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Debating Disaster in Order to Prepare for It

By: Ben W. Heineman, Jr.

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It's been over a year since the **Fukushima nuclear accident**, and two years since the **Deepwater Horizon oil spill**. The **financial crisis** that led to the Great Recession unfolded almost four years ago. And, unbelievably, over a decade has passed since the tragedy of 9/11. It is human nature, and the nature of time and memory, for these events to recede in the mind as they recede into history. But for businesses, knowing when to expend time and effort preventing — and planning responses to — low probability, high consequence events is now, more than ever, one of the hardest and most important risk management problems to address.

This is not morbid thinking or gloom-and-doom prognosticating, but rather a crucial planning feature in a turbulent world. The key question for all organizations when it comes to catastrophic risk is how to make the critical prioritizing, planning and spending decisions for low probability, high consequence events. Such events can occur due to corporate failure (BP and financial meltdown), natural disasters (Fukushima) or acts of terrorism. Unfortunately, however, the benefit of hindsight, reflected in commission reports on past disasters, is not available to leaders today trying to make best-efforts judgments on which potential problems or events in the future require current action — and what those preventive and responsive actions should be. (See Justin Fox's **recent blog** on the need for better debate in financial services risk efforts.)

A critically important internal corporate process for answering this vexing question is a "Red Team/Blue Team" approach. Drawing from a military war-game tradition, this involves having a multi-disciplinary "Red" team identify the range of such events, prioritize them for action and develop plans for prevention and response. The result of the Red team's efforts should then be robustly critiqued by a comparable "Blue" team. Both teams should include operational business leaders as well as risk-focused technology, policy and legal experts. Having these distinct perspectives present on both teams helps ensure that the process of point-counterpoint will illuminate hard issues hidden in the shadows of lazy thinking — and that the teams are not talking past each other.

Such a robust process was clearly lacking in catastrophic events such as the BP gulf spill and the financial crisis. In particular, the necessity of the sharp focus provided by the Red Team/Blue Team structure is vividly illustrated by the recent **official report** of "The Fukushima Nuclear Accident Independent Investigation Commission." The commission was set up by the Japanese legislature to write a report independent of the main actors in the drama and was comprised of leading scientists, physicians, lawyers, policy analysts and business people.

The implications of the report for risk management go far beyond the nuclear industry. This stems from its basic conclusion: the events following the earthquake and tsunami were foreseeable and, rather than being a natural disaster, should be characterized as "a profoundly manmade disaster — that could and should have been foreseen and prevented. And its effects could have been mitigated by a more effective human response." The underlying cause of this human error, according to the report, was a *failure of debate and discussion*: the "fundamental causes are found in the ingrained conventions of Japanese culture; our reflexive obedience; our reluctance to question authority; our devotion to 'sticking to with the program'; our groupism; and our insularity." Said the Commission: we "found ignorance and arrogance unforgivable for anyone or any organization that deals with nuclear power." This set of problems applied both inside **TEPCO** and in its relationship with regulators. But, in my experience, such problems are hardly confined to Japan.

Let me focus on one aspect of the catastrophe to illustrate the potential benefit of robust internal debate across all industries. Once the earthquake and tsunami occurred, the greatest impact was in the total loss of power at the four nuclear plants, the resulting lack of coolant reaching the reactors and the ensuing damage to the reactor cores. Offsite power lines were broken, and the onsite generators located in a low place on the site were knocked out by the water. Said the Commission, "earthquakes and tsunamis are...unpredictable but unavoidable events." Neither the regulators nor TEPCO had had recent debates about international practice, about worst case scenarios, about how to deal with loss of power — one of the central dangers at a nuclear plant. (From the Report: Tepco and the regulator were "aware that a tsunami with water levels above the ground level of the power plant was a possibility, and would result in a total loss of power.") Had there been a Red Team/Blue Team process, some fairly obvious — and not hugely expensive — alternatives could have been available even for a predictable, but very low probability, combination of a large earthquake and a large tsunami. A redundant set of generators, with water-proofed electrical connections, could have been built away from the plant on higher ground or the utility could have invested in mobile power units stationed away from the coast which could have become readily available.

A Red Team/Blue Team process should thus address two critical questions which require the exercise of judgment by top leaders: First, even if the possibility of an event is remote, is it potentially so catastrophic that the cost of adequate prevention and response is necessary? This includes careful analysis of how to deal with risk in ways that can be effective but relatively economical (such as alternative power supplies at Fukushima). Second, if prevention and response plans are going to be put in place, is

there systematic, dedicated effort toward implementation? This must include coordination with government, meaningful education and drills so personnel are truly prepared to act properly, and a plan to communicate fast-changing factual developments to sustain credibility.

Based on **my long experience in a major, diversified global company**, I strongly urge companies to have this type of carefully structured internal debate at the core of their risk management process. The constructive tension created by competing teams, and the strong encouragement and support of business leaders are essential. Without them, the risks of inattention, complacency and failure to examine key technical, financial or other assumptions can lead to a corporation's people, facilities, information and supply chain being overwhelmed by events. And as we have seen, these catastrophic events can then have an exponential future impact on the corporation (execs fired, market cap tanked, law suits proliferating, reputation sunk, enormous out of pocket cost, years spent fighting multi-front wars rather than growing the company). They can also have an exponential impact on society (personal, economic and environmental harm of enormous consequence).

Of course, a Red Team/Blue Team process is only part of a comprehensive corporate approach to risk management and creating a safety culture. (See my prior thoughts on the range of issues **here** and **here**.) Nor is it a substitute for a strong governmental role in circumstances involving dangerous technology or systemic financial risk or natural disasters. (As to the nuclear industry, see an **outline of the policy issues** from my colleague **Matt Bunn** at the Kennedy School's Belfer Center.)

But it is a core "must do," not a "nice to do," and every CEO should institute a quarterly or twice-yearly debate between Red and Blue teams to review what should be on the company's list of potential catastrophic events and how to deal with them. The lessons from past catastrophes are important, but a continuous and robust process for genuine, detailed exploration of future risks by rival teams is even more important — to business, and to society. When it comes to catastrophic events, the past is only partly prologue.

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