contributing most to your overall risk.
3. In collaboration with your insurance brokers, engineering consultants and in-house emergency management staff, perform cost-benefit studies to best allocate/recovery to mitigation, risk transfer and event response/recovery planning.
4. Use **USRC Building Ratings** to help make decisions about real estate purchases or leases.
5. Work with your brokers to restructure insurance programs to recognize, based on their ratings, those buildings that are most in need of catastrophe insurance and those that can retain less or forego coverage.
6. Establish internal company design guidelines to ensure that your most important assets will perform in a manner commensurate with their value.

Strategic Planning

Building ratings can also be a valuable strategic planning tool. Much as investors use securities credit ratings to build their portfolios and balance risk with return, so too building stakeholders can use building ratings to influence resilience management decisions, understanding that good performance is essential to protecting lives and ensuring that a business or community recovers quickly and continues to thrive.

For example, the city of Los Angeles is currently using the **USRC Building Rating System** to assess the vulnerability and resiliency of its owned facilities after a major earthquake. With this information, the city can identify the buildings that face the greatest seismic risk, determine where to apply resources to improve areas that do not meet earthquake resilience goals, and develop long-term solutions that will ensure the city's viability post-disaster.

Similar owners are being employed by businesses, universities and other owners of large building portfolios to create custom design guidelines that require all buildings to be built to at least the minimum standards in building codes, with more important facilities

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