



PERSPECTIVES

Disaster Reduction: Key Insights for Risk Managers & Corporate Executives

Our perspectives feature the viewpoints of our subject matter experts on current topics and emerging trends.

INTRODUCTION

The need for comprehensive disaster risk management has never been more evident. In recent years, major storms, earthquakes, wildfires, tornados, derechos, and other destructive large-scale events have been significant. According to National Oceanic and Atmospheric Administration (NOAA), there has already been a record number of billion-dollar disasters in the first eight months of 2023. What can be done to minimize both the damaging effects and significant costs associated with these types of events?

In this article, we examine the critical components of disaster resilience – preparedness, mitigation, and resilience – and delve into the insights that can empower risk managers and corporate executives to safeguard their organizations.

PROACTIVE DISASTER PLANNING AND PREPAREDNESS

Disaster risk management does not start with a disaster, but rather the planning for a disaster. It is great to write a flawless disaster management plan; however, if not reviewed, practiced, and implemented, the value is limited. In addition to disaster planning, engineering properties to be more resilient to disasters should be the first step. Alterations are often dependent upon geography for the types of risks faced.

For example, in the Western United States, many risks revolve around earthquake and wildfire resiliency. Steps taken may start with a seismic engineering evaluation and alterations to allow for movement, or the use of non-combustible building materials to limit wildfire impacts.

The Southern and Eastern United States focus on hurricane resiliency, using hurricane shutters, resilient building envelopes, flood doors, and/or elevated structures. In the Midwestern United States, one would expect the evaluation of tornado and polar vortex resiliency, and the evaluation of wind loads or insulating features.

The benefits of pre-loss assessments do not stop with limiting losses, but often can reduce insurance premiums whether part of a captive or traditional insurance. It is imperative for corporate executives and risk managers to work with their insurance broker in both analysis of resiliency options and implementation of pre-disaster mitigation alterations to take advantage of premium savings.

As part of the disaster management plan, one should continually reevaluate who the contractors and consultants are that will be utilized in preparation for and following a disaster. As a corporation changes and grows, including the growth of its real estate, they must actively evaluate, for instance, whether the contractor and consultants can handle the size of the loss.

CASE STUDY: HURRICANE HILARY 2023 | WESTERN UNITED STATES

As Hurricane Hilary strengthened in the Pacific Ocean, its path was yet to be determined, and everyone in the potential path had relatively short notice to prepare for impact – whether by power outages, heavy wind, heavy rain, or flooding.

A hospital in Utah, an area that is not accustomed to hurricanes or tropical storms, experienced tropical storm conditions. The hospital sustained wind-driven rain through exterior penetrations, openings made by the storm, as lumber from an adjoining property penetrated the roof. It also sustained overland flooding as the extensive rain taxed the stormwater system, allowing water to enter exterior doors and back up through floor drains. With a disaster plan in place, the facilities had contact information for a mitigation contractor capable of assisting with the size and complexities of a hospital readily available. The restoration contractor mobilized and immediately began stabilization procedures, utilizing water dams at the entrances, tarping the building envelope openings, extracting bulk water, and dehumidifying to limit secondary damages. The following day, the risk manager filed an insurance claim. The insurance carrier immediately contacted consultants to assist.

A building consultant was retained to evaluate the loss and provide the carrier with a relative order of magnitude for the loss, so the carrier could set reserves and comply with their reserve legal obligations as well as understand financial risks. The carrier also retained an industrial hygienist to work with the restoration contractor, to understand what materials were impacted by the loss and where; how we as a team were going to mitigate the impacts; how we were going to limit business interruption while keeping patients and employees safe; and how to return the property to a pre-loss condition as quickly and efficiently as possible. A forensic accountant was also retained by the carrier to evaluate the business interruption portion of the loss, which aids in not only making the hospital whole for loss of income, but in evaluating the scope to allow the insured and carrier to ensure business continuity. During moisture mapping by the industrial hygienist, an MRI and X-Ray machine were discovered to have been impacted by the loss. The carrier was notified, and an equipment consultant was retained to evaluate the portions that required replacement with new versus refurbishment of the original. The industrial hygienist provided oversight of the mitigation to ensure a seamless relationship between the insured, mitigation contractor, and insurance carrier with agreement on the mitigation scope, evaluating regulated materials and verifying the effectiveness of the mitigation.

Upon demobilization of all consultants and contractors, post-loss lessons learned were conducted with all applicable parties. Lessons learned are generally the forgotten step in a disaster plan. The lessons learned path allows the carrier, contractor, and consultants to understand what worked, what didn't, and how each could improve for the next disaster.

TAILORING RESILIENCE TO GEOGRAPHIC RISKS

As discussed in [Rethinking Energy Reliability with Modern Power Systems](#), electrical resource adequacy and energy portfolio planning are becoming front-page issues in our decarbonizing society. In the past, weather primarily affected demand, which in turn impacted resource adequacy. With inverter-based resources (IBRs) such as wind and solar that are primarily driven by atmospheric elements, weather extremes now impact both the demand and generation availability (i.e., intermittent resources). So why are we experiencing more Black Sky Events, i.e., catastrophic events

or events compromising electric reliability? This could include a devastating natural disaster, cyber-attack, physical attack, or a combination of incidences. The resulting impact could mean a utility is unable to restore service safely and reliably. A recent example of such an event was Winter Storm Uri in 2021, which significantly impacted the electrical grid in Texas and came within minutes of a complete and sustained blackout for the entire state.

As resource adequacy and planning procedures continue to evolve amid decarbonization, it will still be paramount to maintain the three pillars of power system planning: affordability, sustainability, and reliability. How we define acceptable risk when it comes to grid reliability needs to transition at the same pace as the electrical grid systems themselves, and it will require a review of both metrics and how those metrics results are priced in the market.

LEARNING FROM DISASTER FOR CONTINUOUS IMPROVEMENT

Executing a formal lessons-learned process at the conclusion of a disaster or near-disaster is a critical component of managing risk for any company. The information gained through the lessons-learned process described above must be shared throughout the company's full operations. This helps ensure the organization improves its understanding of potential risks and how to mitigate or avoid them. The lessons-learned process should be part of a larger corporate risk management program to ensure that information and operational silos are broken down across the company.

Similar risk assessment methodologies should be implemented in all business units to identify, characterize, and manage specific risks. This enables an enterprise view of geographically and operationally distributed risks and improves the effectiveness of all downstream risk management initiatives implemented under a corporate risk program. Formalized risk management processes and software tools are helpful to ensure that key information is kept up to date, and that all operations are generating risk profiles using shared methods.

A common situation that illustrates the value of current information in disaster planning is the call-down list in an

emergency response plan (ERP). An ERP is a critical action plan to respond in real time to a disaster or other crisis event. Knowing the residents and other impacted people, companies, or infrastructure that are within an organization's identified risk boundary allows for timely notification of the nature of a disaster and appropriate actions to stay safe.

It is not uncommon for this type of information to be incomplete or otherwise inaccurate, exposing the impacted party to potentially life-threatening risks, and the company to reputational and financial consequences. The solution is to implement a formal process to ensure information is kept current, and that plans cover the complete set of identified risks.

CONCLUSION

The insights shared in this article underscore the critical importance of proactive planning, meticulous preparation, and resilience in the face of inevitable disasters.

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[Steven Andersen](#) is a Senior Vice President in J.S. Held's [Environmental, Health, and Safety \(EHS\) practice](#). Steven has spent over 20 years in the EHS industry, with specific experience in carbon management systems, information management systems, and data integration. He commonly fills the role of sponsor on large scale implementation projects, consults on [Environmental, Social, and Governance \(ESG\) strategy and data management](#), and has performed the role of technical architect on many carbon management system implementations. As the [founder and chief executive officer \(CEO\) of Frostbyte Consulting](#), Steven was responsible for strategy, partnerships, and business development. Under Steven's leadership, Frostbyte grew into a company that delivers ESG and EHS advisory and information systems globally across all industry sectors.

Steven can be reached at steven.andersen@jsheld.com or +1 368 209 1012.

[John Dulude](#) is a Senior Vice President and leads [Energy Transition Services](#) in J.S. Held's [Environmental, Health & Safety Practice](#). With over 40 years of domestic and international industry experience, John has spent much of his career in the power sector, with expertise ranging from hydroelectric, fossil, nuclear, wind, and solar generation as well as transmission facilities, system reliability, capital investment assessment, generation mix analysis, finance, equipment selection, and load profiles. His project management experience spans North America, Africa, China, Vietnam, and Kazakhstan.

John can be reached at jdulude@jsheld.com or +1 843 977 1441.

[Bill Zoeller](#) oversees the Industrial Hygiene & the Built Environment Service Line within J.S. Held's [Environmental, Health & Safety Practice](#). Bill is a graduate of the University of Wisconsin La Crosse with a degree in Microbiology and BioMedical Science. He has over two decades of industrial hygiene experience with project design and assessment of remediation from catastrophic events such as water, fire, and biological impacts to properties, as well as regulated materials assessments and pollution claims. Bill has a wide range of project experience from residential to large, complex multi-million-dollar projects in manufacturing, healthcare, educational, food manufacturing, and multi-family properties.

Bill can be reached at wzoeller@jsheld.com or +1 920 442 4195.

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