ISSUE 3 : 2011

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Risk managers discuss preparedness and the peace of mind that comes with planning ahead

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A WORLD OF HURT

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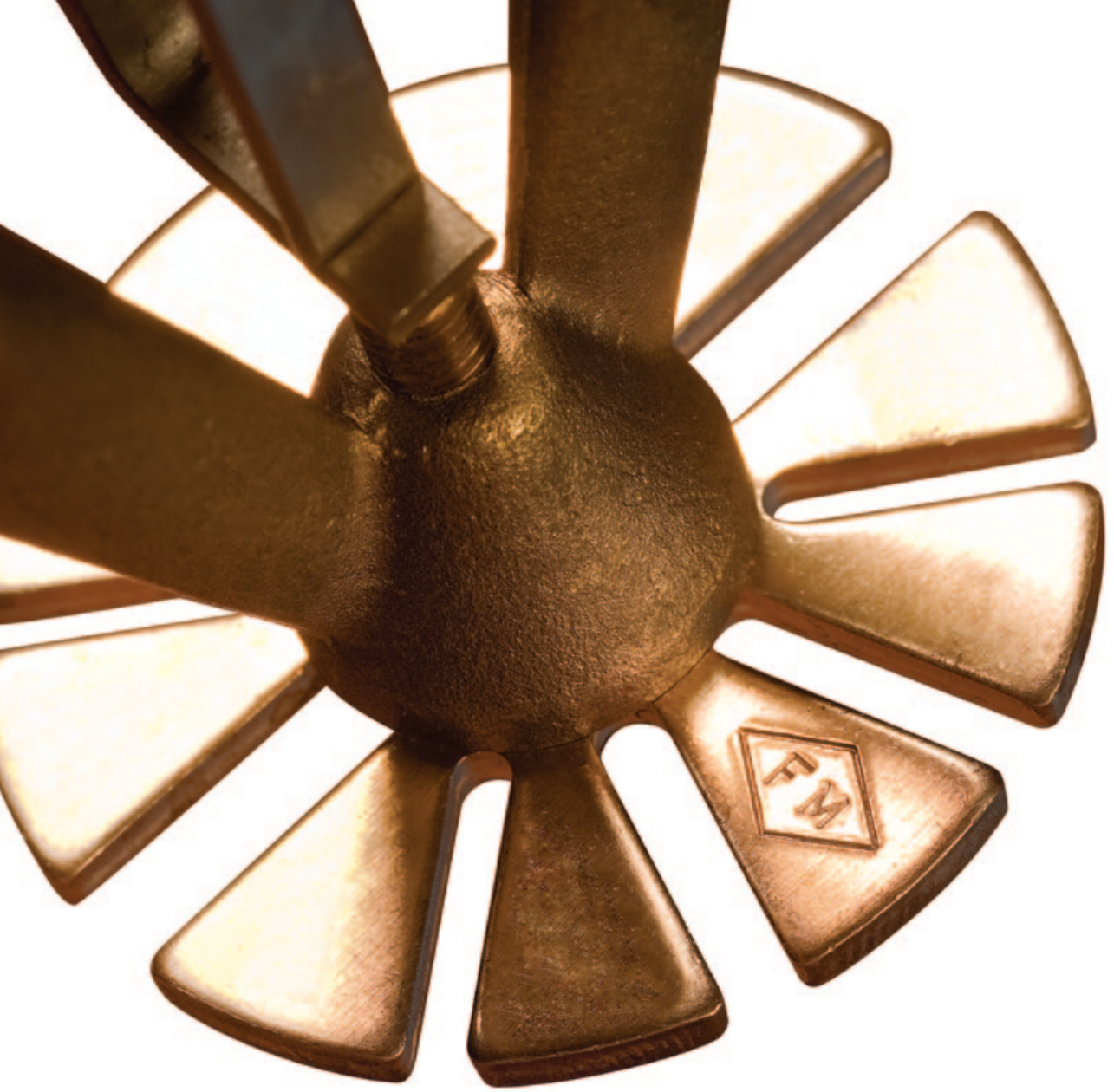

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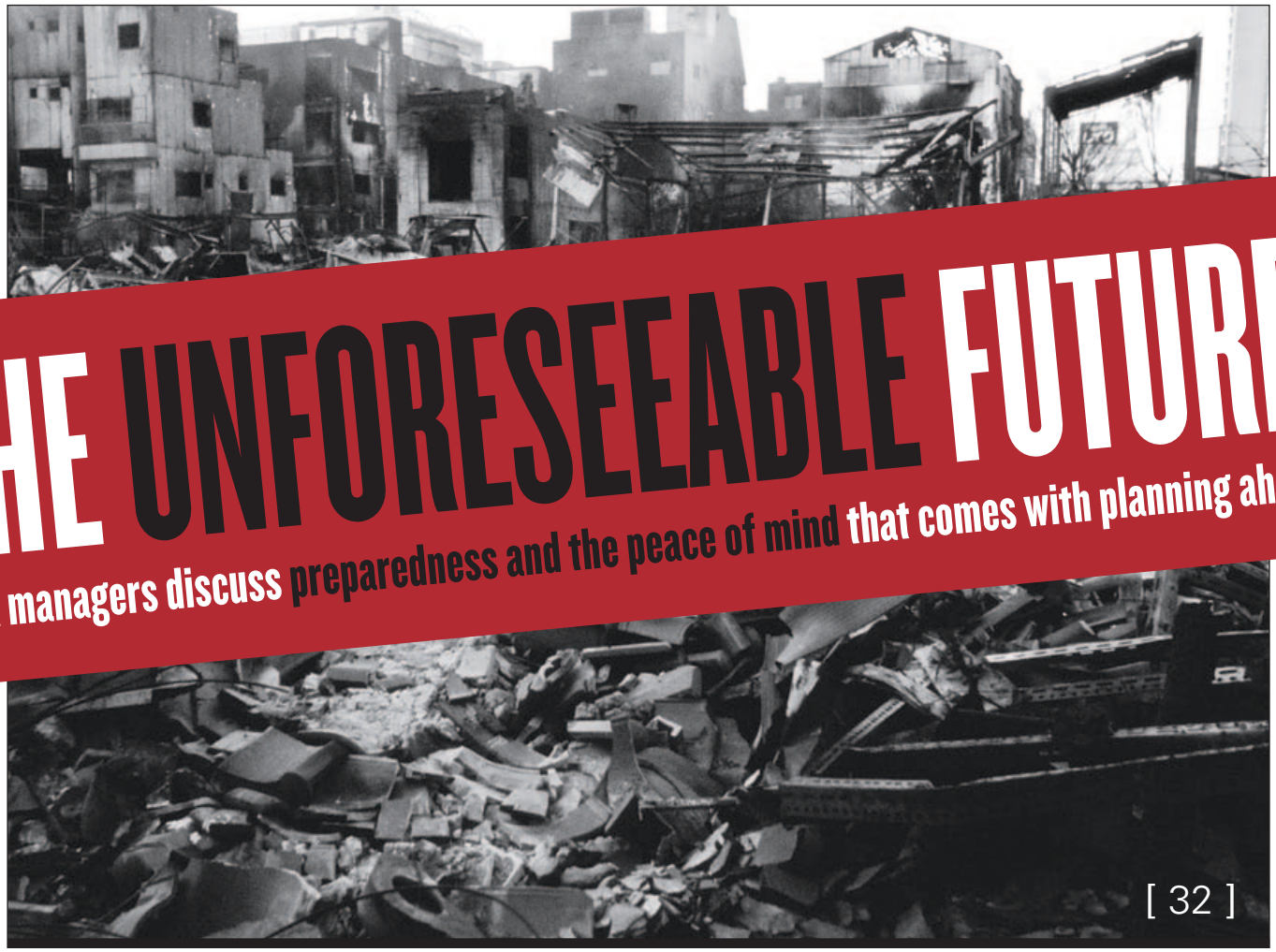

THE UNFORESEEABLE FUTURE

Risk managers discuss preparedness and the peace of mind that comes with planning ahead

FM Global [Reason]

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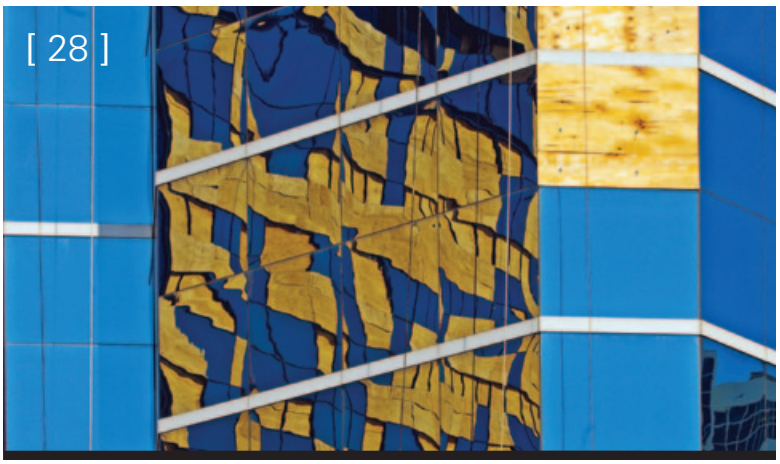

We want your FEEDBACK!

If you have something to say, why not say it?

We'd be happy to hear your feedback on what you've read in the pages of **Reason**. In fact, if it's OK with you, we'll even share it with readers on our new "Feedback" page.

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[CONTRIBUTORS]

JAY CANNON Jay is assistant vice president and manager of a new FM Global hands-on lab in Norwood, Mass., USA. He is responsible for overseeing the operation of this state-of-the-art training facility.

Currently reading:
- *The Unforgiving Minute* by Craig M. Mullaney
- *Highest Duty: My Search for What Really Matters* by Capt. Chesley "Sully" Sullenberger
- *The Crisis* by David Poyer

CEDRIC LENOIRE Cedric became the business risk consulting manager for the EMEA/AP region in January of 2011. He is based in Windsor, U.K., and manages a team of 10 people with business model and finance skills that provides FM Global clients with advice on business continuity management, business reliance, as well as on other risk management solutions.

Currently reading:
- *The Alchemist* by Paulo Coelho
- *Fever Pitch* by Nick Hornby
- *Long Lost* by Harlan Coben

BRENDAN MACGRATH Brendan is manager, international codes and standards at FM Global, a position he has held since 2007. Based in the Paris, France office, he is responsible for overseeing the company's efforts to support building code and installation standard organizations outside of North America.

Currently reading:
- *1000 Years of Annoying the French* by Stephen Clarke
- *In Spite of the Gods: The Strange Rise of Modern India* by Edward Luce
- *Influencer: The Power to Change Anything* by Kerry Patterson, Joseph Grenny, David Maxfield, Ron McMillan, Al Switzler

HELENA RICHARDS Helena, an assistant vice president, is a senior account manager for Northern European operations at FM Global where she manages some of the company's largest and most complex client relationships headquartered in the United Kingdom.

Currently reading:
- *Spoken from the Front* by Andy McNab
- *The Bourne Objective* by Eric Van Lustbader
- *Appaloosa* by Robert B. Parker

Ready, or Not?

You don't need an advanced degree to see that globalization has both flattened the world and changed the way it does business. Not too long ago, a diagram of a multinational corporation's supply chain would have been rather simple, with a few arcing lines crisscrossing a quaintly illustrated graphic of the world. Now, that same rendering would feature more chaotically intersecting lines than a laser light show.

Today's supply chains and "value chains" are spidery webs of dispatch, spirographs of complexity, with products, materials, and goods ping-ponging across the globe. This creates a complicated, filigreed network of reliance, compliance and interdependence. The fragility of these networks is both staggering and frightening. The architecture is marvelous, but when the roof begins to leak…

The business world is full of interruptions big and small, major and minor. On a good day, materials magically come together, products fly off the assembly line into the hands of customers, and everybody's happy. The coffers fill. The economy hums. But what happens when that flow is interrupted, when a thread within that fine web snaps? The lessons from Sendai have helped us understand that. But will we learn?

When an event is unforeseeable, we tend to see it as a freak occurrence, an anomaly. Still, it resulted in untold billions in business interruption costs and supply chain breaks. But what if it isn't as unusual an occurrence as we'd like to believe? As so many of us have seen, our earth can be an angry place.

What we can do, however, is prepare. What we can do is come to grips with what feels like a changing world, even if and especially when we don't expect it. If we are fully prepared for anything, even for the unforeseeable, executives can, at the very least, sleep reasonably well at night.

In this issue, we speak with a handful of clients that have come to embrace preparedness. They've contracted FM Global's business risk consulting group (BRC) to execute business impact analyses and subsequent business continuity plans. The group investigates where the company derives its real value, and then makes sure that value is protected. Essentially, this creates another type of insurance, an assurance, that the value their business creates is protected.

We hope you enjoy reading this issue of *Reason*.

Bob Gulla, managing editor
reason@fmglobal.com

TALK BACK TO US!

If you've got something on your mind, something you wouldn't mind sharing with our readership, send us an email at **reason@fmglobal.com**. Submission of your letter serves us with permission to publish.

I am a risk engineer based in Mumbai, India. Your issue on mitigating flood loss in the face of looming peril is a fabulous work performed. It really helps me to update my knowledge on the latest measures to minimize flood loss. I started reading *Reason* recently and find it a very useful knowledge enhancing tool. Now I started downloading different issues of your magazine online and have also distributed the magazine to my colleagues and friends.

Wasim Khan
Mumbai

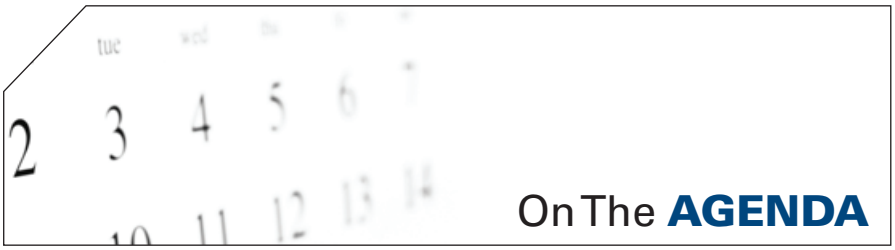
I was reading an issue of *Reason* previously where there was an article on sustainability, and about how sprinklers can help head off the hidden cost of fire, and it struck me that the magazine is truly world class. Many magazines have very good content but they lack good presentation, but *Reason* is different. It is a magazine that is a collectors' issue—not something you read and throw away. Articles have been written and edited painstakingly; that is very clear and the effort shows through.

Kalakad Ganapathy
Bangalore

[*the*LATEST]

"**An effective global insurance program** can produce substantial benefits, including helping to control cost through economies of scale, maintaining greater control and consistency of communication, providing a broader scope of cover on a global basis, enabling inclusion of non-standard covers not available in some countries, and ensuring standardization of insurance processes."

— *STRATEGIC RISK MAGAZINE*



On The AGENDA

BUILD BOSTON 2011

Boston, Mass., USA

Nov. 16-18, 2011

Build Boston is the premier architecture and building trade show in the northeast United States. The show attracts more than 250 suppliers of building technologies, products and services, and more than 16,000 registrants, including architects, engineers, contractors, property managers and designers.

THE 8TH ANNUAL RMIA CONFERENCE

Risk Management Institution of Australasia

Melbourne, Australia

Nov. 20-23, 2011

The Risk Management Institution of Australasia Limited (RMIA) is the largest professional association for risk management in the Asia-Pacific region. Members of RMIA cover every sector of the economy and all levels of government. RMIA's members are located predominantly in Australasia, but there is a growing membership internationally.

POWER-GEN INTERNATIONAL 2011

Las Vegas, Nev., USA

Dec. 13-15, 2011

More than 1,200 companies from all sectors of the power generation industry exhibit each year and more than 19,000 attendees come together at POWER-GEN International for a horizontal look at the industry, with key emphasis on new solutions and innovations for the future.

BAKER DELIVERS PAPER

Wins fire protection research prize

Weston C. Baker Jr., senior engineering technical specialist at FM Global, was recently awarded the William M. Carey Award from the Fire Protection Research Foundation (FPRF), an affiliate of the National Fire Protection Association (NFPA). Presented to Baker for his technical paper, "Storage Sprinkler Design Criteria," the award recognizes the most outstanding presentations given at the FPRF's suppression and detection conference. Baker joined FM Global in 1985 as a loss prevention engineer and now works on developing FM Global *Property Loss Prevention Data Sheets*, designed to prevent and mitigate property loss for clients.

Beijing office develops content for major China insurance report

FM Global's Beijing representative office was asked to develop a chapter for the 2011 China Risk Governance Report, a comprehensive report for the China insurance industry first issued in 2007 and published annually by the China Insurance Regulatory Commission (CIRC).

"We consider this a high honor to be singled out among the many licensed insurance companies and representative offices in China."

Allan Palmer
MANAGER OF FM GLOBAL'S BEIJING REPRESENTATIVE OFFICE

According to Allan Palmer, manager of FM Global's Beijing representative office, this is the first time that a representative office has been invited to join the report's development team. "We consider this a high honor to be singled out among the many licensed insurance companies and representative offices in China," said Palmer. "Our selection can be accredited to FM Global's state-of-the-art expertise in risk management."

FM Global's entry in the report, "Efforts before Risk Transfer—Risk Identification and Risk Improvement," was authored by Fenghui Jiang, FM Global chief engineering technical specialist; Li Yinzi, head of Fire Prevention Institute, China Academy of Building Research; and Dennis Bessant, manager, FM Global Asia operations.

Vice Chairman Ruud Bosman Retires

Four-decade tenure leaves "an enduring mark" on the company

Vice Chairman Ruud H. Bosman will retire in November. Bosman joined FM Global in 1971 and was elected to its board of directors and named its vice chairman in 2009. He has had overall responsibility for all of the company's operations, engineering, underwriting, marketing and claims activities.

"During the past four decades, Ruud has made significant contributions to FM Global's success, especially in the area of strategic planning and direction," said Shivan S. Subramaniam, chairman and chief executive officer. "He will leave an enduring mark on the company and we will miss him."

Upon Bosman's retirement in November, executive vice presidents Jonathan W. Hall and Thomas A. Lawson will report to Subramaniam.

GOING TO COLLEGE

University of Hartford and Virginia Commonwealth University receive grants for loss prevention education

Two U.S. universities have used grants awarded from the Spencer Educational Foundation, a charitable and educational affiliate of the New York-based Risk and Insurance Management Society (RIMS), to create loss prevention course curricula in order to educate the next generation of risk managers.

The US$50,000 grants, funded by the FM Global Foundation, were awarded to the University of Hartford and Virginia Commonwealth University.

The University of Hartford's Barney School of Business has used the grant to aid in the development of three online course modules that focus on the importance of loss prevention in regard to reducing an organization's total cost of risk. "As companies deal with the economic downturn, and their risks become more geographically dispersed, the need for sound loss prevention methods has become increasingly important," says Brion Callori, senior vice president, engineering and research at FM Global.

Ann Costello, associate professor of insurance at the university, says many students are expressing interest in the topic of risk and loss prevention. FM Global loss prevention educational videos and other materials are being used by the university in the newly created course modules, which are also being shared with other college programs throughout the United States.

"We greatly appreciate FM Global and the Spencer Educational Foundation awarding the University of Hartford this important grant," says Costello. "We've already seen the benefits in our classes. This has added greatly to the educational experience of our students and is of tremendous value to professors and students at many different universities around the country." The Barney School of Business has more than 12,000 students enrolled in its bachelor's and master's programs.

Virginia Commonwealth University's School of Business Risk and Insurance Studies Center is using the grant to assist in establishing a graduate-level loss prevention course. The course is designed to train current and prospective business managers to plan, develop and implement risk analysis and loss prevention programs.

"FM Global has always believed that the majority of loss is preventable, and we've seen that risk managers who embrace and champion that philosophy can improve the quality of risk management within their organizations," says Callori.

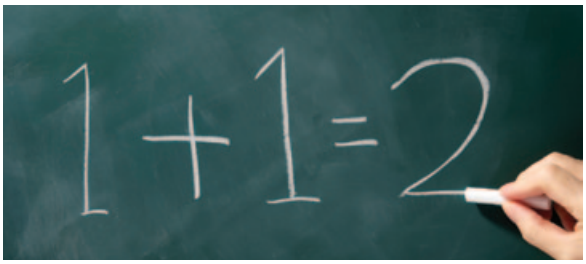
"We've already seen the benefits in our classes. This has added greatly to the educational experience of our students and is of tremendous value to professors and students at many different universities around the country."

Ann Costello
ASSOCIATE PROFESSOR OF INSURANCE AT THE UNIVERSITY OF HARTFORD

Virginia Commonwealth University is among the largest universities in Virginia and prides itself on being the oldest collegiate risk management and insurance program in the state, dating back to 1968. It currently enrolls more than 4,000 students in its School of Business bachelor's, master's, certificate and doctoral programs.

Donna L. Galer, chairwoman of the Spencer Educational Foundation, said, "The grants are enabling the University of Hartford and Virginia Commonwealth University to take a leading role in loss prevention advocacy and, in turn, add value to their collegiate programs."

Adds Callori: "The new courses and tools provided concerning risk and insurance management are good for the students, for their future employees and for the commercial insurance industry."



"The restructured form is clearer, the product is stronger (providing additional coverage), and not a single restriction has been added."

Chris Johnson
SENIOR VICE PRESIDENT, MARKETING AND ENTERPRISE LEARNING

Enhanced FM Global Advantage policy form

Clearer, stronger, easier to understand

Effective July 1, clients were introduced to an improved FM Global Advantage® policy form at renewal. The form features numerous coverage enhancements and is easier to read and understand.

"Essentially, we have taken what is widely considered to be the market-leading policy form and made it even better," said Chris Johnson, senior vice president, marketing and enterprise learning. "The restructured form is clearer, the product is stronger (providing additional coverage), and not a single restriction has been added."

Key improvements include structural changes allowing for easier policy navigation, improved clarity and more consistent use of terminology. Additionally, in support of the new policy, FM Global has enhanced its Policy Commentary tool.

Unique in the industry, the Policy Commentary is now Web-based, building upon the ease of use and flexibility introduced in the original Policy Commentary. It incorporates comments on all the new and enhanced coverage that has been added to the FM Global Advantage form and will be continually updated should there be future changes to the policy and/or additional enhancements.

MODEST PROPOSALS

FM Global's new approaches to storage protection and fire pump standards are on the table in Australia

Standards Australia, an independent, not-for-profit organization recognized by the Australian government as the peak non-government standards body in Australia, has approved for consideration two proposals that may ultimately result in the revision of Australian Sprinkler Standard AS 2118.1 to include both FM Global's new approach to storage protection and its fire pump standards.

"The acceptance of this proposal will ultimately allow the Australia Building Codes Board to provide better and more cost-effective regulation for industrial and commercial property owners."

Brendan MacGrath, MANAGER
INTERNATIONAL CODES AND STANDARDS AT FM GLOBAL

According to Andre Mierzwa, chief engineering technical specialist with FM Global, the approval of the two proposals "is the last hurdle of a multi-stage process." In the case of the sprinkler standard, the proposal hinges around the inclusion of several FM Global Loss Prevention Data Sheets to replace the outdated high hazard section—protection of Storage Occupancies-Warehouses—in the current 1999 version of the Australian Sprinkler Standard AS 2118.1.

The second proposal is for a revision to Australia's Fire Pump Standard and includes improvements to move the standard closer to Approval Standard 1311, *Centrifugal Fire Pumps* Split-Case Type, and FM Global's Property Loss Prevention Data Sheet 3-7, *Fire Protection Pumps*.

Brendan MacGrath, manager, international codes and standards at FM Global, said of the news, "This is a very encouraging development. Thanks to the advances in sprinkler technology making them more effective and cheaper to install and to Andre's long-term relationship with Standards Australia, the acceptance of this proposal will ultimately allow the Australia Building Codes Board to provide better and more cost-effective regulation for industrial and commercial property owners."

ARE YOU EXPERIENCED?

New hands-on lab provides critical training for field engineers

In September, FM Global opened a US$5 million state-of-the-art training facility in Norwood, Mass., USA, called the FM Global Sim*Zone*. The 12,000-square-foot (1,114.836-square-meter) building is designed to provide real-life property hazard training scenarios for field engineers. The building comprises eight labs that present a unique set of simulated property hazards which, combined with instructor-led training, help engineers identify and manage risk. The facility is designed to provide field engineers with an efficient and centralized training program to help them better understand equipment they come into contact with during engineering visits at client sites.

"This new lab provides our engineers with hands-on training in tackling real-life property hazards. This experience will complement the classroom, instructor-led training we have been offering our engineers for years."

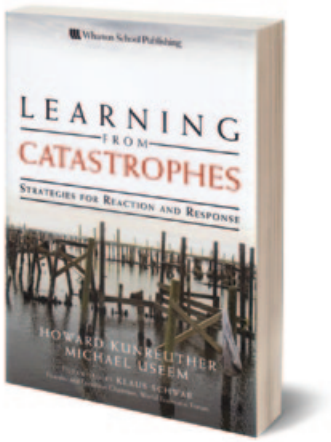
Jay Cannon, ASSISTANT VICE PRESIDENT AND MANAGER OF THE NEW FACILITY

In 2012, FM Global clients will have access to the new lab, allowing their facility managers to also gain hands-on experience with equipment and systems, taking theory and putting it into practice.

Jay Cannon, assistant vice president and manager of the new facility, says it is a "21st century classroom" that will enhance training for FM Global's more than 1,800 engineers. "This new lab provides our engineers with hands-on training in tackling real-life property hazards. This experience will complement the instructor-led training we have been offering our engineers for years. We already have a reputation for producing the best-trained engineers in the industry; now they will become even more trusted loss prevention advisors."

Today's Forecast

Guiding Principles for Risk Management



LEARNING FROM CATASTROPHES: STRATEGIES FOR REACTION AND RESPONSE
Howard Kunreuther and *Michael Useem* (Wharton School Publishing)

Catastrophes, like failures, are opportunities to learn and prepare for future success. To achieve that goal, authors Howard Kunreuther and Michael Useem offer a framework in their book, *Learning from Catastrophes*, to appropriately assess risk and make the right risk management strategic choices. They do so by drawing upon the knowledge of 20 of the world's leading risk management and disaster-recovery experts.

The challenge that decision-makers face in offering the correct choices stems from incorrectly assessing both the probability and the severity of a catastrophic event, and then developing the appropriate strategies. The authors review research that has been conducted on how people assess probability and have concluded that it is based on their experience, regardless of what experts may have communicated. If an event has had great impact (e.g., World Trade Center loss), people ignore the information on the likelihood of an event and focus on its consequences, thereby changing their behavior. In the case of the World Trade Center loss, for example, this meant flying in airplanes significantly less.

The authors offer six areas for improving risk management: risk forecasting, communicating risk information, economic incentives, private-public partnerships, reinsurance and other financial instruments, and resilience and sustainability.

Kunreuther and Useem, both Wharton School professors, provide seven guiding principles in developing strategies and leadership in assessing and managing catastrophic risk. They also provide a collection of articles from 20 experts that present significant insights for today's risk managers.

Chemical Reaction

How an extraordinary 1976 event called the Seveso disaster led to major reforms and helped corporations worldwide reshape hazard analysis

An explosion at a northern Italian chemical plant released a thick, white cloud of dioxin that settled on the town of Seveso, north of Milan.

On July 10, 1976, an industrial accident at Industrie Chimiche Meda Società Azionaria, a subsidiary of Hoffman-LaRoche, located in Seveso, Italy, not far from Milan, released several kilograms of dioxin into the environment, leading to the immediate deaths of thousands of animals and to the exposure of the area's human population to the highest dioxin levels ever found in the environment.

Thousands of farm animals were slaughtered, as a precaution, to keep them out of the food supply; many people had to be evacuated; and hundreds treated for symptoms, such as chloroacne.

In addition to the immediate health problems, which the accident caused, it also had a significant impact on risk management practices and on safety regulations. In particular, the disaster's name was emblazoned on the Seveso Directive and its most recent successor, the European Union Seveso II Directive (formally known as the Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances).

Mike Snyder, global director of corporate safety, industrial hygiene and loss prevention at Dow-Corning in Midland, Mich., USA, says Seveso should be ranked among the watershed events in process safety that has helped to change the face of the industry. He says Seveso was preceded by the 1974 Flixborough disaster in the United Kingdom, in which a large amount of cyclohexane exploded, destroying the chemical plant, killing 28 people, and damaging 1,800 buildings.

"Flixborough got people talking about the management of change, recognizing that, even with good safety practices, a physical change or workaround at a plant like Flixborough could produce a dangerous situation," he explains. "Seveso, in part due to its long-term, widespread and expensive consequence, brought additional attention to many of the same issues."

The other "take away" was the need for more thorough and comprehensive analysis of chemical process hazards. At about the same time as Flixborough and Seveso, a hazard and operability study (now known as HAZOP) was being devised by others in the chemicals processing industry. HAZOPS are structured examinations of a process or operation with the goal of identifying and evaluating problems that lead to risks. And with Flixborough and Seveso as "incentives," they were quickly and widely adopted.

"Nowadays, we perform HAZOPS all the time in order to stay ahead of any potential process problems," says Snyder. "Seveso helped provide the impetus for adopting that practice." Furthermore, he notes, the Seveso disaster has provided an additional corporate-wide incentive at Dow-Corning for formalizing HAZOP and process hazard analyses "to make sure that at all our facilities we have a strong and well-practiced relationship with our community partners in emergency response."

Yet another development that Seveso influenced, according to Snyder, is the CAER (Community Awareness and Emergency

Response) Code of Management Practices, which has been developed by the industry to better integrate corporate and regional safety responses. "In Seveso, the local plan and the actions at the plant were uncoordinated," he notes.

Sadly, admits Snyder, the Bhopal Disaster in India in 1984 occurred before most of the changes inspired by Seveso and Flixborough had begun to spread through the industry.

"There were many similarities between Seveso and Bhopal, but of course Bhopal resulted in much higher human toll," says Snyder.

Remarkably, although it eventually required a massive input of government clean up money, Seveso itself is now largely recovered from the disaster that made it famous. In fact, in some places the soil shows less indication of dioxin than in most other places in the world.

Like Snyder, Eric Scharpf, a partner at Exida, a consulting firm specializing in process industry safety, agrees that Seveso helped set in motion many important developments. "Although the initial Seveso Directives are crude by modern standards, they were one more step on the road to modern practices; this was a major 'nameplate' accident that has prompted significant change," he adds.

Seveso itself is now largely recovered from the disaster that made it famous. In fact, in some places the soil shows less indication of dioxin than in most other places in the world.

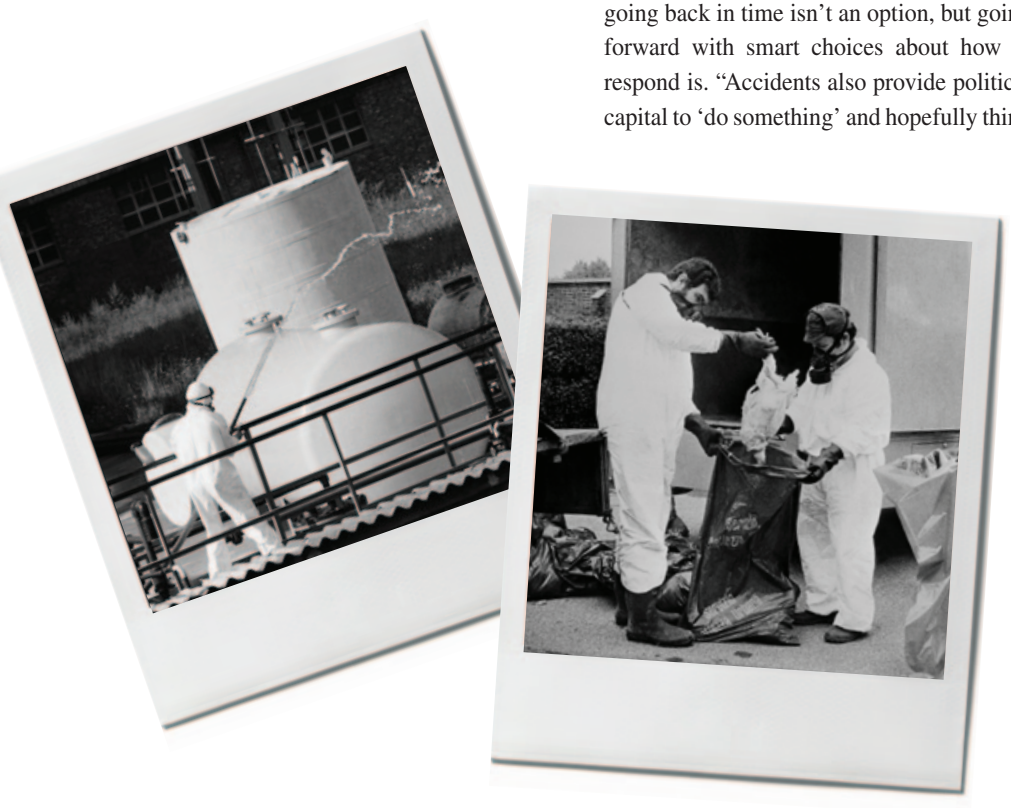
Some of the change came through the corporate culture that Seveso affected directly in Europe first, through the awareness it generated and through the subsequent Seveso Directives. Those ideas began to spread around the world through European multinationals as well as U.S. companies with a presence in Europe. "Larger companies prefer to have a consistent set of guidelines across the company, so if one region, in this case Europe, has a certain set of requirements, that tends to influence operations in other areas, too," he says.

When an accident like Seveso occurs, going back in time isn't an option, but going forward with smart choices about how to respond is. "Accidents also provide political capital to 'do something' and hopefully think intelligently, so that we all take steps forward, not diagonally or backward," Scharpf says. In fact, he notes, safety is continually evolving, the practice of risk management is evolving, and even society's tolerance for risk is evolving.

Chris Johnson, senior vice president at FM Global, says that while the event didn't have direct impact on the commercial property insurance industry, it did make plant personnel take greater responsibility to keep their workplaces safe. "After Seveso, having an accident became something avoidable, rather than something destined to happen. There was a greater awareness on the behalf of managers to ensure safety, which, in turn, affected both the human aspect and the idea that factory floors simply needed to be safer."

Snyder also sees a continued impact from Seveso. "The tendrils of the Seveso disaster are still with us today," he says. For example, notes Snyder, the Seveso Directives started the growing focus on hazard assessment and emergency planning and increased the transparency of accident scenarios. In the United States, that influenced the creation of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA)—commonly known as SARA Title III. Later, in the 1990s, the Occupational Safety and Health Administration (OSHA) developed its process safety management standards; and more recently, the U.S. Environmental Protection Agency (EPA) risk management and planning standard was implemented.

No matter how many regulations there are, though, "We are always fighting culture," says Exida's Scharpf. "That's why it is really important to go back periodically and study the lessons of an event like Seveso," he adds.



Dodging Bullets

Highly resilient organizations effectively handle unexpected events on a regular basis. Would, uh, that be you?

MANAGING THE UNEXPECTED:
Resilient Performance in an Age of Uncertainty (Second Edition)
Karl E. Weick and Kathleen M. Sutcliffe (Wiley & Sons)

The unexpected has become commonplace in our lives in recent decades. Given the interdependency of today's global economy, a small unexpected organizational mishap or an unexamined assumption can trigger major consequences. Organizations have experienced large losses (in financial and reputation) that are exactly due to these organizational failures. Toyota's product recalls in 2010 triggered such large adverse financial and brand reputation consequences that it's still in recovery mode. Others, such as Ericsson back in 2000 with the supply chain disruption, never recovered. Conversely, there are several other organizations that have been resilient to similar situations. What is the key to their success?

Authors Karl Weick and Kathleen Sutcliffe, in their book *Managing the Unexpected: Resilient Performance in an Age of Uncertainty*, point out that high resilient organizations (HROs), such as emergency rooms, nuclear power plants and firefighting units, have the ability to deal with unexpected situations on a daily basis. These organizations have developed the means of dealing with and learning from managing the unexpected. They recognize that planning can only address a finite number of scenarios (dealing with what you know) and that the ability to manage the unexpected is based on how people are prepared to deal with the unknown (dealing with what you don't know). Unexpected events can occur in three forms—an event that was expected to happen does not occur (e.g., a space craft fails to take off), an event that was not expected to happen does occur (e.g., Hurricane Katrina flooding New Orleans), and an un-thought event happens (e.g., the magnitude of the recent Japan earthquake). The goal of HROs is to raise awareness of the third form.

HROs create a collective state of mindfulness that produces an enhanced ability to discover and correct errors before they lead to a full-blown crisis. Theses organizations have five core principles that guide them in dealing with the unexpected, specifically the abilities to track failures on an ongoing basis; resist oversimplification of existing business processes; remain sensitive to their operations; maintain capabilities for resilience; and take advantage of shifting locations of expertise.

The authors provide a list of practices that can be used to apply these principles and show how to respond to threats with flexibility. They provide numerous case studies demonstrating these practices. In addition, the book provides readers the ability to assess and implement mindfulness in their own organizations by answering several important questions.

According to Weick and Sutcliffe, business continuity plans are necessary, but not sufficient to manage the unexpected. What happens when you are dealing with a situation that you have not anticipated in the business continuity plan? The need to have an organization that follows the five core principles is just as important, if not more, to maintain resiliency.

[*the* **IDEA**]

A recent survey conducted to help organizations see a more complete picture of the risks that can potentially impact their businesses turned up nearly 1,000 responses from companies around the globe. Interestingly, 7 percent of respondents represented the insurance industry.

Here are the top 10 risks as revealed in the survey:

1. Economic slowdown
2. Regulatory/legislative changes
3. Increasing competition
4. Damage to reputation/brand
5. Business interruption
6. Failure to innovate/meet customer needs
7. Failure to attract or retain top talent
8. Commodity price risk
9. Technology failure/system failure
10. Cash flow/liquidity risk

— 2011 Aon global risk management survey

Getting a Better Deal for Business

Why building codes should better recognize and reward well-protected properties

Building codes and regulations the world over rightly place their primary emphasis on ensuring that, in the event of an emergency, the occupants can safely evacuate a property in timely fashion, and that the event is contained and does not escalate to neighboring facilities. Industrial and commercial property owners often strive to achieve higher levels of performance by investing in features so as to manage the risks affecting their businesses. Regrettably, when it comes to the regulatory environment, the benefits such features bring often times go unrecognized and indeed are sometimes even penalized. Around the world, FM Global is leading efforts to redress these imbalances in order to achieve what will result in a better deal for business.

When it comes to fire, to achieve the goals of timely evacuation and reduce spread, codes around the globe have typically relied upon the traditional elements of internal fire walls, alarms, fire service response and space separation. These have helped to significantly reduce the numbers of injuries and fatalities, and the urban "Great Fires" are now confined to annals of history. However, week-in, week-out around the world, we read reports of major fires in industrial and commercial premises exposing fire service personnel that were "fully code-compliant," but in their aftermath, these burnt-out plants often suffer such damage that they are knocked-out for long periods, sometimes never being rebuilt, resulting in closure and job losses. The impact on the business, the community, the environment, the local and, when accumulated, the national economy can be severe and long-lasting.

In their desire to ensure that a fire does not render their facility inoperable with the associated grave business risks, industrialists may opt to invest in the superior protection afforded by a fire sprinkler system. Because a sprinkler-controlled fire will be confined to a small area, so are its consequences. Often a facility will be back in business within days if not hours, thereby ensuring that the plant and all the contributions it makes to the community, the environment and the economy are stable. For these reasons, it should make sense that building regulations absolutely recognize and encourage the installation of fire sprinkler systems. The reality is, however, that codes in some parts of the world view fire sprinkler systems as a "voluntary optional extra" or sometimes an "imposition" when the risk is seen to extend beyond the perceived performance of the fire code traditional elements. Yet one has to look at the cost-benefit to society of this regulatory approach.

Providing fire-walled compartments, for example, comes at not insignificant capital cost, but also its overall life cycle cost. They not only occupy valuable floor area, but they also render a facility less flexible and versatile, thereby reducing its useful life as the business expands and outgrows its possibilities. Couple this with the fact that a major debilitating fire is still possible and one can question the cost-benefit of such compartment and can arrive at the conclusion that employing a fire sprinkler system is a better, more cost-effective means of protecting the business, the community, the environment and the economy, all of which are in a legislator's best interests. Paradoxically, though, in the United Kingdom, the installation of fire sprinklers can result in an increase in property taxes. Given the annual cost of fire to the U.K. is 1 to 2 percent of its gross domestic product, it seems counter-intuitive to penalize the installation of sprinklers when the potential savings are so significant.

FM Global's international codes and standards group is reaching out to regulatory authorities around the world in order to start a dialogue in which we can share our accrued knowledge and help to inform the debate over the future of building regulations. We are confident that bringing these views to the table and making their case based on quality data and experience will help to achieve better and more cost-effective regulation for business and society as a whole.

It is very encouraging to see that some jurisdictions are taking very positive steps toward this better deal for everyone. In São Paulo, Brazil, the recently published fire code (May 2011) provides an excellent example of this. For new warehouses, a facility must be built with either 21,500 square feet (2,000 square meters) maximum area fire compartments or, in their place, a fire sprinkler system should be provided. In one fell swoop, this code strikes an ideal balance between the needs of society and those of business.

By recognizing the efficacy and advantages of sprinklers, this code will allow the construction of better protected, more flexible, versatile and ultimately more sustainable properties while, at the same time, off-setting the cost of the sprinkler systems through the elimination of the requirement for small fire compartments. Couple this with the recent development of better and lower-cost sprinkler technology, and the true value of installing this superior protection will be reflected in the regulatory and standards environment.

Brendan MacGrath is manager, international codes and standards at FM Global.

From the Boardroom

Jon Hall, executive vice president, discusses the complexity of globalization and its ever-expanding slate of risks

To date in 2011: Brisbane, Australia, floods with nearly US$7 billion in insurance losses; two earthquakes (February and June) in New Zealand totaling US$16 billion; the March 11 Japan earthquake and tsunami—US$35 billion; tornadoes in the central United States in April—nearly US$15 billion; and the hurricane season under way in the southeastern United States. Where does it end? Losses in the first half of 2011 belie a longer-term trend: increasing frequency and severity of insurance losses. Swiss Re has analyzed natural hazard losses for the past 40 years, and they definitely are on the rise.

What is the underlying factor for this rise in these events? Debates continue on the impact of global warming on natural disasters. But there is one undisputed trend that may have a greater impact on natural disasters: globalization. It is undoubtedly shifting the center of economic activity to emerging markets. Goldman Sachs, in their long-term forecasts, indicated that half of the world's economic activity will be in emerging markets by 2040. The trend is supported by looking at the composition of the global Fortune 500. Today, nearly 100 companies are on that list, compared with only 20 a mere 15 years ago. New global competitors that started as low-cost providers in their

Is your organization prepared?

1. Does your organization **assess risk** in the proper context, both with its own facilities and supply chains?
2. Does your organization's operating philosophy rely on the concept that insurance will **address the risk**?
3. Does your organization adequately address the long-term consequences of potential **loss of reputation and market share**?
4. Does your organization look at **prevention and preparedness** as a long-term investment or short-term expense?

home countries have expanded globally and become world class players—from Samsung to Haier to Tata.

With globalization comes increasing risk complexity. This can be found in different contexts: an increasingly dangerous world as internal strife has unfolded in many countries struggling to gain their piece of the global economic pie. Civil disruption and terrorism in Asia, Africa and, particularly, the Middle East linger and the there seems to be a prevalence of natural disasters in emerging markets.

The consequence of globalization: urbanization. With the rapid development of these emerging markets, populations have been and will continue to migrate to the cities where opportunities for a better life exist. In a March 2011 study by the McKinsey Global Institute entitled "Urban World: Mapping the economic power of cities," the top 600 cities today have a population of 1.5 billion people and a gross domestic product (GDP) of US$30 trillion, representing more than half the world's economic activity. In 2025, the top 600 cities is forecasted to have 2 billion people and US$64 trillion in GDP, representing 60 percent of the global economic activity. And most cities are located next to water or a fault, increasing the risk of political and natural disaster exponentially. The implications on insurance and risk management are dramatic to global corporations in terms of mitigating risk and the insurance companies that they rely upon as they struggle to deal with increasing loss aggregation challenges.

These trends beg the following questions: How are these risks being managed by companies in emerging markets? What are global corporations with extensive dependency on supply chains in emerging markets doing to address these exposures? How can insurance companies respond to their clients' needs? Risk is ubiquitous. Many emerging market global corporations are originating from parts of the world where the concept of risk management has been a foreign one. For many developed-world global corporations, their risks are embedded in their supply chains. In today's business models, studies have shown that 60 to 70 percent of a manufacturing corporation's costs are in their supply chains. Product components travel continents before leaving as a final product in the manufacturer's assembly plant. And yet, most companies are not conducting a risk assessment of their supply chains. Managing supply chain risk is no easy task, and often, companies blindly accept the risk rather than address it.

In the case of Japan earlier this year, most corporations dodged a major bullet. Greenwich Associates conducted a survey of 75 companies in North America with sales over US$1 billion and only one in four had a significant interruption in their supply chains from the Japan earthquake/tsunami, despite the fact that 30 percent of them lacked supply chain interruption coverage. Japan is a country with strong risk management practices and that was a contributing factor. The impact was limited to four key industries: automotive, computers, semiconductors and transportation. Imagine if such an event took place along China's east coast. Or, how about a Katrina-sized typhoon battering China's Pearl River Delta, the world's 16th largest economy?

Risk management challenges are growing and becoming more of a boardroom issue because the consequences can be very dire. Those consequences go beyond the loss of revenue due to a supply chain interruption—a company's market share and reputation is at stake. Resiliency is becoming increasingly viewed as a competitive advantage because, in the face of a disaster, corporations are beginning to view those challenges as an opportunity to win market share and reputation. Those who will win are the best prepared to deal with an imminent disaster.

So, where does it all end? To quote Albert Einstein: "The problems that exist in the world today cannot be solved by the level of thinking that created them." It begins and ends with global corporations viewing the complexity of risk due to globalization and dealing with it head on to prevent and/or mitigate it. Insurance may be part of the solution, insurance alone is insufficient.

FIRST PERSON ▷

Eric Jones

The manager of FM Global's business risk consulting service in the United States discusses his group's business continuity planning philosophy and the significant benefits it brings to clients.

Tell us about the business risk consulting group and some of the principal ways you help businesses meet their risk management objectives.

The primary way we help our clients is through a deeper understanding of their business. We are a group of financial professionals, so we bring a different skill set to the mix. We're not engineers and we're not underwriters. We leverage all of the great information our clients already have, in terms of quality engineering and loss improvement, and add to that a much deeper dive into what's really critical to their business. We help them prioritize their risk management resources by quantifying, in very specific dollar terms, what their business exposures are.

When you combine the financial skills with the engineering information, it provides a **very powerful combination** that no one else in the industry can really match.

How does the process work?

It begins with interviewing the client. A lot of consultants who operate in this arena will use a questionnaire or a shotgun approach to obtaining this type of information. We go in surgically, conducting one-on-one interviews to understand key areas of a business. It might be suppliers.It might be facilities. It might be applications or data centers. We obtain all that information through the interview process and break it down in accordance with our understanding of what's critical to the business.

What do you produce after those interviews?

We produce a business impact analysis (BIA), which helps the client frame its business continuity planning (BCP) effort. A BCP can be an overwhelming task and companies need good direction about how to approach it. A BIA is critical in helping to accomplish that task. It points a company in the right direction, to help them understand what's really important. For example, what's their current situational assessment when it comes to their ability to manage and mitigate a loss? What are some potential recovery strategies that they can employ to further mitigate loss? The BIA tries to answer those questions, and once a client has that information they can develop a business continuity plan.

In your opinion, who is the ideal client that would benefit from this service?

Really, any client. I don't know why a client wouldn't want to do a business impact analysis. It fits every industry, every type of business out there.

Give us more detail about conducting a BIA.

A BIA covers the dollar quantification of various processes and applications. It also identifies the recovery time objectives that are needed; or the amount of time a certain application or business process needs to recover. The BIA provides the information to make business continuity planning decisions. Business continuity planning needs to be focused on revenue stream protection. A BCP is a large, umbrella-type of effort that also includes other elements, such as crisis management—life safety issues, evacuation plans, and such—all of which need to be tested and maintained once the plan is put into place. So there are a lot of different facets to business continuity planning. But the BIA is really at the forefront of that effort.

When you start talking about unforeseen events with your clients, do they generally see these risks and threats as legitimate, or do you have to convince them that unforeseen events are indeed possible?

I think the media has done a great job of doing that for us. You just look around at the world today—in Japan, the floods in Australia, along the Mississippi, the tornadoes in Missouri, the earthquakes in New Zealand. It's unfortunate that people are just now waking up to the fact that disasters do happen. Having to sell that fact hasn't really been an issue lately. What we do is get people to understand that from a business continuity planning standpoint we need to consider worst-case scenarios. It's surprising how often we find companies undertaking business continuity planning without considering worst-case scenarios.

What makes FM Global's BIA unique in the industry?

First, our engineering information. It gives us a huge leg up on everyone else. Our client service teams have already gathered a great deal of information about our clients and their business. Our engineers have already looked at the facilities, understood the hazards that exist, and have found ways to deal with concerns. We then bring our financial expertise into the mix. That's where the certified public accountants and the financial analysis come into play. When you combine the financial skills with the engineering information, it provides a powerful combination that we feel no one else in the industry can match.

How do you communicate this plan to a global company that might have an extensive supply chain and facilities in numerous countries and across numerous continents?

Companies are becoming increasingly complex, especially when you start to consider supply chains. When you look at a business, you have to break it down into manageable chunks. For a company to undertake a BIA or to execute a BCP across a worldwide network of locations, it's going to take time. Rome wasn't built in a day! You've got to start putting your framework in place first to accomplish that. For us, when we visit a multinational client with a diverse business, we want to first scope out an area that makes sense, one that everybody is concerned about, and then work our way down the list. But you've got to start with something manageable, something that can be done in a reasonable amount of time to build momentum and take it from there.

Risk improvement is a very critical part of what we do. **The best way to mitigate a loss is to prevent it.** So, risk improvement is a key element that needs to be factored into any business continuity management initiative.

When a company develops a business continuity plan, what's most commonly overlooked?

I would say they don't often consider supply chain as part of their BCP efforts, and that concept is obviously becoming more and more important. Any business continuity framework needs to consider not just the internal aspects of what a company needs to function, but also the supply chain as well. It also needs to consider what sort of resilience their suppliers have and find a way to measure the effectiveness of the programs they have in place. What we see most often is the lack of consideration of a total disaster, a worst-case type scenario. Often, we'll see a company that has made an assumption that they'll be down for 30 days or 60 days and that's it. They'll create a whole lot of plans at a very detailed level without taking a step back and asking, "Okay, if we lose this entire building to a fire or to a tornado, what's the impact and what do we do?" So, they haven't necessarily accomplished anything if they're only looking at a very small disaster window. Our philosophy is that if you're prepared for the worst-case scenario, then you're prepared for anything.

What has the group done to create greater supply chain awareness?

First, through our normal BIA process we'll complete an internal analysis of the supply chain and identify the critical suppliers that support the business. We'll find out as much as we can from the operations and supply chain people about those companies, and what the monetary impact would be from a significant disruption. Second, assuming the client has enough leverage to get us into the doors of those suppliers, we'll actually apply a lot of the BIA concepts to their suppliers' businesses. We call that our supplier impact analysis, where we go in and get a better understanding of how well-protected the supplier is. Once all of that is understood, again to specific monetary impact, then a company can consider different ways to mitigate that risk. And this doesn't mean just finding an alternative supplier. In a lot of cases, that's not practical or even possible. So then you have to understand that supplier's business, its physical hazards, and what sort of risk improvement areas they need to address to make their business better protected.

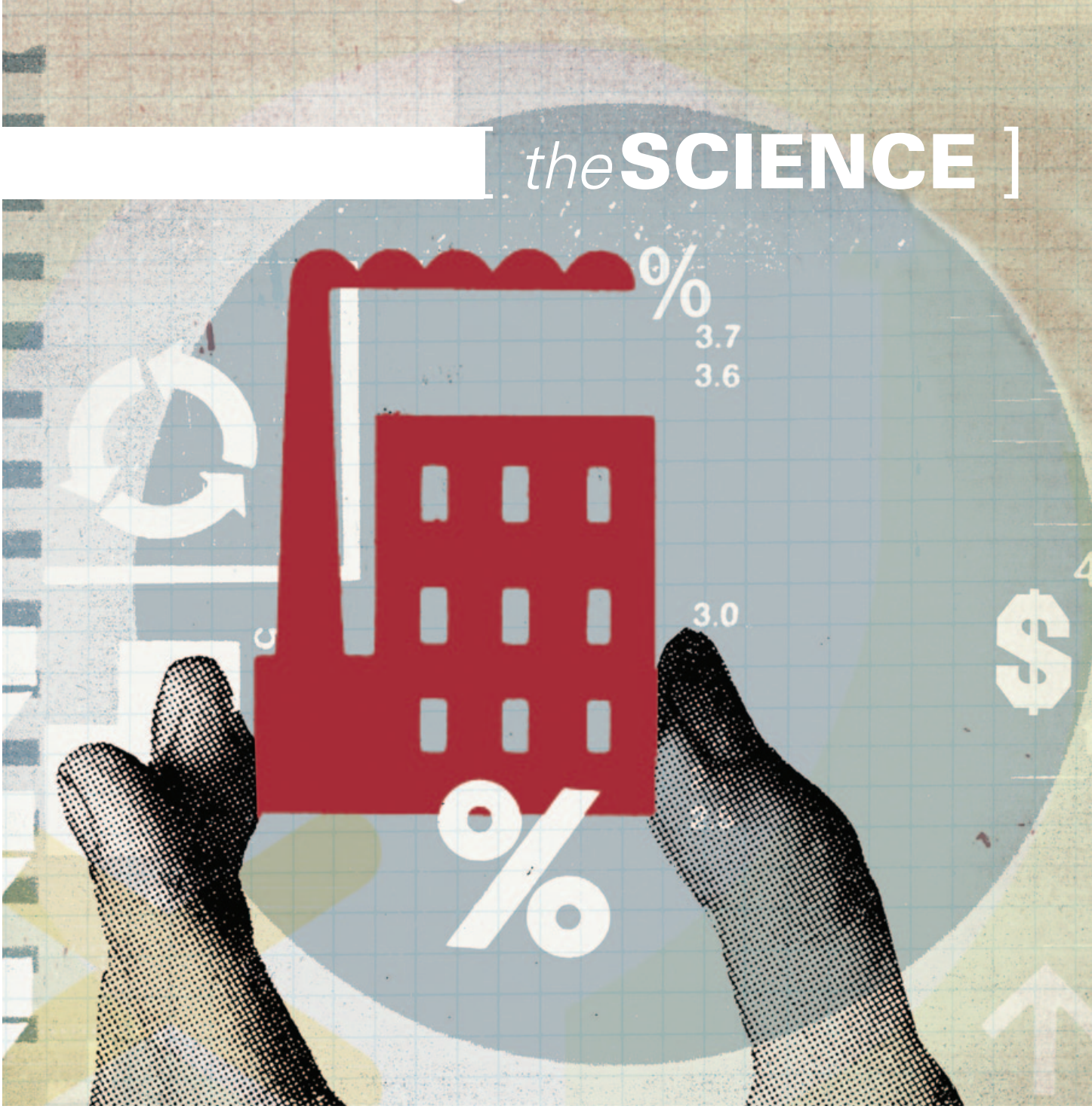
How often does a client invite your group into their supply chain, and do you encounter more significant challenges when you perform a supplier impact analysis?

It's probably a small percentage of the time, because a client has to have a fairly significant amount of leverage to get those doors open in the first place. However, we are seeing an uptick in that over the last couple of years. What I see now is that suppliers are becoming more accepting of that fact. Companies ask them what they are thinking in terms of business continuity planning. There are more and more questions asked in this area, and suppliers have to be open to letting people in to help understand their exposures better. It's becoming a requirement for business today.

How does FM Global's risk improvement philosophy factor into what you do?

Risk improvement is a critical part of what we do. As our clients already know, the best way to mitigate a loss is to prevent it. So risk improvement is a key element that needs to be factored into any business continuity management initiative. Not all exposures or risks that a client has are going to be mitigated through business continuity planning. You've got to consider risk improvement. If they understand their exposures, again in those very specific financial terms, it makes the prioritization of risk improvement resources a little bit easier. They can then better understand where their biggest risks are and which ones they need to focus on from a risk improvement standpoint.

[*the* SCIENCE]



- From 2001-2010, FM Global clients reported **525 ignitable liquid losses** totaling **US$2.1 million** gross.
- Ignitable liquid fires occurred **7.6 times more frequently** than explosions.
- The average dollar loss for losses greater than US$1 million gross was approximately **US$10.7 million.**
- The average dollar loss for losses less than US$1 million gross was approximately **US$0.25 million**.

Note: Many losses below the deductible do not get reported to FM Global. Loss amounts are total gross loss amounts (before deductibles or reinsurance). All loss amounts have been indexed to 2010 USD values.

DISASTER AVOIDED

A contingency plan and emergency response minimize damage

What Happened

Unusually heavy rainfall over several days caused a nearby river to rise and overflow its banks. Floodwater traveled over the intervening land and around the facility, which manufactures medical products. When it became apparent that the water would reach the facility, management enacted the company's flood emergency response plan. While some water entered the buildings, it was drastically minimized, making clean-up and production restoration much easier.

Positive Factors

- As much equipment as possible was raised above floor level.
- Stock was relocated to higher elevations within the facility or placed on stacked pallets.
- All building entrances were sand-bagged.
- Electrical service was restored promptly, and electrical equipment was dried, cleaned, tested and returned to service as soon as possible.
- While waiting for the waters to recede, personnel and appropriate cleaning material were ready. The buildings and equipment were thoroughly cleaned with an antiseptic mixture to restore levels of cleanliness required for medical product manufacturing.
- Special attention was paid to the sterilizer, which is a key production bottleneck. Flooded cable trenches were dried so that electrical testing could quickly be done, ensuring the sterilizer could be operated.
- Client was able to swiftly make up lost production by working several overtime shifts.

Negative Factors

- The facility is located in close proximity to a river.

Business Impact

This facility manufactures surgical dressings and other products requiring sterilization. The materials used are susceptible to contamination and damage from high humidity levels. The emergency response steps taken undoubtedly saved both raw material and finished product from the damage often associated with these types of flood events. The recovery plan was well executed and full production was restored in less than 48 hours. Property damage was limited to about US$100,000, and business interruption was limited to some extra expense to make up production.

What Could Have Minimized the Loss?

Outside of relocating to a facility that is not flood-exposed, this client made every reasonable effort to minimize the flood damage potential. The best defense against flood is to choose a site or relocate operations outside of flood-prone areas. When that cannot be done, implementation of a thorough emergency response plan is vital for business continuity. A detailed, well-executed plan can drastically improve the chances of restoring production quickly.

LOUD AND **CLEAR.**

If you want to cut through the static, head to fmglobal.com. There you'll find clear, concise educational resources and easy-to-understand loss prevention information, all for your benefit.

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Insurance Evolved FM Global®

A CALMING EFFECT

Threat analysis and contingency plans help everyone sleep at night

Natural disasters are at an all-time high this year, with more than 10 major catastrophes occurring in different regions worldwide. And man-made disasters—fire, explosion and the breakdown of vital equipment—happen every day. The action taken following a disaster can make or break a company. Without an adequate contingency plan, a business is at risk for loss of production, profits, customers and revenue.

Creating a contingency plan to deal with emergencies after they happen is a critical action many businesses overlook. J.C. Harrington, senior engineering technical specialist at FM Global, illustrates that contingency planning involves the examination of business interruption and downtime from quantitative and qualitative perspectives. "Quantitative research requires your organization to estimate the financial loss of each business unit if a disaster were to strike," says Harrington. "Qualitative study involves a review of each business unit to estimate the impact of business interruption on quality of products and delivery of services to customers."

The foundation of a contingency plan is the threat analysis. Many believe this analysis is the most important survival tool for a business; it serves as an assessment of a complete range of threats that a company may encounter. Harrington recommends, "Prepare a threat analysis that will consider all potential business interruptions." Whether a company experiences minor damage, such as equipment malfunctions, or major, like a flash fire, all variations of hazards should be considered as possible risks to a facility.

In order to ensure that all threats and hazards are accounted for, contingency plans are best created by teams. Each individual has his or her own background and perspectives that contribute to brainstorming and, ideally, more and better responses to the problem at hand. Teams made up of members from different departments of a business prove to be the most well-rounded. Harrington says, "Include all interdepartmental relationships and necessary services—internal and external." Flow-charts and related diagrams can help with the organization of those interdepartmental relationships. These tools are ideal for managing what happens within each department, including the functions, bottlenecks and support services necessary per each division.

FM Global insures more than 4,500 companies. Every year, the company pays out millions of dollars in business interruption loss. However, many of these losses are more severe than they could have been, had a follow-up plan been in place. During a recent

ten-year period, FM Global reported 1,351 losses where emergency response effectiveness was evaluated. In 1,124 of those losses, emergency response was effective, resulting in an average loss of US$1.3 million. In the losses where emergency response was not effective, the average loss was US$5.3 million.

"Insurance will most likely cover the cost of your property damage and business interruption until you return to production, or until the limit of the policy is reached. But, insurance will not bring your customers back once they have left you for your competitors."

J.C. Harrington
SENIOR ENGINEERING TECHNICAL SPECIALIST
AT FM GLOBAL

Certain events pose greater threats than others and, therefore, contingency plans should be developed in a hierarchy. Each threat should include an estimated length of time and to what extent the possible business interruption will be. If a contingency plan is not developed prior to an occurrence, there will most likely be a gap in production or in the delivery of products and services. Nowadays, customers have low tolerance for long wait times. Companies risk possible long-term loss of market share if all types of risks are not assessed and planned for.

FM Global engineers are excellent resources when assessing risk. "We can provide assistance and information concerning an organization's exposure to flood, wind, collapse, freeze, fire, explosion, service interruption and equipment failure," says Harrington. "FM Global has the ability to analyze threats among facilities worldwide from both engineering and financial perspectives." Moreover, the International Organization for Standardization (ISO) states that businesses must comply with their standard of appropriate business-continuity and disaster-recovery planning. In addition to that expertise, other resources such as third-party and independent consultants and specially designed software can be utilized in forming a company's contingency plan.

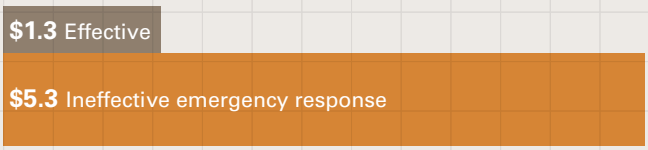
For organizations that rely solely on insurance, arguing that contingency planning is time-consuming and expensive, Harrington counters, "Insurance will most likely cover the cost of your property damage and business interruption until you return to production, or until the limit of the policy is reached. But, insurance will not bring your customers back once they have left you for your competitors."

RESPONSIBLE BEHAVIOR

96% of financial executives surveyed in FM Global's 2008 *Natural Disaster Business Risk Study* said their companies have operations that are **exposed to natural catastrophes** like hurricanes, floods and earthquakes, yet fewer than 20 percent said their organizations were "very concerned" about such disasters negatively affecting their bottom line.

THE IMPACT OF EFFECTIVE EMERGENCY RESPONSE

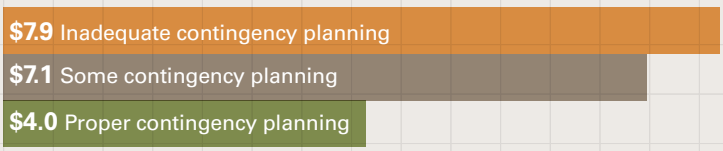
AVERAGE LOSS COST, IN US$ MILLIONS



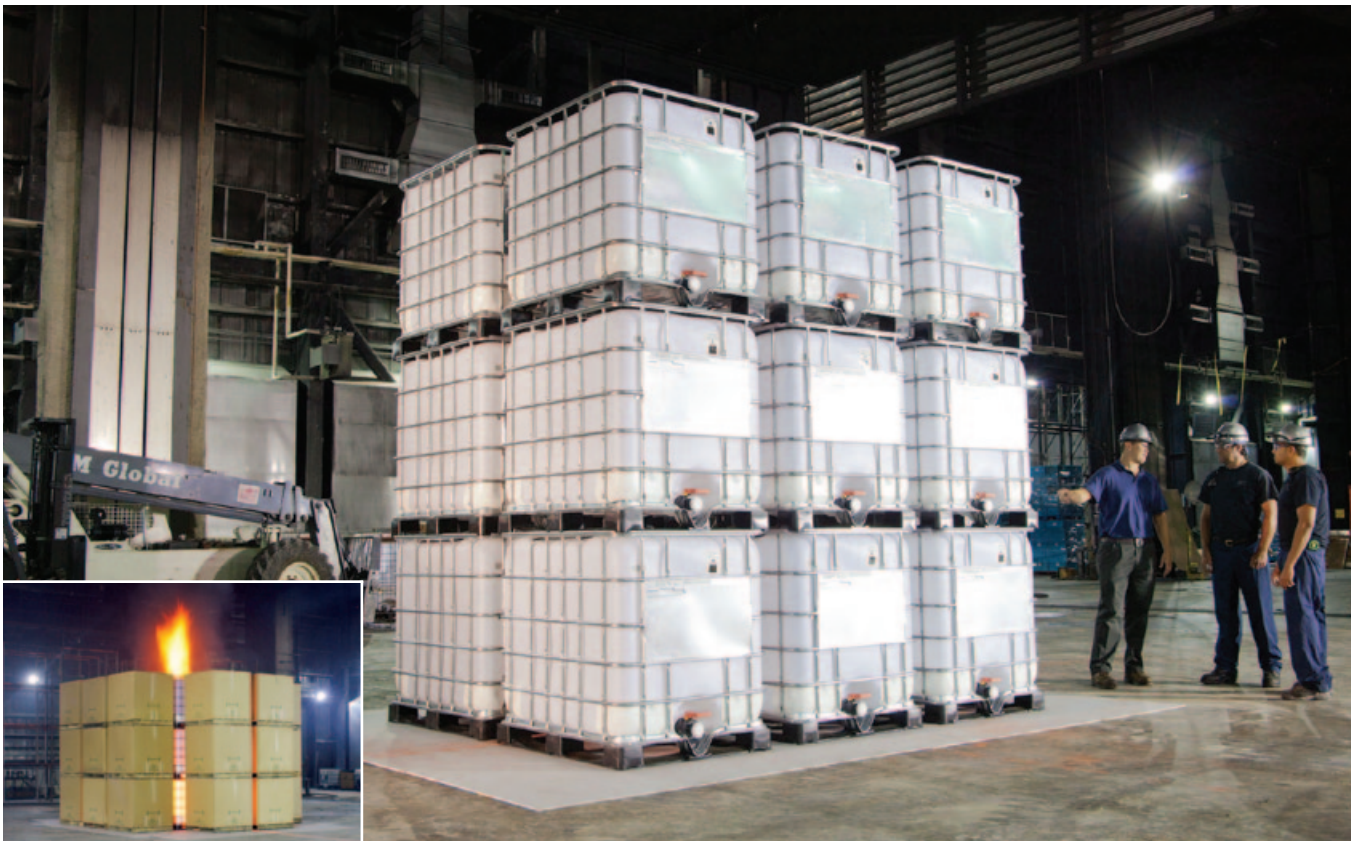
During a recent 10-year period, FM Global clients reported 1,351 losses where emergency response was a factor. In 1,124 of those losses, emergency response was effective, resulting in an average loss of US$1.3 million. In the losses where emergency response was not effective, the average loss was US$5.3 million.

LOSS ANALYZED FOR CONTINGENCY PLANNING IMPACT

AVERAGE LOSS TOTALS, IN US$ MILLIONS



A random sample of losses from FM Global clients found that, of 100 losses analyzed, 54 had some amount of contingency planning in place prior to the loss. The average cost of those 54 losses was US$7.1 million. Where planning was poor, the average cost was US$7.9 million. Where planning was developed properly, the average dropped to US$4 million—a 51% cost reduction.



TAMING THE IBC/ IGNITABLE LIQUID THREAT

Intermediate bulk containers might be sturdy, but they are also prone to failure when exposed to high heat or a small fire

Intermediate bulk containers (IBCs) have become extremely popular in many industries, thanks to their convenience, relatively low cost and volumetric efficiency (compared with traditional steel drums, for example). However, when used with an ignitable liquid, this bit of progress has come at a cost: increased fire hazard. That's because most commonly used IBCs are of composite construction with a light wire-frame cage supporting a thin blow-molded polymer bottle.

Testing, and actual experience in the field, has revealed that, while IBCs might be sturdy enough for transportation, their construction material and methods leave them prone to failure when exposed to even a small fire or source of high heat. In these instances, plastic that has been exposed for as little as a few minutes can fail, leading to a breach when certain hydrocarbons are involved, because their tendency to act as a solvent for the plastic is increased with heat.

The upshot is that a small fire that might have been easy to suppress, when suddenly fed 200-300 gallons of ignitable liquid, can create an out-of-control inferno that can further cascade with the rapid failure of nearby IBCs.

"We have always paid close attention to the challenges created by ignitable liquid storage fires involving small plastic containers, but these challenges with IBC are much different because the containers are larger and they are susceptible to failure with even a small fire exposure," says John LeBlanc, manager, special hazards at FM Global.

According to LeBlanc, many FM Global clients have chosen to employ IBCs due to convenience or economic factors, but they are doing so without adequate fire protection, in part because it has proven difficult to find a fire protection method that works. In fact, for more than six years, FM Global has been working on the problem, but with very limited success until recently.

Others have also been giving the issue attention. For instance, the National Fire Protection Association NFPA 30 Code, *Flammable and Combustible Liquids Code, 2012* requires organizations to employ "listed" containers. At present, only one IBC is listed—by Underwriters Laboratory (UL). "It is the only one listed and we don't know whether it will stand an actual fire test," he adds.

"We found that one of the hazards associated with IBCs is the empty containers themselves; the plastics are combustible and burn readily and intensely, and are difficult to extinguish."

Seth Sienkiewicz, A SENIOR RESEARCH ENGINEER AND TECHNICAL TEAM LEADER OF THE LARGE-SCALE FIRES TEAM AT FM GLOBAL

In fact, notes Christopher Wieczorek, Ph.D., FM Global group manager of fire protection, the UL tests were conducted with water-filled IBCs, which perform differently. "When an IBC is holding a hydrocarbon liquid, as you heat it, it expands and the hydrocarbon soaks into the material, leading to failure within minutes," he says. In short, "We don't even think that a unit approved by our competitors would pass this test."

LeBlanc says he has been working on the problem from an engineering standards perspective, dividing the issue into two parts. One part involves looking at the containers and the other part involves looking at the liquid contents. "From a container perspective, we can define how the containers behave and then create an Approval Standard for them. In fact we now have an Approval Standard for a composite IBC," says LeBlanc. However, to date, there are no products that meet that standard (Approval Standard for Intermediate Bulk Containers, Class Number 6020).

The nature of the liquid also affects failure and the difficulty of controlling or extinguishing the post-failure fire. FM Global has tested specific types of liquid that may have a reduced fire hazard. LeBlanc says what helped with this progress was that FM Global was already performing tests on ignitable liquid. "We tested pool fires of liquid with closed cup flashpoints greater than 200ºF (93.3ºC), greater than 500ºF (260ºC), as well as alcohol. Each group had properties that convinced us we could control the hazard with water-based fire protection. Basically, we focused first on the liquid and then on the liquid in a container," he explains.

The results of the testing demonstrated that substances with flashpoints above 500ºF (260ºC) can be put in IBCs with much less demanding fire protection requirements. "We have now defined the fire protection requirements for liquids with a flashpoint greater than 500ºF (260ºC), 200ºF (93.3ºC) and for alcohols," says LeBlanc. The new protection options for liquid with a flashpoint greater than 200ºF (93.3ºC) and alcohol include storing IBCs only at the bottom level of racks in cut-off rooms, using a solid barrier in the rack above the IBC with in-rack sprinklers below the barriers in the longitudinal in the flue space and at the rack face. This information will be embodied in a new FM Global Property Loss Prevention Data Sheet that will be released soon, he noted.

Seth Sienkiewicz, a senior research engineer and technical team leader of the large-scale fires team at FM Global, has been exploring yet another aspect of the problem. "We found that one of the hazards associated with IBCs is the empty containers themselves; the plastic is combustible and burns readily and intensely, and is difficult to extinguish," he says.

Sienkiewicz says a current testing program looks at additional aspects of the problem. The testing of empty IBCs is a potential hazard after the contents have been released. Engineers will also be looking at the risks associated with a corrugated cardboard IBC with a thin polymer liner.

This design is being touted for the fact that it can be folded flat when not in use, and because it is based on more renewable resources. However, notes Sienkiewicz, engineers are concerned that sprinkler operation might soak the corrugated material, causing it to lose rigidity, perhaps leading to a rupture or a collapse of stacked IBCs.

Further, IBCs are an international issue, notes Wieczorek. "In the United Kingdom, Health and Safety Executive is working to implement regulations to limit the use of IBC and to educate people to their hazards," he says.

In an effort to spur the chemical and container industry to apply fresh creativity to the problem, Wieczorek says FM Global has placed its research capabilities at the disposal of any manufacturer interested in developing an IBC that will pass the FM Approvals certification testing. "We are offering to do the testing for them to encourage the development of new, safer IBCs," he says.

In the meantime, organizations that want to err on the side of safety can indicate their preference for deliveries in traditional steel drums or, in some cases, all metal IBCs. At present, according to LeBlanc, the wide deployment of IBCs skirts compliance with fire codes. And, "Until you start to see a lot of fires or until code officials crack down, it will be hard for us to get much reaction even when we publicize the results of our fire tests," he says.

The bottom line, notes LeBlanc, is that the IBC is packaging and packaging doesn't add value. "If one kind of packaging costs US$200 per unit instead of US$1,000 per unit, the US$200 unit wins," he adds.

THE UNFORESEEABLE

FUTURE

Three risk managers discuss preparedness and the peace of mind that comes with proper planning

The process of managing risk is more demanding than ever before. Lean business models, operational consolidation and extended supply chain networks across the globe have become the norm for many large companies and can pose a significant risk to business continuity. For others, the most pressing concerns are the increasingly complex interdependencies that exist within their own organizations and the need to ensure the operations responsible for key revenue streams remain free of business interruption.

Against this backdrop of change, there has been a simultaneous movement toward more diligence and transparency in corporate governance, adding to the risk manager's challenge to work interdependently and effectively with the board of directors and senior management. In light of all these factors, it's easy to see why departments responsible for managing risk are carrying a heavier load today—and often without the budget, time or personnel they need to be most effective.

FM Global's Business Risk Consulting group (BRC) is a resource to support corporate risk management and business objectives. The team includes consultants with financial, commercial and operational backgrounds. Through this diversity of experience, the BRC has developed methodologies and frameworks to assist clients in enhancing their ability to maintain the long-term continuity of their businesses.

By combining these capabilities with engineering and underwriting expertise, FM Global delivers unique, tailored solutions that enable clients to make informed risk management and risk improvement decisions. These services are delivered as part of the suite of resources available to clients.

"Although it's a challenge to see through all of these physical and business continuity recommendations, it's still important to scientifically think about risk."

GHISLAIN DUFORT
Risk Manager

Introducing Risk Manager Ghislain Dufort

Ghislain Giroux Dufort is president of Baldwin Risk Strategies Inc., a consulting firm in Canada specializing in enterprise risk management (ERM) internationally. He is a member of the Financial Times Non-Executive Directors Club, the Strategic Risk Council of the Conference Board of Canada, and the Global Association of Risk Professionals. He has more than 20 years of experience in enterprise risk management, business continuity and crisis management, foreign investment and international trade, financial services and consulting. Previously, he was director, risk management of Transcontinental Inc., the North American media, printing and interactive marketing and communications company. Earlier, he was vice president and practice leader, enterprise risk for Willis Canada after having been director, integrated risk management at Hydro-Québec International. Before that, he held various positions at the Export Development Corporation (EDC), including secretary of its Risk Management Committee. He has taught at the undergraduate and MBA levels of the HEC Montreal Business School and directed one of its international business programs, and he has been head of finance, administration and research services of the Mathematical Research Center of Montreal. He has an MBA from McGill University (Montreal, Quebec, Canada), as well as a M.Sc. in applied mathematics and a B.Sc. in physics from the University of Montreal (Montreal, Quebec, Canada).

The Scenario

When Transcontinental became a client of FM Global, it had started the implementation of an enterprise risk management (ERM) framework. The director of risk management, Ghislain Dufort, was also looking to establish a business continuity management system as part of ERM to ensure that Transcontinental's critical operations were capable of mitigating a potential interruption. As such, he requested the resources of FM Global's business risk consulting group (BRC). Transcontinental has sponsored nine business impact analysis (BIA) studies for locations in Canada, Mexico and the United States, and has used these reports to guide the development of their business continuity plans (BCPs).

The Challenge

Ghislain Dufort: The purpose of establishing business continuity is to provide resiliency in order to be able to protect operations, customer service, revenues and

market share in the event of an interruption for any reason. We wanted to tackle the big risks each plant was facing, including but not limiting ourselves to major hazards such as fire, earthquake and flood. Just as an illustration, we looked at the transportation infrastructure surrounding the plants. Could a road be closed and what impact would that have on the supply and delivery of goods? To determine the impact of, for example, road closure, you assess how long it could be closed, how long would it take to recover. Were there alternatives? Could we work with the municipal government and neighbors to establish a secondary road, for instance? How much would it cost to build the road? If we take this action, our interruption drops to zero. By investing this amount in getting the road built, the probability of the risk to the main road is the same but the impact of an event on us would be minimized. It's a matter of cost-benefit analysis.

We also needed to emphasize the value of the interconnectedness of different plants in case of interruption. Our company was streamlining operations, closing plants, making more efficient super-plants. Each plant being more dependent on its own for success, stressing business continuity made sense. I found the FM Global service to be very helpful; I took the guidance to business continuity issued by the BRC and developed an internal guide for our own operations, so all plants had the same guide/model. Everyone had a common baseline and framework for who would be responsible for business continuity, what the top priorities were, who the important contacts were. Most importantly, there was information about clients and their specific needs, who were the key suppliers, where would the business relocate if possible. All of the basics were in the guide.

The BIAs performed by FM Global were valuable to us. We started performing them immediately. I looked at the risk at our plants. The first ones we studied were selected based on factors such as revenues and profits at stake, degree of self-resiliency and specific risks being faced. As an example, it is well known that California presents significant earthquake risk and so we took that into consideration when we looked at our San Francisco facility. In order to speed up the implementation of business continuity, we initially selected one plant from each of the different printing operations: the newspaper group, which had a more critical time element, the retail sector, books-catalogs, etc. We had one plant in each group go through the BIA with FM Global, to serve as a model for each of those groups.

One of the challenges was that some people had doubts initially about the relevance of the process. But in my mind, there was significant interest in helping us be more resilient as a company. If we show that we're improving our risk profile, both physical risk and business continuity risks, it will only help. It's a win-win all the way around.

I was present at all the interviews the BRC conducted, and I had the opportunity to sit with all the managers at the plant and think about continuity for two days. Discussing together helped us identify key issues that applied to all of our locations. So we got immediate results from those interviews.

The Action Items

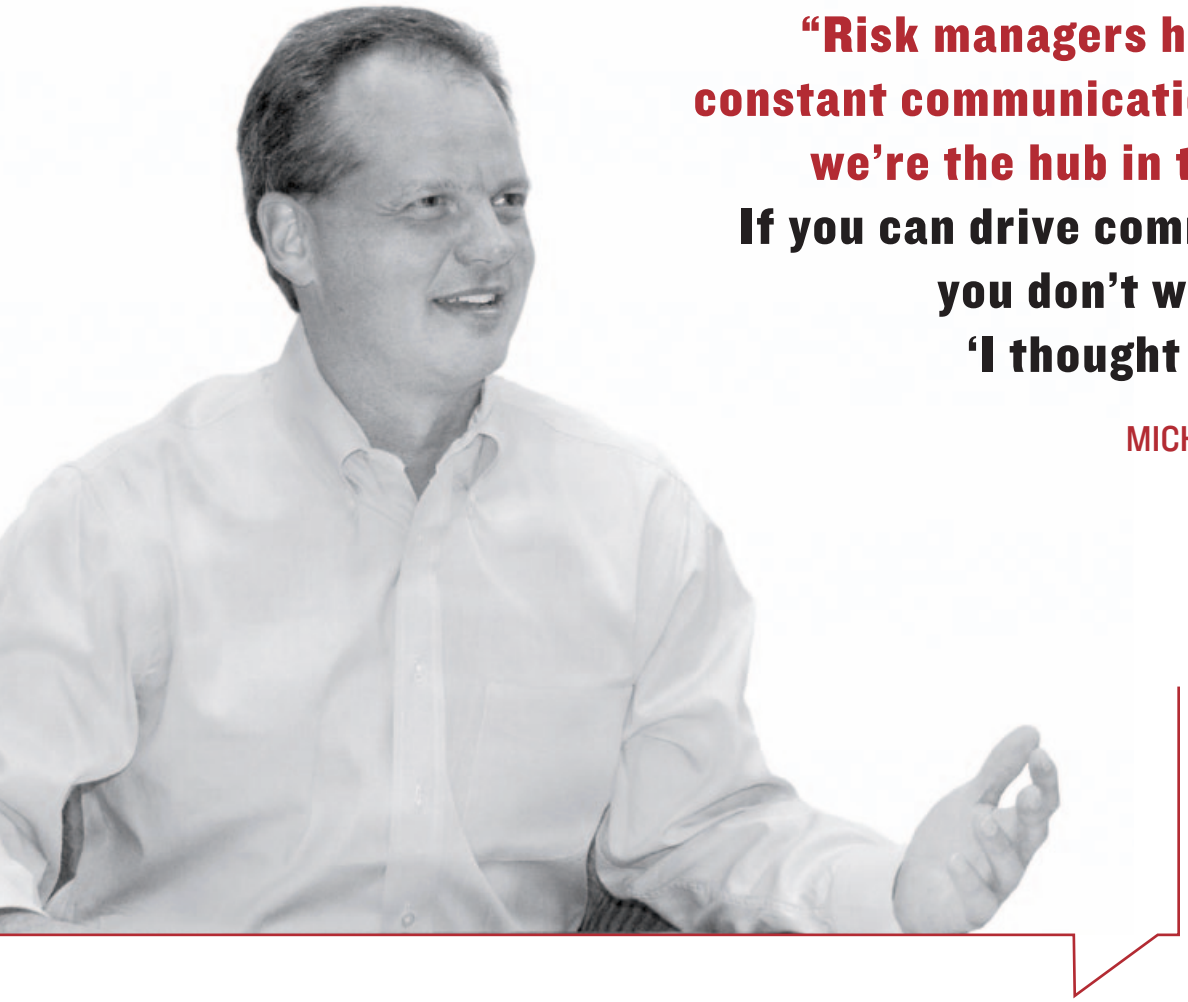
In some cases the actions were immediate. Just to give one very concrete example, in one of our newspaper printing facilities we already had generators and a diesel tank to make sure they could produce even in power outages. But if a power outage was to outlast our diesel tank, we realized that we might not be the first customer on the list for diesel fuel, so we needed a sound contract with the diesel supplier, which gave us top priority. This is just one illustration of so many results of our action plans.

Here's another example: plates are a critical element of the printing business. They need to be procured, properly stocked, engraved, bended and installed on cylinders for printing. Those plates are very sensitive. If you don't bend them exactly right, they won't work on the particular press cylinder. You can get replacement plates easily, but if the plate bending machine for that press is out of service, that is another story. The BRC team helped us realize this more clearly and devise improved resiliency around plate-making and plate-bending processes to make sure we could protect the entire operation. We already had a strong continuity culture because we must deliver daily newspapers regardless of what happens. In 2003, there was a blackout in the eastern United States and parts of Canada. In Toronto the next morning we were the only paper on the street. We moved the printing to Quebec and shipped it to Toronto. So continuity is already ingrained in the company and our business continuity program was well received, as long as it didn't cost too much! In the end it always boils down to a cost-benefit analysis.

The Conclusion

Resiliency is the key word. For those plants in which we took immediate steps, their resilience is much higher. In an ideal world you would have two identical plants not too far from each other, one that sits idly, waiting for some kind of interruption! But in the real world, business continuity management and the resiliency it provides are the best options.

FM Global is very different from other insurers and I highly recommend their BRC service. The professionalism of their team is outstanding. Although it's a challenge to see through all of these physical and business continuity recommendations, it's still important to scientifically think about risk. In fact, being associated with FM Global enhances our reputation with our clients.



"Risk managers have to drive constant communication, because we're the hub in the process. If you can drive communication, you don't wind up with, 'I thought you said…'"

MICHAEL HARRINGTON
Risk Manager

Introducing Risk Manager Michael Harrington

Michael Harrington is Jabil Circuits Incorporated's senior director of risk management. With more than 85,000 employees and facilities in 21 countries, Jabil provides services to customers in a broad range of industries. Harrington's specific responsibilities include overseeing the design and marketing of Jabil's extensive insurance program worldwide; assisting senior management in evaluating and developing appropriate risk profiles; interacting with business sectors as well as with design and strategic groups to facilitate a better understanding of the mitigation possibilities and costs of various risks associated with business and strategic development, expansion and growth; and assisting in achieving a proper balance between risk assumption and risk funding.

Harrington earned his law degree from Boston University (Boston, Mass., USA) and a master of liberal arts in government from Harvard University (Cambridge, Mass., USA). He served in the U.S. Army, and is a Gulf War veteran with nine years of active duty, including time with the 10th Special Forces Group (Airborne). After joining a prominent multi-industry company as legal counsel, Harrington ventured into risk management, a position he held at a Fortune 500 corporation when his work with FM Global's business risk consulting group (BRC) began. "I embraced the risk management career because it is a hard-charging environment that allowed me to interact with business leaders. My legal background came in very handy, too."

The Scenario

Michael Harrington: At my former Fortune 500 employer, the company had been growing very fast for several years, with the business quickly becoming more complex in conjunction with a high-growth rate. Interdependencies needed to be identified and better understood. It seemed that business continuity plans had been developed in some areas of the company (somewhat in silos) but not necessarily in a well-coordinated approach across the company. People's understanding of those plans varied across the organization, with the possibility of some misconceptions as to what areas had been addressed and to what degree. Also, the service segment of the business had been growing quickly through acquisitions.

The objective of the business impact analysis (BIA) was to gain a better understanding of the current risk exposures and ensure they were adequately addressed.

The Challenge

I worked with the BRC, so I knew what the challenges were going to be going in. What I learned early on is that it was critical for me to have top management support. I had to convince them that this was a positive thing. If the right people at the appropriate levels participated, I believed they would have good outputs, and outputs that were actionable.

The methodology of the BRC is very good, and will result in actionable outputs. They needed full disclosure in order for us to quantify the risk. Otherwise we wouldn't get meaningful outputs. At first, this was an uphill battle. My company didn't want to have all that information out there. But the BRCG work is always proprietary and I was certain that the outputs of the team would give us insight into our own practices.

When you look at it through the FM Global lens, the BIA gives me leverage to convince management to make risk improvement recommendations. It also helps to improve our supply chain approach, as well as facility redundancies. At my former employer, the BIA helped us gain approvals for manufacturing, so we could be efficient about continuing business should we have the need to change space. It was all stuff we thought about, but the BIA encapsulated it into a single thought process. It makes the value of it more comprehensive.

Action Items

The BIAs being conducted helped us drive risk improvement. I felt like once these BIAs were done, it gave me leverage to convince management to make important improvements. Maybe that means we'd consider relocating a site that's in a quake zone, or something like that.

Losses are all about dollars. I'm not talking about dollars that FM Global will pay us in case something happens. I'm talking about dollars that are lost in sales, customer satisfaction, shareholder equity, all the intangible assets. In my view, I want to avoid a loss because I'm more interested in staying in business. I want to do smart things and make economical recommendations, to improve my company's risk profile without compromising the balance sheet, and spending an excessive amount of money that is unnecessary. By using this as an additional tool, it helps us take a holistic approach to conducting business.

I view a project with this group not as several BIAs, but as a single BIA. There might be a couple of subsidiaries that will have separate management discussions, but I view it as one BIA. The loss scenarios we discover might be specific to locations, but a single BIA will help us examine a handful of major locations.

The BRC analysis helped us look at our entire process. We brought the FM Global team in and evaluated the business at multiple locations. In the end it validated our model, but it also made a few valuable suggestions and ended up being very helpful. We also disproved certain assumptions the company made. We thought we had some make-up capability that proved not to be. People thought we could make up production at Location B, but as it turned out, Location B didn't have the floor space, so no additional capacity was available. We created a useful plan that allowed that particular business unit to have greater redundancy in case of an event.

In Conclusion

As I said earlier, the process is only as good as the inputs. My role in the BIA process is to identify the key internal leaders to evaluate the organization. I set up the meetings and I make sure that FM Global talks to everybody that matters. It's also important to note that the study is not property-related. It's finance-related.

Risk managers have to drive constant communication, because we're the hub in the process. If you can drive communication, you don't wind up with, 'I thought you said.'

At my previous job, the BIA didn't find any missing holes. But it did validate a number of assumptions. It viewed our business through a different lens, so the business units that were studied could see the consequences of their loss picture.

In the end, it's important that we make sure the facilities are safe and secure. But that's only part of the property loss picture, and arguably, it could be the smaller part of it. It's critical that FM Global brings the ability to institutionalize the thought process around business interruption. Our insurer doesn't just tell us, 'Put in more sprinklers.' FM Global, especially in this case with the BRC, aren't sprinkler salespeople.

"In my view, it was clear that we needed to make a greater effort in establishing a solid approach to continuity management."

RICHARD EALEY
Group Insurance
and Risk Manager
Cobham plc

Employing more than 11,000 people on five continents, Cobham has customers and partners in more than 100 countries, with annual revenue of some US$3 billion. The aviation corporation is engaged in the development, delivery and support of leading-edge aerospace and defense systems in the air, on land and at sea. Cobham's origins date back to 1934 when Sir Alan Cobham founded Flight Refueling Limited (FRL) to investigate Air-to-Air refueling (AAR) techniques. Cobham specializes in meeting the insatiable demand for data, connectivity and bandwidth in defense, security and commercial environments.

Introducing Richard Ealey, Group Insurance and Risk Manager

Richard Ealey began his career in general insurance in 1969 working for a large British insurance company. He joined the Thames Water Authority in 1978, becoming the insurance officer. From there, he moved to Jaguar Cars as risk manager. In 1993, Ealey was appointed risk manager at GEC Plessey Telecommunications (GPT), a position that introduced him to the services of FM Global. GPT then merged with Marconi in 1998 where he worked in risk management until 2005. Ealey was appointed group insurance and risk manager at Cobham plc in June 2005. "I have worked closely with FM Global in the development of loss prevention and business continuity management programs for the group and I currently serve as a member of the FM Global European Risk Management Executive Council."

The Scenario

Senior executives at Cobham considered it essential to improve the resilience of its key revenue streams by developing a business continuity management program. It was also thought this would provide the required assurance of supply to customers. Since 2008, FM Global's business risk consulting group (BRC) has delivered 15 business interruption analyses to Cobham to support them in the implementation of their business continuity management program.

The Challenges

Richard Ealey: I joined Cobham in 2005, and started things rolling in business continuity management. I helped in arranging the BIAs with FM Global. Subsequently I took responsibility for BCM as this was thought to dovetail well with my risk management role. We were going through substantial challenges as a company; we were very busy with manufacturing processes. In executing these BIAs, we needed to cover a wide range of facilities, and each of our major sites needed one. We had initially done 10 of them, and as we acquired other companies we added to that number. Since then, there have been further changes; we have rationalized our business and consolidation onto principal and specialist sites is continuing.

In each BIA, there is a huge amount of detail and extraordinary depth, which created new challenges. In a dynamic industrial environment, it's a snapshot in time. We have seen massive change as a company since those BIAs were done, so it is important to measure risks as they are and anticipate how they will develop.

Also, as supply chains get tighter and tighter, the assumption will be that if you're not able to provide a credible plan, there's a question mark from customers whether we qualify as a capable partner. It's the expectation at the highest level of the company and it's the expectation of our customers that the answer is always "Yes!"

The Action Items

When Cobham originally intended to develop a business continuity program, they asked me for support. I discussed our needs with FM Global and it was agreed they would be able to assist by using the BRC to conduct BIAs at our key facilities. I was impressed by the methodology that was employed and the sensitive way these reports were developed by fitting in with operational time constraints and executive schedules. They also take into consideration the context of the risk to the site itself, which makes it more precise. Once completed and agreed upon, the reports were used as the basis of continuity plans at these facilities. As a result, there has been a significant reduction in risk.

From my view, when I could see the way Cobham was growing and its strategic vision became apparent, it was clear that we needed to make greater effort in establishing a solid approach to continuity management. One way to achieve that was to clearly utilize the resources afforded by FM Global. We needed to move forward in a way that would have been difficult without their assistance.

My experience with FM Global meant I knew I could bring them in and rely on them as a risk management function as well as an insurance partner. I brought them in as a risk management function rather than simply an insurance partner. We have learned things together with regard to the process at Cobham. One thing I like about FM Global is that they are always prepared to listen, learn and improve, in order to evolve the approach. I and other risk managers are equally encouraged to be open and willing to learn, which is a very important part of the function.

The BIAs have helped individual businesses understand their business process as well as their vulnerabilities. In a way, it was not for me to understand the value of the output. Rather, I tried to provide solutions. As a risk manager, I felt it was more important to bring the horse to water, the horse being the individual site, and then making sure there was the specific expertise to provide the BRC the information needed. The business would be able to use the BIA output to assess the bottlenecks and vulnerabilities.

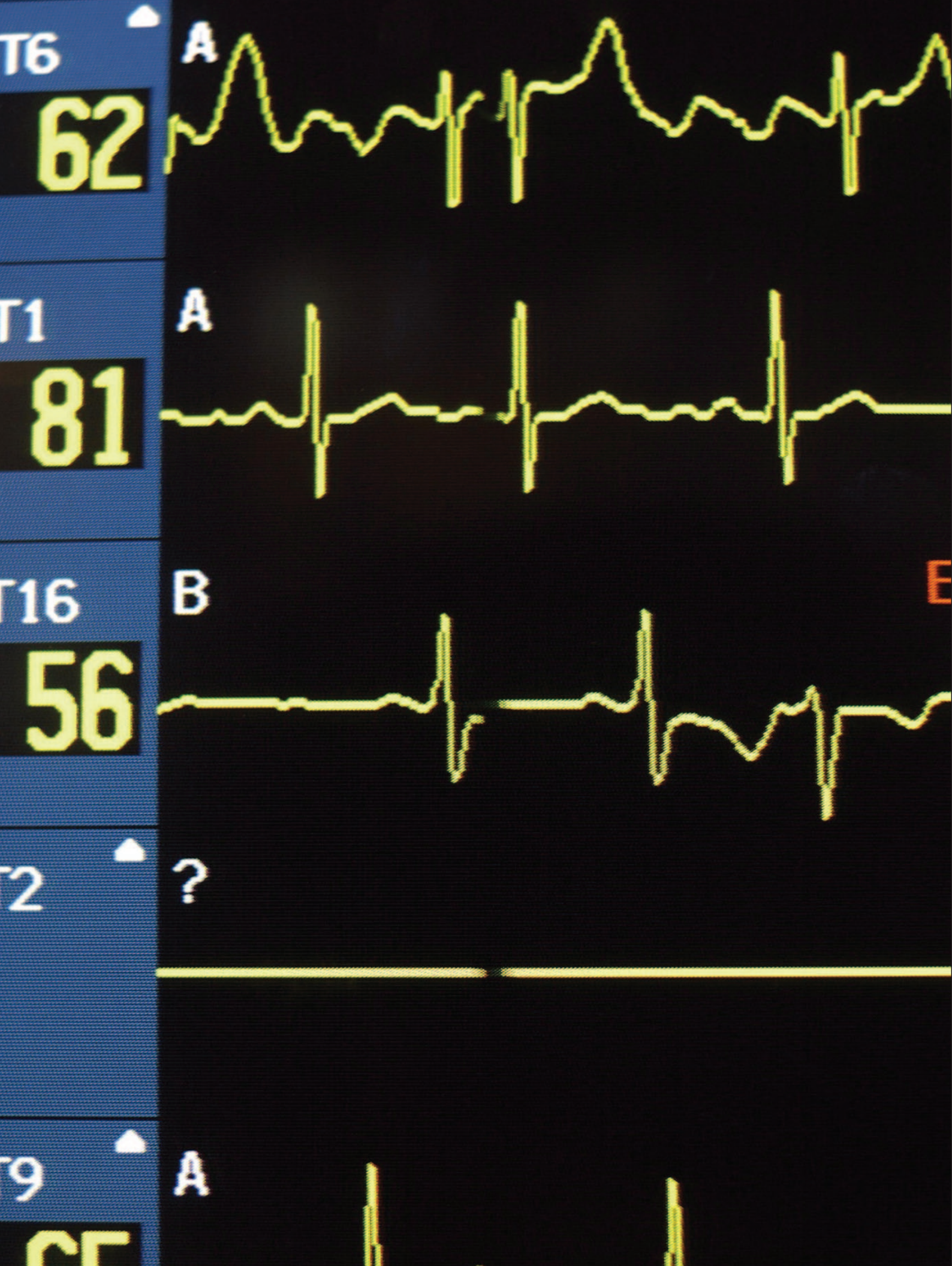
Speaking from feedback, one business in particular said to me how helpful the whole process was. Not just because it gave them the basis for their business continuity plan, but it provided them a wider understanding to help develop the business process they had in place. It's indicative of the kind of powerful information a business can obtain by conducting these analyses.

The Conclusion

Because we have a limited internal risk management resource, when we come to select our insurance partners, it's essential that we work in a way to maximize the value available from them. Clearly, within FM Global, I have no doubt that that was a distinct and advantageous service resource. It is true to say that FM Global distinguishes itself and is distinct from many insurers we have spoken with. They stand apart with the loss prevention and engineering capability included in the service we get with our policy. But the BRC is another considerable resource we can employ to our advantage.

And while I am always aware that they are not in the same building, I have a very close relationship with that personnel. The ready way in which they come to my assistance is testament to that. I rarely have to ask twice.

The relationship between Cobham and FM Global via the BRC has continued to evolve over the years and has resulted in additional support with the provision of guidelines, seminars and webinars, and we have continued this into 2011. Because of these resources, it reinforces the message. Given time, it should become second nature, and part of the risk management culture. It's a key part of the success story so far. [R]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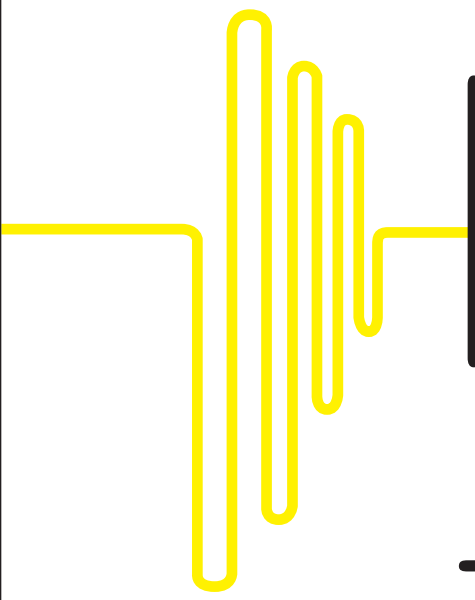

IN CASE OF EMERGENCY

Smiths Medical, a global provider with a complex, highly interdependent supply network, launches a detailed business impact analysis to understand exposures and develop a long-term risk-mitigation strategy.

"YOU DON'T KNOW WHAT YOU DON'T KNOW. AND, WHAT YOU DON'T KNOW CAN DEFINITELY HURT YOU."

That, according to John Baranski, vice president, business risk, audit and compliance of Smiths Medical, was the driving force behind the company's decision in 2009 to undertake a business impact analysis (BIA) of Smiths Medical's operations as part of their group-wide business continuity management (BCM) program.

With 7,500 employees and manufacturing facilities in the United States, United Kingdom, Mexico, Italy and elsewhere, Smiths Medical is a leading global provider of medical devices for the hospital, emergency, home and specialist environments. The company's products, from infusion systems to pressure-monitoring devices, are used during critical and intensive care, surgery, post-operative recovery, and in specialized home therapies.

"Our products support critical medical uses. We are keenly aware that a significant loss or disruption at one of our manufacturing facilities or within our supply chain could create a major situation for the company and our customers," Baranski said. "In an effort to minimize that potential we need to know precisely which products and sites are most vulnerable."

BCM VERSUS BIA

"We were eager to develop long-term risk mitigation strategies to support our business," Baranski said. "To do so, we first needed to determine which products have the greatest impact on the company's overall success. We also wanted insight into the specifics of our manufacturing operations, as well as practical ways to prioritize our response and allocate our resources."

"We decided to complete a BIA as part of our group-wide business continuity program," he said. "While BCM and BIA are not the same—BCM is a far-reaching process designed not only to identify risks that threaten an organization, but also to build resilience, while a BIA identifies exposures through a detailed analysis of the entire business model—they are complementary and interrelated. By addressing them in parallel we were able to use the information gleaned from our BIA in our BCM program for maximum effect."

Smiths Medical launched a detailed BIA that investigated every corner of its manufacturing operations. With extensive product lines, multiple facilities throughout the world, and complex, highly interdependent supply networks, Smiths Medical was challenged to identify its true financial exposures.

"It was vital that we understood which products, made at which facilities, would cause the greatest damage to our company and client relationships if access to them were disrupted," Baranski said. "We needed to undertake a thorough exploration of our business model to help with our decision-making."

Smiths Medical's Melinda Alongi, vice president of finance, global product management, who was fully involved in the process, added, "Certainly going into the impact analysis we had a good idea of where the company was most vulnerable. But going through the formal, detailed BIA process gave us quantifiable figures that reflect our unmitigated exposures. With this hard data, the company is better prepared to determine its appetite for risk and better able to proactively implement specific mitigation strategies, for example, installing redundant equipment or seeking out dual sourcing for high-value items."

FACTORS FOR SUCCESS

Companies attempting to build a strong BCM approach may face many hurdles. Success demands that the timing is right and that appropriate executive sponsorship for the project is available. "I had originally wanted to complete a BIA a few years ago, but Smiths Medical at the time did not have the infrastructure to accommodate this type of close financial investigation," Baranski explained. "But, by 2009, the company was more streamlined and had Oracle in place so the necessary data were available for analysis."

"At the same time, launching a high-level strategic BCM program, rather than relying on the existing location-specific programs, became more of a priority. Conducting a thorough BIA as part of this effort became possible," he said. "And, by that point we had garnered strong management support, which is vital to the success of any business continuity effort, so we knew the time was right."

With management support, data accessible and resources available, Baranski and his team were ready to roll. But they needed assistance. As a niche firm in a highly regulated industry, reliant on specialized, capital-intensive machinery that is difficult to replicate for business continuity purposes, Smiths Medical has exposures that are complex. To better understand them, Baranski turned to FM Global.

"I was familiar with FM Global well before I started working at Smiths Medical," he said. "I knew from experience that they could help provide us with an enhanced understanding of our exposures—particularly our financial exposures—stemming from our property-related risks." Alongi added, "We looked to FM Global to help us utilize robust methodology in our analysis. With their expertise in this area, FM Global helped us look closely at our exposures and then at a range of options for mitigating our major manufacturing-related risk."

BIA—A POWERFUL RISK MANAGEMENT TOOL

FM Global's Rimal Shah, senior business risk consultant, and his team helped Smiths Medical uncover processes critical to the company's success, quantify the potential financial impact of those processes on their bottom line, and then identify robust contingency measures, which will help protect shareholder value in the event of a major disaster at one of their sites.

"A BIA is a powerful risk management tool that sheds light on a company's most critical functions. We view it as an integral part of any effective business continuity management program," Shah said. "Our impact analyses include examination of a company's business model, engineering risks and associated financial impact. As part of the business

model analysis, we explore strategic objectives, key income streams, market-related behavior patterns, operations critical to key income streams, supply chain dependencies and organizational flexibility. The engineering risk analysis focuses on risk prevention or minimization at critical locations, and the financial impact analysis quantifies exposures related to specific, critical processes and facilities."

A FORENSIC APPROACH

"To get started we looked at all products across Smiths Medical. There are hundreds, so for ease, we grouped them into eight 'buckets' and then determined which were most critical to our customers. In essence, we determined which products could have the greatest negative impact if we couldn't deliver," Baranski explained. "Next, we examined which manufacturing sites were responsible for producing those buckets we deemed most critical. We focused our impact analysis on these sites, which we narrowed down to three, including two in the United States."

"With FM Global's assistance, we aimed to answer one key question: if there is a significant incident at one of these three sites, what do we need to do to get back into business? Specifically, we had to determine what we needed to do to recover in the least amount of time—whether it was from failure of a key piece of equipment or something completely out of our control, like civil unrest near one of our facilities," he explained.

"In our analysis, we looked very carefully at every corner of our manufacturing operations at these three facilities. The results were enlightening," Alongi said. "Our analysis clearly showed which manufacturing sites aligned with which supply chains, which products from these sites are most critical to our operations, and the financial impact of these products to our bottom line. This insight, gained with assistance from FM Global, was invaluable as it allowed us to develop procedures designed to expedite recovery. And, we can also use the information in our larger continuity efforts."

BEYOND MANUFACTURING TO THE SUPPLY CHAIN

With the company's BIA of its manufacturing operations completed in January 2010, Smiths Medical asked FM Global to assist with a second BIA, this time on its supply chain.

"After our first BIA, we understood what was necessary to ensure that we could produce a vital product," Baranski explained. "But what if we have that product, but can't get it to our customers? That was the next phase of our self-exploration."

"We went through the entire process again, this time focusing on the supply chains at the previously identified manufacturing facilities—a process we completed last October," he said. "FM Global helped us prioritize. Today, we have a list of practical options to strengthen both our manufacturing and distribution operations."

With the company's two BIAs completed, Smiths Medical is into the execution phase. "Our BIAs showed us what we needed to fix," Baranski said. "Now we are in the process of sorting through our priorities and determining which options make the most sense from both a business and financial standpoint."

What type of options? For example, Smiths Medical may consider installing duplicate equipment at the same site to ease manufacturing problems if there is a critical equipment failure. On the distribution side, the company may want to implement a disaster management plan that details what to do if a particular distribution center goes offline in order to prevent disruptions in product availability.

FIRSTHAND BENEFITS

"Working with FM Global was a good experience for us," Baranski said. "Their knowledge is deep. We appreciated that they were not only focused on protecting property, but also on helping us look at ways to mitigate the potential for downtime in our manufacturing operations. The insight we gained from going through the BIA exercise with them also helped support our own business continuity efforts."

"By integrating the information we obtained through our impact analyses into our overall BCM program we now have a roadmap to help reduce downtime, and mitigate the potential for loss of sales, reputation and other intangibles."

John Baranski, vice president, business risk, audit and compliance of Smiths Medical

For Smiths Medical, BIA has played a central role in helping the company think about how to manage a specific incident—who to call immediately following, what data are needed to respond effectively, and how to put the business back together quickly. "By integrating the information we obtained through our impact analyses into our overall BCM program, we now have a roadmap to help reduce downtime, and mitigate the potential for loss of sales, reputation and other intangibles," Baranski said.

In fact, the company has already seen firsthand the benefits of its BIAs and BCM program. "The volcanic ash that spread across Europe last year affected our ability to distribute our products," Baranski explained. "Fortunately, our BCM plan, which contained insight gleaned from our BIAs, kicked in and allowed us to reroute products so there was no supply outage."

"From my perspective, the benefits of our BIAs are abundantly clear," said Alongi. "After going through the BIA process and completing the analysis, we have the data to proactively make informed decisions regarding which mitigation options and strategies to implement because we are truly aware of our exposures at plants with higher risk and value."

Baranski agreed. "I am a strong believer in both BCM and BIA," he said. "They can help companies reduce the likelihood and severity of loss, as well as ensure that existing risk management strategies are financially beneficial."

But, Baranski cautioned, an organization has to be mature enough to undertake these programs. "A company needs the data analysis capability, personnel, financial resources and management support from the highest level," he said. "Though Smiths Medical was initially hesitant to go through these processes because of concern over its readiness, the company today is a vocal proponent. Our management has seen the depth of information uncovered in our analyses and expects the benefits to pervade the organization as we implement measures that address key findings."

"Our BCM efforts—including impact analyses—are aimed at ensuring the business is sufficiently resilient to withstand the complex challenges of a highly competitive, global economy," Baranski said. "Resilience demands that BCM is not an afterthought. It must be embraced by senior management and throughout the organization, and have a central impact on strategic decision-making."

"FM Global is an ardent proponent of the view that the majority of property loss is preventable. Smiths Medical shares this view," Baranski said. "Smiths Medical is a stronger company for having undergone two impact analyses and, at the same time, for having developed a comprehensive BCM program that leverages information from those BIAs." [R]

DO YOU KNOW IT ALL?

Indulge your inner brainiac and put your knowledge to the test

Question 1 *What, percentage-wise, are your company's biggest risks? (Extra credit for putting the entries in the correct order.)*

a. Financial Risk
(accounting irregularities, fraud, hedging, excessive leverage)
b. Strategic Risk
(decline in demand, price wars, margin pressure, competition, poor acquisitions/mergers)
c. Legal and Compliance Risk
(regulatory conflicts, lawsuits, litigation)
d. Operational Risk
(restructuring, poor forecasting, price declines, poor IT integration)

Question 2 *On average, a 1-in-100 year event actually has a chance of occurring…*

a. At most, once in a century
b. Twice in a century
c. Three times in a century
d. Once in 500 years

Question 3 *According to the U.S. Geological Survey, there are _____ detectable earthquakes each year.*

a. 500
b. 10,500
c. 100,500
d. 500,000

Question 4 *Assuming that China's GDP continues to grow at a rate of 6–9 percent per year, China's insurance industry growth rate would be approximately 7.7–17.9 percent. So, by the year 2020, China's share of the world insurance market would be:*

a. 4%
b. 10%
c. 2%
d. 20%

Question 5 *In the United States, what percentage of total natural catastrophe losses did severe thunderstorms account for in 2009? (According to the U.S. National Weather Service, a severe thunderstorm is one that includes at least one tornado, winds of at least 50 knots, and/or hail at least 0.75 in. [0.02 m] in diameter.)*

a. 5%
b. 25%
c. 50%
d. 35%

Answers

Answer 1
b. Strategic Risk
Strategic failures account for the greatest loss in corporate wealth when measured by a fall in share price. This means your risk assessment plans must include strategic risk, especially as it relates to risk mitigation efforts.

Answer 2
c. Three times in a century.
According to Lou Gritzo, vice president of research at FM Global, there is a 26-percent chance of a major event happening in the roughly 30-year lifespan of a building.

Answer 3
d. 500,000

Answer 4
a. 4%
"The Chinese Insurance Market: Estimating its Long-Term Growth and Size" (Palgrave Macmillan Ltd)

Answer 5
c. 50%
Large insured losses from natural catastrophes are not limited to those caused by hurricanes and earthquakes. In 2009, severe storms including severe thunderstorms and winter storms accounted for 50 percent of total natural catastrophe losses, and there are many years since 1990 in which this percentage was well over 50 percent. When hurricane and earthquake losses are not significant, losses from severe storms typically dominate.
(AIR Severe Storm Models for the United States)

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Reason's First Person video series features in-depth discussions with some of the company's leading experts, including Chairman and CEO **Shivan Subramaniam**, Vice Chairman **Ruud Bosman**, Manager Business Risk Consulting Group **Eric Jones**, and Research Area Director **Hosam Ali**.

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