Business continuity and disaster recovery
## Enhancing enterprise resiliency for the power and utilities industry

A holistic approach to business resiliency and disaster recovery can provide the greatest value in meeting the utility companies' strategic objectives.

While some power and utility companies may have developed business continuity and disaster recovery plans in the past, the challenging economic environment of recent years may have caused utilities to put these plans aside to deal with shorter-term concerns. Utilities traditionally have responded well to localized emergencies, such as power outages caused by storms. However, there is always the threat of a natural disaster, as demonstrated by the 2011 earthquake and tsunami in Japan, and the multi-region US 2011 summer storms. In addition, there's also the possibility of physical or cyber security attacks.

The changing landscape created by some of today's common drivers (Figure 1) highlights the need to revisit business continuity management. Utilities need to ensure that critical systems and processes can be restored in a timely manner during a crisis situation, with reduced negative operational and financial impacts.

In this environment, business continuity is becoming a growing part of government-based preparedness initiatives.

Figure 1

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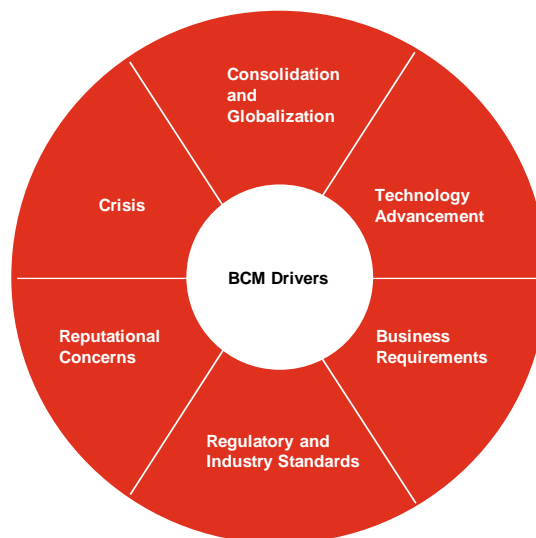
The Department of Homeland Security (DHS) Office of Infrastructure Protection (IP) collaborted with the utilities industry to identify guidelines, best practices and agreed-upon codes of practice to help with business continuity and disaster recovery. In the electric utilities industry, DHS and Electricity Sector Coordinating Council released a Private Sector Preparedness (PS-Prep) Framework Guide to assist in the voluntary certification under one or more of three preparedness standards. This guide should be helpful for examining methods to improve preparedness in general. It outlines the key subject areas of a preparedness program, cross-maps the key subject areas to specific elements of the three adopted standards, and examines the sector perspective on preparedness as well as things to consider before seeking certification.

Today, many utilities are embarking on business and technology transformations, including the replacement of many legacy systems, adding more pressure to update approaches to business continuity and disaster recovery. The processes previously in place supporting disaster recovery capabilities may not work effectively for new technologies. With the substantial investments in these systems, it's important for utilities to have a complete understanding of business technology resiliency needs in all areas, from call center operations, to HR and finance, to power marketing and plant utilization.

As the technology is being transformed, so are the business processes. Streamlined, efficient, consolidated, outsourced, and interconnected business processes give those who monitor business and operational risk additional concern about the growing and immediate impact of an interruption anywhere along the service chain. While a break in the service chain doesn't have the same immediate impact of electric delivery interruption, the impact does build quickly and can have a longer-lasting impact. While stakeholders understand that electric reliability can be challenging in stormy conditions, that same understanding may be lacking when there are technology outages, incapacitated facilities, unavailable employees and interrupted critical vendors.

Effective business continuity plans

Employees may not be able to quickly and effectively muster the massive effort necessary to keep a company operational during a technology outage, facility destruction, loss of personnel, and loss of critical third parties – without a documented and tested plan. While utilities are well versed in the necessities of ensuring reliability during challenging events, the 'business continuity' focus doesn't typically have the same maturity.

Business continuity management serves as one element of a utility company's overall governance, risk and compliance efforts. Supported by senior management, it is an ongoing process to ensure that the necessary steps are taken to identify the impact of potential losses, maintain viable recovery strategies, recovery plans, and continuity of service. While one of the primary goals of business continuity is grid reliability, there are a large number of interconnected business processes supporting this goal which require a higher level of resiliency and continuity planning.

A solid business continuity program begins with discovering exactly what is needed to keep the organization viable and aligned with its mission during a crisis event.

Quantifying the impact of risks to these critical processes helps shape preventative measures, as well as defines appropriate response strategies and actions. Often, the 80/20 rule applies where 80% of an organization's critical business processes that are required during a crisis are performed by 20% of the organization. However, uncovering the 20% involves a discovery process that quantifies the magnitude of the interruption impact to most business processes. Once the critical business processes are identified, recovery strategies must be developed for these critical business processes to understand the operational recovery options available. Once the recovery strategies are identified, utilities can build continuity plans that describe crisp actions and reference information necessary to streamline crisis response and continue critical services.

While continuity plans are developed for critical business operations, recovery plans should be developed or updated to meet the organization's technology needs. Technology services may have multi-year recovery improvement roadmaps in place due to longer lead times needed to implement technology recovery time objectives ("RTO") and recovery point objectives ("RPO") solutions that meet the organization's needs. The speed at which the organization moves towards improving their resiliency and recoverability capabilities depends on the organization's risk appetite and capital funding availability.

Effective business continuity and disaster recovery plans should address:

- **Managing the crisis response efficiently:** Solid and practiced crisis management communications processes that help ensure the organization's crisis response is timely, complete and coordinated internally and externally.

- **Protecting employees and company assets:** Emergency response procedures that help ensure the safety of personnel and the protection of corporate assets during and after the crisis event.

- **Keeping the business running:** Developing recovery strategies and continuity plans for critical business functions required to sustain an acceptable level of operation during a significant business interruption.

- **Keeping technology operational:** Designing and implementing resiliency strategies and plans for essential information technology infrastructure, hardware, software and data during a crisis.

- **Validating business continuity program effectiveness:** Periodic validation and testing processes that help ensure the program is effective and well understood by program constituents.

In today's interconnected world, a holistic approach to business resiliency and disaster recovery may provide value to an organization (see Figure 2). This includes not only focusing on a few key application systems, but including interfacing systems and linkages to third parties. In addition, all identified critical business functions should be involved in testing to confirm that critical applications and interfaces can be restored in alignment with user expectations. Utilities should also anticipate additional user support demands, like changing user access, quickly retrieving archived information, and setting up temporary networks in alternate work locations in order to help minimize the impact of a crisis.

Utilities also must be prepared to quickly provide full functionality and connectivity no matter where company personnel are working. Some business continuity and disaster recovery plans that include work area recovery locations only test the use of these locations for their ability to establish remote connectivity. It is important to attempt to operate a full day or more at the work recovery locations, using a realistic volume of transactional activity, to completely understand resiliency needs, including the number of personnel required for enterprise recovery.

Figure 2
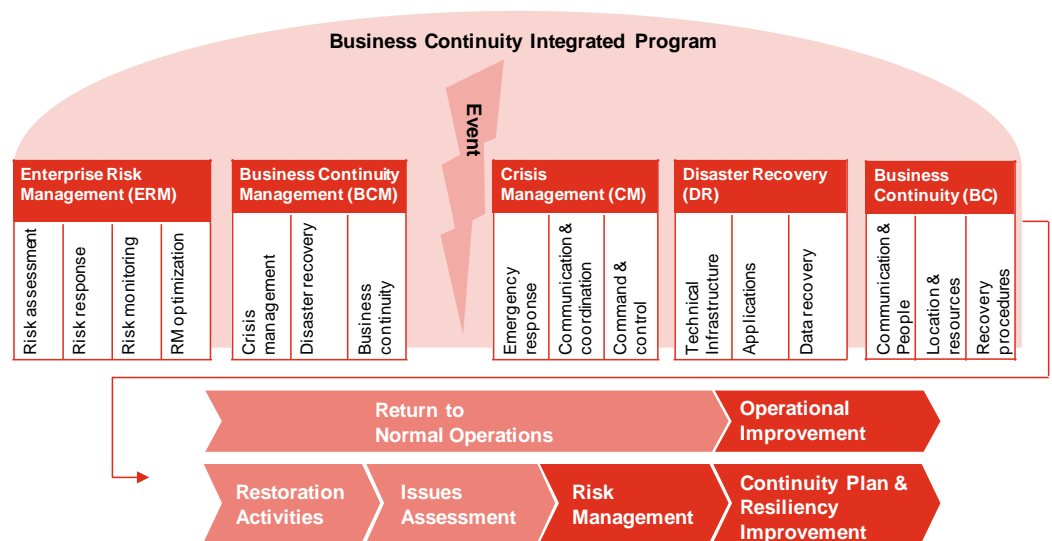
Where to start

By gaining an understanding of the risks and impact of interruption events on business processes, utilities can create the foundation of a business continuity program. In order to gain leadership support, the risk and impact thresholds should be aligned to the organization's enterprise risk management program. This should garner a greater understanding of the organization's tolerance to financial, regulatory, contractual and regulatory risk among other important risk considerations and help build the case to create or improve business continuity plans.
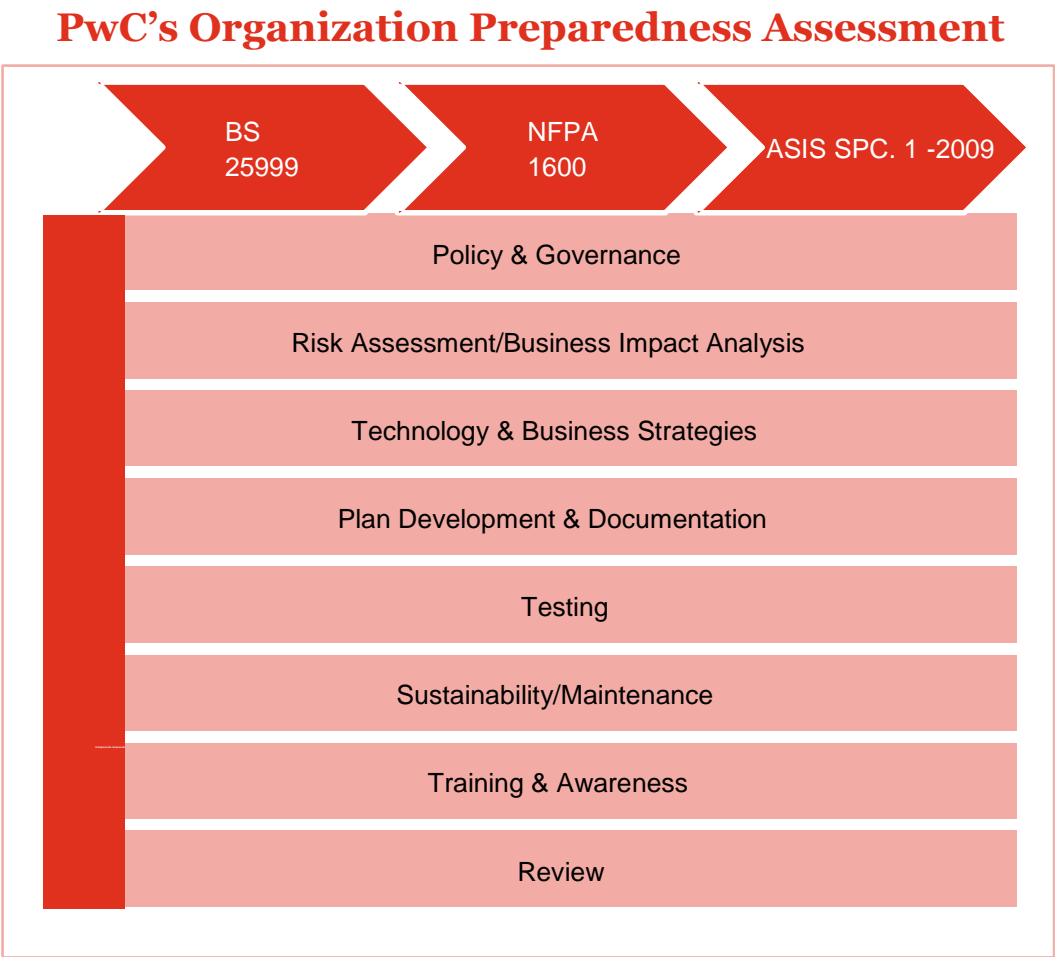
PwC's five-step approach to business continuity and disaster recovery focuses on the following:

1. **Initiate: project planning and kickoff:** establish a steering committee and program teams with an approach to meet the organization's culture and overall requirements.

2. **Analyze: business impact analysis and risk assessment:** classify threats and vulnerabilities; evaluate risk mitigation strategies; assess financial and non-financial impacts; gather and validate data about company processes, systems and recovery requirements; and identify critical processes and key dependencies.

3. **Strategize: recovery strategy development:** integrate and finalize recovery requirements; recommend risk mitigation measures; assess current strategies and identify and price recovery strategy alternatives; and develop implementation procedures for the selected strategy.

4. **Develop: plan and capability development:** determine the plan, tools, and approach to meet the organization's requirements, with documentation of detailed plans and procedures for organization or business units, and of emergency action and crisis management procedures.

5. **Maintain: implementation and maintenance:** develop testing, training and maintenance processes and tools; conduct simulations and plan enactment; and perform periodic program assessment and maturity ranking.

PwC's organization preparedness assessment (OPA) (Figure 3) combines key attributes from three relevant preparedness standards adopted by the PS-Prep program, as well as other relevant leading practice guidance and various regulatory requirements.

Using the OPA, we provide clients with a succinct and tailored view of their business continuity and disaster recovery efforts, complete with a roadmap to increase its maturity.

Figure 3

PwC's Organization Preparedness Assessment

BS 25999	NFPA 1600	ASIS SPC. 1 -2009

Policy & Governance

Risk Assessment/Business Impact Analysis

Technology & Business Strategies

Plan Development & Documentation

Testing

Sustainability/Maintenance

Training & Awareness

Review

How the client benefits

By taking a broad, strategic view of business continuity and disaster recovery planning, PwC helps utility companies address multiple business and technical challenges to meet their strategic objectives:

- Reduction of the impact of business interruptions through the identification of "mission critical" business processes.

- Rapid availability of management decision-making capabilities and communication.

- Balanced recovery strategy options, with a cost-benefit analysis.

- Reduced risk of potential loss of revenue and assets.

- Improved alignment of application system and technology service resiliency and recovery capabilities with organization's requirements.

- Mitigated risk and improvement of recovery times.

Given that business continuity does not stop once operations have been restored after a crisis, we also focus on knowledge transfer as part of our services so utility companies can work on continual improvement to help ensure a sustainable program.

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