# RISK & INSURANCE®

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AUGUST 2015

# BLACK SWANS

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## Black Swans

Our award-winning Black Swan issue combines state-of-the-art modeling and analysis from insurance and reinsurance professionals to scope low-frequency events that can strike with catastrophic severity. This year's events include an atmospheric river, a dirty bomb and a coronal mass ejection.



Cover Image by Buzz Erlinger-Ford

### Risk List




Constant connectivity, contemporary offices and pet friendly policies present new challenges.

Presented by Travelers

### Risk Focus: Workers' Comp




The biopsychosocial piece of workers' compensation and return-to-work is getting more and more attention.
By Roberto Ceniceros

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By Katie Kuehner-Hebert

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LRP Publications

RISK & INSURANCE® Magazine (ISSN 1050-9232 USPS 5)008-054) is published monthly except in January and July, semi-monthly in September and October by LRP Publications, Suite 500, 747 Dresher Rd., Horsham, PA 19044, (215) 784-0910. Periodicals postage paid at Horsham, PA and additional mailing office. Single copy price: $8.95. Subscription rates: In U.S., $84.95 for one year; $125.95 for two years; $165.95 for three years. In Canada and Mexico, $95.95 for one year; $155.95 for two years; $205.95 for three years (U.S. currency). In all other foreign countries, $125.95 for one year; $205.95 for two years; $285.95 for three years (U.S. currency); prices include air mail delivery). For subscription information, call (800) 386-4176 or FAX to (215) 784-0317. POSTMASTER: Send address changes to: Customer Service Dept, RISK & INSURANCE, PO Box 2133, Skokie, IL 60076.

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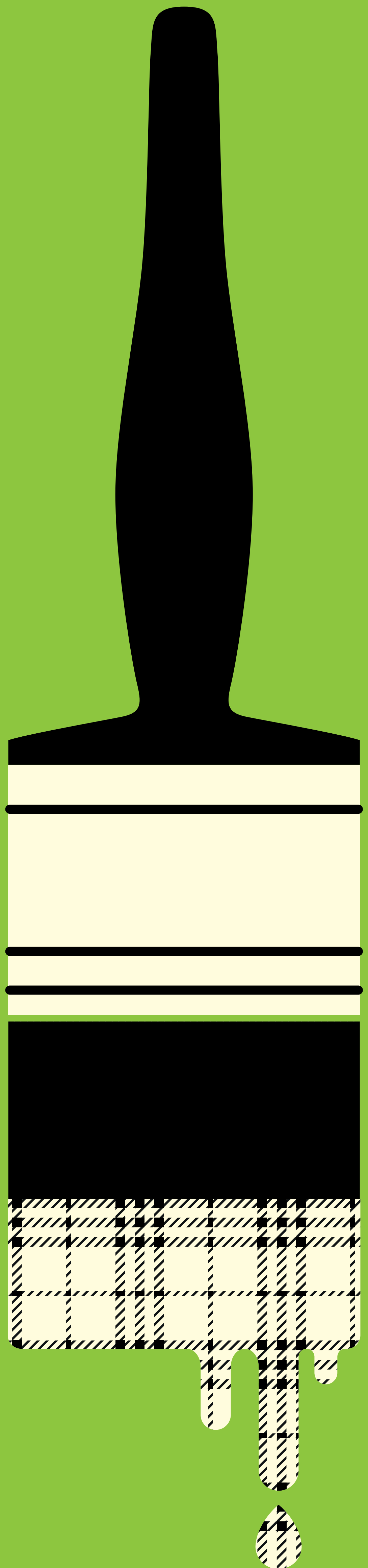

Dan Reynolds
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## Good Things in Good Time

A wave of insurance industry acquisitions are grabbing headlines and spurring speculation.

Do the XL-Catlin deal, the Towers Watson-Willis deal and the Ace-Chubb acquisition signal that even more acquisitions are on the way? Quite possibly.

It makes sense that in an era of excess risk capital investors would want to see their capital put to use, if it can't be put to use in direct underwriting.

But this wave of acquisitions also signifies something else. It signifies what a long-term exercise the work of building a powerful, effective insurance business is.

The work Mike McGavick performed in turning around XL so that it could be in a position to acquire the substantial overseas business of Lloyd's stalwart Catlin didn't happen overnight.

Just look at the career of Evan Greenberg and consider how long it took him to gather the necessary experience at AIG, and then 14 years after he moved over to Ace, how long it took that company to build up the balance sheet to acquire one of the most successful insurance brands in the business in Chubb.

Don't forget, Chubb is more than twice the size of Ace in terms of net premiums written.

These are not back-of-the-napkin moments or achievements. This is a business for the mature, with the patience to work hard and wait for the right moment.

Well managed businesses are now taking advantage of a moment. There's a lesson here.

Don't overreach too soon, mind your own knitting and in the fullness of time, you may achieve something great.

Dan Reynolds
Editor-in-Chief

# NEWS&NOTES

### THOUSANDS OF SANDY CLAIMS REOPENED

Allegations of underpaid flood insurance claims for Hurricane Sandy damage were addressed at a June 2 hearing held by the House Financial Services Committee's subcommittee on housing and insurance. U.S. Rep. Blaine Luetkemeyer, head of the federal flood insurance program, expressed his disappointment and offered explanations.

Sandy resulted in $65 billion in damage and destroyed or damaged 650,000 homes along the East Coast in October 2012. Reports later surfaced that many claims might have been severely underpaid.

Some insurance companies participating in the National Flood Insurance Program's Write-Your-Own program allegedly denied claims based on false engineering reports.

FEMA announced earlier this year it would reopen about 144,000 claims filed by victims of Sandy.

Engineering and insurance firms denied any fault and industry advocates claimed any false reports were made by "rogue individuals" and do not represent a pervasive problem.

### QUIET HURRICANE SEASON AHEAD

The Atlantic season will produce six to 11 named storms, according to forecasters with the National Oceanic and Atmospheric Administration's Climate Prediction Center. Three to six of those could become hurricanes.

**THOUSANDS OF** Hurricane Sandy claims may have been severely underpaid.

The median is about 12 named storms and 6.5 hurricanes, according to Colorado State University's Tropical Meteorology Project. El Niño is responsible for the quiet season. The event warms the water in the equatorial Pacific, increasing strong wind shear in the Atlantic, which reduces the intensity of tropical storms and hurricanes.

Historically, the worst part of the Atlantic hurricane season stretches from the last part of August through September and October, according to the National Weather Service. The season ends Nov. 30. The affected regions include the Caribbean Sea, the Gulf of Mexico and the north Atlantic Ocean.

Last season produced eight named storms and six hurricanes.

### XUBER 2015 GLOBAL REINSURANCE SURVEY

A Xuber survey of top reinsurance executives worldwide found that executing and implementing M&A was at the forefront of their concerns. The ongoing soft market, low interest rates, and increasing third party capital are all contributing factors to M&A activity, which grew significantly at the end of 2014 and the beginning of 2015.

According to A.M. Best, in 2014 there were 50 international reinsurance companies which wrote more than $500 billion of gross reinsurance premiums, with Munich Re the largest ($38.3 billion) and Wilton Re the smallest ($506 million). The spate of M&A activity will change that landscape dramatically.

Ninety-five percent of reinsurance executives surveyed said that cultural integration would be one of their biggest M&A-related challenges. This was followed by integration of multiple systems (83 percent), distraction from business as usual (80 percent), operational alignment (78 percent), and duplication of resources (63 percent).

### CONGRESSIONAL BILL ON DATA BREACH NOTICE

The Congressional Privacy Bill (S. 547/H.R. 1053) contains provisions that would establish a national data breach notice law. These provisions would allow organizations up to 60 days to make individual notifications following discovery of a breach. The bill's definition of "personally identifiable information" (PII) is also significantly broader than any of those found within the current state data breach notification laws.

As with the other provisions of the bill, the data breach provisions would apply to entities within the FTC's Section 5 jurisdiction, common carriers under the Communications Act, and 501(c) non-profit organizations.

Entities that collect, use, transfer, or store PII for fewer than 5,000 individuals during a consecutive 12-month period would be exempt from the bill's provisions. The bill would only cover PII maintained in electronic form.

### LLOYD'S ENDS MARIJUANA COVERAGE IN US

Lloyd's of London has announced it will not renew policies for marijuana industry entities or begin any new business due to conflicts between federal and state laws over the drug's legality. The market said in a statement that it will no longer support insuring marijuana operations of any kind — including crop, property, or liability cover for those who grow, distribute or sell any form of marijuana or cover for the provision of banking or related services to these operations — until the drug is formally recognized by the U.S. federal government as legal.

**LLOYD'S OF** London backs out of marijuana coverage in the U.S.

The venerable insurance market said the current position of non-enforcement espoused by the Obama administration is not enough to provide clarity on the issue.

Lloyd's said it will continue to monitor developments under U.S. law and will consider changing its position if and when the conflict of laws is resolved.

### MORE THAN 6.6M COASTAL HOMES AT RISK OF STORM SURGE

More than 6.6 million homes on the Atlantic and Gulf coasts are at risk of hurricane storm surge with a total reconstruction cost value estimated to be nearly $1.5 trillion, according to an annual report by property analytics and data provider CoreLogic.

According to the report, the Atlantic Coast has more than 3.8 million homes at all levels of risk of storm surge this year with a reconstruction value of $939 billion, and the Gulf Coast has nearly 2.8 million homes at risk and nearly $549 billion in potential exposure to total destruction damage.

For the entire U.S., the report shows there are more than 1.6 million homes at "extreme" risk from storm surge, while 1.4 million properties are at "very high" risk.

*—Compiled by Staff from news and wire reports.*

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# UPFRONT

## CYBER PRICES HARDENING FOR COMPLEX RISKS

Cyber coverage for small businesses is competitive. But for larger entities, it's a completely different matter.

Recently, a hospital with $3 billion in revenue saw its information security and privacy insurance premiums increase 20 percent while its deductible went up by a third, said Greg Gamble, a director with brokerage Crystal & Company.

The cyber program in question covers both first- and third-party claims and includes partial reimbursement for first-party claims such as digital asset recovery and privacy notification, as well as third-party claims for such risks as privacy-related regulatory defense and fine.

"Competing insurers did not offer more compelling terms when we went to market," he added, saying that "for businesses with $1 billion or more in revenue and one million or more names or personally identifiable information [PII] on record, it has become a harder and more selective market in the last 18 months."

During a recent panel discussion, he broke down information security and privacy insurance market pricing as follows:

• A hard and selective market for large and complex risks.

• A competitive excess market for a $50 million attachment point.

• A very competitive and inexpensive market for small or mid-sized businesses.

The information jibes with a WillisWire posted recently by Matt Keeping, which said that the trend remains positive for insurance buyers, with softening conditions accelerating this year.

On the other hand, cyber coverage for point-of-service retailers is increasing by a minimum of 10 percent to a maximum of 125 percent at annual renewals, according to Willis.

Marsh found that during 2014, the number of its U.S.-based clients purchasing stand-alone cyber insurance was up 32 percent over 2013. Its existing health care and education clients had the highest cyber take-up rates at 50 percent and 32 percent, respectively.

Gamble stressed that cyber risk is not just a matter of PII exposure.

"Businesses without consumer information also have exposure to losses related to network disruption and damage to digital assets by hacking," he said.

Coverage for the cost of forensic investigations is also increasingly sought after, Gamble said.

During an webinar held this Spring by Marsh, executives stated that managing cyber risk should be a collaborative effort by finance, legal, compliance and operations.

Regulatory oversight of companies' cyber risk management policies is likely to increase, Marsh officials emphasized, reasoning that cyber is one of the few areas on which both major U.S. political parties can agree.

*— By Janet Aschkenasy*

## CRIME HAPPENS

The median loss from employee theft overall is about $280,000. That amount is roughly equivalent to what a small company (less than 500 employees) earns in net profit.

**EMPLOYEE THEFT** can knock small businesses out, or result in the loss of hundreds of thousands of dollars to larger businesses.

"For smaller employers, [employee theft] has the potential to knock them out," said Doug Karpp, senior vice president and national underwriting leader, crime and fidelity, at Hiscox.

And smaller employers are the most likely targets, according to a report recently released by the specialty insurer, "A Snapshot of Employee Theft in the U.S."

An analysis of federal actions involving employee theft in 2014 showed that 72 percent of cases occurred at companies with fewer than 500 employees. Within that subset, 80 percent of incidents occurred at organizations with fewer than 100 employees, and more than half of those had fewer than 25 on staff.

"Smaller companies just don't have the resources to have robust internal controls," Karpp said.

But even larger entities with more protections in place are not immune. The financial services sector, for example, constituted 21 percent of employee theft incidences. The second most targeted industry was real estate and construction at 13 percent.

However, the median loss for financial services institutions was less than the overall median at $271,000.

"The financial services sector has more resources to detect and deter fraud," Karpp said.

While the retail industry sustained the highest median loss of $606,012, that may partially be due to "idiosyncrasies with the way the study was done," Karpp said.

The report examined only federal court cases, and retailers may very likely encounter many smaller thefts — especially outright theft of funds — that are handled at a local level and thus would not be counted in this study. Those that do get federal attention are more likely to be very large, more complicated losses.

The most common types of theft were outright funds theft (38 percent of losses) and check fraud (34 percent) — when a fraudster alters or makes checks payable to himself.

Or rather, herself. Women were the perpetrators in more than 60 percent of cases, especially outright funds theft and payroll fraud. However, the median loss from schemes carried out by women was about $243,447 — 30 percent less than their male counterparts, who typically committed vendor fraud.

The typical thief is around 50 years of age and works in a senior level position in an accounting or finance role, typically with a long tenure.

Many employers miss signs of fraud because they believe their employees are content and generally trustworthy. In fact, according to Karpp, upticks in fraud — or at least its discovery — tend to happen during poor economic times, which may drive employees to divert extra funds to themselves and also motivate employers to examine their accounting processes.

"One goal of the report is to raise awareness of fraud prevention techniques," Karpp said.

Many companies wrongfully assume that traditional business and property policies cover internal theft. Fifty-eight percent of the cases surveyed for this report recovered none of their losses.

Having a crime policy in place that includes coverage for losses caused by internal fraud is the best way to ensure that a road to recovery exists.

*— By Katie Siegel*

# BROKERS

## CYBER INSURANCE UPTAKE STILL LAGGING

A new report shows organizations are under-valuing their information assets and related exposures.

**DAMAGE TO** intangible assets results in severe losses, but the risk isn't always recognized.

A recent report sponsored by Aon Risk Services revealed a stark contrast in the way risk managers treat different assets for cyber insurance programs.

"It is chronic that organizations are not analyzing the total cost of risk on a relative, comparative basis between tangible and intangible assets," said Kevin Kalinich, global practice leader of network risk and cyber insurance at Aon Risk Solutions.

"Organizations," said Larry Ponemon, chairman and founder of the Ponemon Institute, which conducted the survey, "seem to have a different operating philosophy on assets they insure.

"Both [tangible and information assets] are viewed as very valuable, but insurance for tangible assets was at 51 percent of replacement value, versus just 12 percent for information assets."

Kalinich said the discrepancy comes from senior management's failure to understand the impact on financial statements of information assets.

Companies invest more and more in technology to streamline their processes and improve the way they do business, which helps to reduce their probable maximum loss (PML) for tangible assets.

But they fail to take into account the total value that the new technology offers and how that changes their cyber exposure.

"They aren't comparing the relative value of the assets, the relative exposures, and relative insurance spend of tangible and intangible assets," Kalinich said.

"If they do that, I think they'll come to the conclusion that they are under-insuring on a relative basis."

Not viewing technology as a "balance sheet asset" could contribute to management's tendency to overlook its value, Ponemon said.

The "2015 Global Cyber Impact Report" found that 52 percent of respondents — professionals involved with their companies' cyber risk management and enterprise risk management, working in finance, risk management, compliance or general management roles — said they expected their companies' cyber exposure to increase over the next two years.

At the same time, 72 percent said their current cyber coverage is sufficient.

Despite this confidence, only 19 percent of respondents were carrying coverage with an average limit of $13 million; meanwhile, the Ponemon Institute estimated that the PML from stolen or destroyed information assets could reach as high as $617 million.

Part of the problem lies on the insurance provider side as well.

Many respondents said they did not purchase cyber insurance because coverage was insufficient, came with too many exclusions, or executive management did not see the value, among other reasons.

They have a point.

According to Kalinich, broad and comprehensive coverage with large limits does exist for personally identifiable information (PII) exposure, but not for non-PII cyber exposures such as business disruption, or "tangible damage resulting from an intangible peril."

Those solutions will evolve as the industry gathers more actuarial benchmarking data, he said.

*— By Katie Siegel*

## THE PARADOX OF DRONES

A paradox is emerging in the area of drone or unmanned aerial systems (UAS) coverage.

One the one hand, capacity for UAS-related risks is fairly abundant, according to a report from Marsh. Yet at the same time, underwriting expertise and historical data are in short supply.

As the insurance industry waits for more data to more comfortably underwrite the risk, carriers are working off of forms developed for traditional aviation risks.

The lack of precise language to address the risks of drones is limiting coverage, and by extension the expansion of the commercial use of drones.

According to a recent report from Marsh, entitled "Dawning of the Drones: The Evolving Risk of Unmanned Aerial Systems," insurance is currently available to cover drone-related property and liability risks such as physical loss to the UAS itself (airframe, propulsion units, operating system, and flight controls); the payload — such as camera equipment and sensors — and the ground station/control unit; as well as spare parts and coverage for transit.

On the liability side, coverage is available for bodily injury and property damage as well as product liability for resellers and manufacturers.

### UNDERWRITING CRITERIA

The report includes a checklist of risk factors influencing UAS underwriting decisions.

Those factors include: whether operators are certified by a governing body, the number of hours flown since the craft was manufactured, and engine type and redundancy as well as aircraft range.

Additional factors are also taken into consideration, such as endurance, launch and recovery, navigation, operating environment (urban or non-urban) as well as maintenance, storage, countries and safety of the load while in transit.

**CAPACITY IS** lining up to insure drones, but obstacles remain.

Considering that much of the coverage that exists today evolved from the aviation market, and there is a shortage of UAS-related claims history, some carriers are hesitant to underwrite the UAS sector, despite a general glut of capacity.

"It is difficult with the FAA just starting to open the commercial air space, to know what all of the risks are," an executive with Marsh said.

"There just hasn't been the claims history or litigation to tell where problems may lie."

Exceptions to the rule do exist, however: One coverage that's available with some uniqueness to drones is insurance for the ground control equipment — whether hand-held or via a full cockpit layout (often contained in a van).

"Such coverage varies depending upon the size and type of control station and functionality," according to the Marsh report.

Still, risk specialists wanting a UAS insurance program addressing only what is needed for unmanned aircraft may want to consider markets who've been hard at work crafting specialized coverage for drones.

Another factor limiting the expansion of commercial drone use is a lack of regulation from the FAA. Congress has asked the FAA to issue regulations by September of 2015.

The FAA recently announced it could miss that deadline by as much as two years.

*— By Janet Aschkenasy*

# LEGAL SPOTLIGHT

## FLORIDA WORKERS' COMP LAW UPHELD

In 2010, Julio Cortes sued his employer Velda Farms after being injured while operating equipment. He alleged the company was negligent and should not be permitted to claim immunity under the Workers' Compensation Law because the injury claim had been denied by Velda Farms and its insurer.

The Cortes lawsuit was amended in 2012 to argue the state's workers' comp law was unconstitutional, although the State of Florida was never added as an additional defendant to the lawsuit.

Several months later, Florida Workers' Advocates (FWA) and the Workers' Injury Law and Advocacy Group (WILG) intervened in the lawsuit. In 2013, Velda Farms voluntarily dismissed its defense of immunity — later being removed from the case — and sought to dismiss the claims.

A trial court concluded that WILG and FWA "lacked standing" to pursue claims of unconstitutionality.

Later, however, Elsa Padgett, who had been injured in 2012 while working for Miami-Dade County, sought and received permission to intervene in the case, seeking a judicial ruling on whether the state's workers' comp law was her "exclusive remedy."

The state advised the court, upon its request, that it was not a party to the action, and stated the court lacked jurisdiction to rule the law unconstitutional. After the court struck the law down, the state appealed to the state's Third District Court of Appeal, which reversed the decision.

On June 24, the appeals court ruled the constitutionality question became moot when Velda Farms left the proceedings, that the state was never a party to the lawsuit and that FWA and WILG had no standing to pursue the case "based exclusively on a predecessor plaintiff's subsequently dismissed claim."

**SCORECARD:** Employers are immunized from lawsuits related to covered, work-related injuries.

**TAKEAWAY:** The Florida Workers' Compensation Law remains the exclusive remedy for injured workers.

## INSURER HAS NO DUTY TO DEFEND

Global Fitness operated a regional chain of fitness centers, and contracted with data company Federal Recovery Acceptance Inc. (FRA) to process member accounts and transfer members' monthly fees to Global.

Global obtained credit card and other information from its members and uploaded the data to FRA's encrypted website for FRA to manage the electronic billing. For security purposes, only FRA retained the billing data.

After Global entered into an asset purchase agreement (APA) with LA Fitness, it requested the return of member account data. It was agreed that FRA would retain members' banking and credit card information until the LA Fitness deal was near closing.

But later, FRA refused to return the data. FRA issued several "vague demands for significant compensation" above and beyond the terms agreed to in its contract with Global, according to the legal documents. FRA also refused to transfer some member fees until the matter was resolved.

Global claimed FRA's position was unjustified, and that the delay threatened its ability to comply with its obligations under the APA with LA Fitness, causing a decreased purchase price.

Global sued FRA for tortious interference, promissory estoppel, conversion, breach of contract, and breach of the implied covenant of good faith and fair dealing.

FRA, which had a cyber policy with Travelers, sought a defense under that policy, which included liability for any "error, omission or negligent act relating to the holding, transferring or storing of data."

Travelers provided a defense under a reservation of rights, while seeking a judicial declaration on its duty to defend FRA.

The U.S. District Court for the District of Utah determined on May 11 that there was no duty to defend.

It held that Global's complaint did not allege that FRA withheld the data as the result of an error, omission, or negligence. On the contrary, it ruled, "Global alleges that Defendants knowingly withheld this information and refused to turn it over until Global met certain demands."

**SCORECARD:** Travelers had no duty to defend Federal Recovery Acceptance Inc.

**TAKEAWAY:** Although the insurer prevailed in this case, other jurisdictions have ruled that an error need not be negligent for coverage to be available.

## POLICY DID NOT COVER SETTLEMENT NEGOTIATIONS

In 2007, computer tapes containing personal information of current and former employees of International Business Machines (IBM) fell off an Executive Logistics Services LLC (ExLog) truck.

ExLog had been contracted to provide transportation services for Recall Total Information Management Inc., which had a contract with IBM to transport and store such tapes.

Although the information on the tapes, which were retrieved by an unknown individual, has never been used, IBM had more than $6 million in losses resulting from the event, including providing identity theft services to employees.

In "informal negotiations," IBM sought reimbursement from Recall and ExLog.

Federal Insurance Co. had issued ExLog a commercial general liability policy, and Scottsdale Insurance Co. had issued ExLog an umbrella liability policy. Both policies named Recall as an additional insured.

Both insurers declined to participate in the negotiations or provide coverage to the companies, who then sued the insurers claiming breach of duty to defend as well as seeking coverage for claims made by a third party.

Both a trial court and appellate court ruled in favor of the insurers. On May 26, the Connecticut Supreme Court agreed with the lower courts, which had found that the loss of the computer tapes was not a "personal injury," which was defined in the policies as electronic, oral, written or "other publication of material that … violates a person's right of privacy" — because there was no publication of the information.

In addition, the court ruled there was no breach of duty to defend because the settlement negotiations did not involve a lawsuit or "other dispute resolution proceeding."

**SCORECARD:** The insurance companies did not need to provide more than $6 million in coverage for losses.

**TAKEAWAY:** Informal settlement negotiations did not trigger the insurer's duty to defend the policyholder.

— *By Anne Freedman*


Your
groundbreaking
ideas
+
Our
pioneering
solutions
=
Creating
new opportunities

**ROGER'S SOAPBOX**

- Roger Crombie

# Sun-Consciousness

Fawlty Towers was a British TV show considered the acme of the half-hour situation comedy program. Basil Fawlty, owner of the eponymous hotel, would tell fibs that required much larger lies as situations ballooned out of his control. The greater truth underlying the show's humor was how, in the ordinary course of events, the slightly ridiculous can become the completely deranged.

Basil was fictional, but his antics were greatly more believable than those of Maria Angeles Duran, a 54-year-old mother of four from Vigo, Spain.

She claims to own the sun, and in 2013 began selling square-meter plots of it on eBay. So far, so slightly amusing.

eBay didn't see the humor, and since one cannot sell what cannot be owned, sent her packing. Duran, an unusual character whose earlier exploits included founding a religion and attempting to copyright Tarzan's original call, sued eBay for breach of contract. The auction website tried to settle, but failed.

By that time, 1,000 people had bought plots on the sun, at one Euro a throw. As if that weren't Fawlty enough, Duran applied to a Spanish court to be allowed to sue eBay and was granted permission.

A little spot of eccentricity has thus become a brouhaha of absurdity, and we're nowhere near the end of the story.

Consider the matter from the insurance perspective.

For a start, it would be difficult to assess the nature of solar risks, and therefore to price them. The finest insurance modellers offer nothing in this area. A visit, in order to carry out a risk assessment, is out of the question.

Not even Sun Alliance (now part of the RSA Insurance Group) offers coverage against the type of risks one might experience on solar real estate.

The surface temperature of the sun is just shy of 11,000 degrees Fahrenheit. That rules out most homeowners' insurance, as well as fire and probably all risks. Life insurance for those planning on moving to the solar region is also limited; not even Sun Life of Canada offers any relevant policies.

Experience tells us that, were construction possible on the sun's surface, people would build homes dangerously close to the lava stream and then howl when their insurance premiums rose following an intense solar windstorm.

In most jurisdictions, Duran's case would not have made it to the courts. Spanish law, however, is an odd beast and Duran might win. What then?

Solar builders would be unable to insure their projects, which would raise prices significantly. Duran might then sue the insurance industry for restraint of trade.

An insurance commissioner would have to be appointed to address issues arising from solar developments, and would need a hefty staff, the sun being quite a big place.

The NAIC would have to become the GAIC — the word National being replaced in its title by the word Galactic.

RIMS would have to be held on the sun every few years, which would be tricky since cocktails evaporate long before the temperature reaches 11,000 degrees.

Reinsurers would balk at any involvement, and a Solar Pool Re would have to be established.

A little far-fetched? Best to think ahead, I say. Plans are afoot for manned colonies on Mars, and insurers are already way behind on that project.

It's time for the industry to develop sun-consciousness before the hedge fund guys beat them to it.

**ROGER CROMBIE** *is a United Kingdom-based columnist for Risk & Insurance®. He can be reached at riskletters@lrp.com.*

# RISK MANAGEMENT

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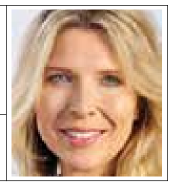


# Naked Risks

For the past three and a half years, I have proudly served the 2015 Pan American Games organizing committee as their VP of enterprise risk management. These continental Olympics for the Americas, which run from July 10 to Aug. 15 in Toronto, are the second largest games, worldwide, second only to the summer Olympics, with more than 10,000 visiting athletes and officials from 41 countries.

With 1.5 million tickets sold, spectators view 68 disciplines of summer sports at 88 venues and facilities as well as enjoy spectacular opening ceremonies, torch relays, and live festival sites.

To say the least, an operation like this comes with a few risks. I won't lie.

The idea of having the accountability to assess all risks felt overwhelming, but I took on this momentous task. Now as I reach the end of my time with the games, I am thrilled to say that we did it.

I have never been prouder of my team for this accomplishment. This was enterprise risk management at its best.

The ERM program had a risk assessment process that forced a neutral centralized line-of-sight to risks and issues that all functional areas and external stakeholders relied on. By identifying our risks, we were able to defend the allocation of resources on risk management activities, investments in risk controls, and right-sizing asset protection strategies.

More than 200 distinct risks from across all functional areas and venues were documented along with associated risk treatment options. Risks included sport delays or cancellations due to weather, traffic or inaccessible venues; warm weather related issues; health, safety and environmental concerns; and animal control situations.

We cross-checked each risk against our insurance program. Our coverage procurement was aggressive, ensuring limited exclusions and low to non-existent deductibles. Nonetheless, I was still curious to know in the end, how many of our risks were covered by commercially available insurance products in our markets today?

The results were revealing. Approximately 25 percent of our risks had some form of insurance cover; meaning 75 percent of our risks had none. We called these exposed risks the "naked risks."

Our job as an ERM team was to be sure they got covered with some other kind of risk control before games time. They included a variety of trained and tested health and safety, security and contingency plans.

These critical plans provided guidance in managing events that deviated from normal operations of the games.

At times, our risk control plans got a wee unusual but with good precedent. The 2010 Commonwealth Games used langur monkeys at several of their venues in New Delhi to keep other havoc-causing monkeys in check in public places.

No joke. We have dogs trained to keep geese off our athletic tracks. Just imagine a 100-meter dash with honking water fowl on the track.

Nonetheless, I am frequently concerned by the false security many senior teams and boards may have around the power of their insurance coverages; not realizing that risk control must go well beyond insurance procurement.

It likely doesn't help that often we reference the insurance group as risk management. I guess Warren Buffet said it best when comes to naked risks: "Only when the tide goes out do you discover who's been swimming naked."

Just be sure it's not you.

**JOANNA MAKOMASKI** *is a specialist in innovative enterprise risk management methods and implementation techniques. She can be reached at riskletters@lrp.com.*

# 6 WORKERS' COMP RISKS FOR THE NEW ECONOMY

## 1 CONTEMPORARY OFFICES

Treadmill desks, collaboration lounges, conference bikes, etc. promote progress but can also create workplace hazards.

## 2 TEXT NECK

Hours spent looking down at a smartphone or tablet puts a heavy burden on the neck and spine.

## 3 VIRTUAL CONNECTIVITY

Casual work-from-home arrangements are the norm, but many employers overlook the exposure.

## 4 PET FRIENDLY POLICIES

If pets are welcomed, employers must consider the potential for employee injury, allergic reaction and emotional duress.

## 5 24/7 WORK CULTURE

'Always on' demands can create physical and emotional health risks when employees can't shut down.

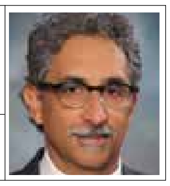
## 6 WORK + PLAY

Rock walls, scooters, game rooms, laser tag, and other diversions increase engagement but also increase the potential for workplace injuries.


meeting
9:00 a.m.

WORKERS’ COMP

• Roberto Ceniceros



# An Unnecessary Death

Brandon Clark’s demise and his family’s victory in a legal battle for death benefits makes one wonder whether remedies among the expanding list of workers’ compensation claims services might have saved his life. It’s an important question because the carpenter left behind a grieving family, including children. It also offers a chance to weigh the potential value those services might provide disabled workers, their devastated families and claims payers.

In the case of South Coast Framing v. Workers’ Compensation Appeals Board, the California Supreme Court laid out the lessons to be gleaned from the case, finding in favor of providing death benefits.

The court addressed issues expected to arise across more states, mirroring the industry’s concerns that too many injured workers have been prescribed an abundance of harmful drugs, including opioids.

Clark was 36 when he fell from a height of 10 feet in 2008, suffering a concussion and neck and back injuries that caused progressive pain until he died 10 months later of an overdose of prescription medications.

His family presented arguments about causation and the degree to which drugs prescribed by workers’ comp doctors and his personal doctor played a role in Clark’s death.

The court said the family met a standard that only required proving industrial causation is reasonably probable. There was evidence that Ambien, prescribed for pain-induced sleep problems, was causally related to his work injury while drugs prescribed by a workers’ comp doctor for depression and pain played at least some role in the death.

California claims payers now face a lower causation standard than they perhaps expected when multiple factors contribute to a worker’s death, including prescription combinations.

Since Clark’s 2008 injury, workers’ comp has seen an expanding list of services increasingly applied to address a rise in challenging disabilities, prescription misuse and increased medical expenses. I’m thinking of the growth in pharmacy benefit reviews, nurse case management and predictive analytics, to name just a few.

It’s always prudent to question the value of those services and whether inefficient application or overuse might drive unnecessary expenses.

But Clark’s death, among numerous other cases, also raises the question of whether a pharmacy benefit manager’s review of his prescriptions might have raised a warning. Or whether a nurse case manager’s discussions with Clark might have provided life-saving pain-treatment alternatives.

The court records don’t show whether Clark received such services, and my attempt to reach his family through their attorney failed. But considering several factors, including the accident year and his employment as a carpenter, I suspect there is a possibility he didn’t.

The attorney did tell me, though, that Clark’s family was his life’s focus and that they struggled to understand his demise.

When you hear about the magnitude of a family’s loss it makes one think that the value of all those workers’ comp services must be considered in more than just financial terms. It’s not just a question of whether they reduce claims costs, eliminate litigation or improve worker productivity.

There are also families needing someone to deliver the right care that will spare them the painful financial and emotional devastation that comes with prolonged disabilities and the loss of a loved one.

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**RISK INSIDER**

• Beaumont Vance

# Risk Management Kills

It seems a noble goal of risk management to not only help an organization to survive large losses, but also to save lives. Unfortunately, human beings are not always good at judging risk, especially where death is involved. Risk management can kill you.

Of course, death by risk management is not a catchy headline.

Shark attack, however, is a great headline.

This summer the press picked up the story of two shark attacks on the same day in North Carolina. The risk managers of the world leapt into action. One news story covered one agency that is patrolling the beaches of the Carolinas with drones.

So what could possibly be wrong with pouring resources into the prevention of shark attacks?

Christopher Ingraham of the *Washington Post* published an excellent blog, "The animals that are most likely to kill you this summer." In it, he showed the statistics from the Centers for Disease Control on death by several animals.

It turns out that, on average, one person per year is killed by a shark. Twenty people per year are killed by cows, and 52 are killed by deer (excluding car accidents!)

I looked, but could not find any governmental agency monitoring murderous deer via drone. In fact, it is hard to imagine someone shouting "DEER!" and hordes of people running from the park screaming and dragging their children to safety like a scene from the movie "Jaws."

The truly interesting thing about Mr. Ingraham's article was how readers reacted. Most felt that he had twisted the facts and was "lying with statistics." He was not.

The reason readers felt that his statistics had to be false was because of something called cognitive bias. A cognitive bias is like a bug in a computer program, only it affects how our brains process probabilities around outcomes where risk and reward are involved.

The specific cognitive bias involved here (there are over 200 of them) is called availability bias.

Here is how it works: If a person is asked to judge which is more likely to occur — death by shark attack or death by deer attack — their brain starts searching for memories of these events. Whichever event can be called up first is deemed as being more likely. In this case, it is almost impossible to image a murderous deer pouncing on its unexpected victim. So the brain decides quickly and subconsciously that shark attack must be the more likely event.

After the 9/11 attacks, people were bombarded with images of the planes smashing into the Twin Towers. As a result, the most available risk in their minds was a plane crash.

In order to avoid the risk of death by plane crash, many people chose to drive instead of fly. As a result, auto deaths increased by well over 3,000.

In the end, the seemingly prudent choice to drive instead of fly killed more people than the 9/11 attacks.

In other words, risk avoidance killed more people than the terrorists.

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**Editor's Note:** *Read a different Risk Insider perspective in every issue. Risk Insiders are an unrivaled group of leading executives focused on the topic of risk. They share their insights and opinions — and from time to time their pet peeves and gripes.*

*Each Risk Insider is invited to publish based on their expertise, passion and/or the quality of their writing. The only rules are no selling and no competitor put-downs.*

*The views expressed in this article belong to the author and are not an editorial opinion of Risk & Insurance®.*

# Welcome to the ARkStorm

**A 45-day superstorm floods California and dishes out economic catastrophe.**

**BY DAN REYNOLDS**

COMPARISONS OF the potential losses from an ARkStorm to the tragedies of Katrina — an example of which is pictured here — are inevitable. Both feature vulnerable populations defended by weak levee systems.

The rain starts from light gray skies with modest winds. California farmers desperate for water look up from their work and raise their faces to the sky, thankful for the drops of moisture on their faces.

What the grateful farmers don't know is that jets of warm, moist air that originated over the North Pacific have formed a massive storm system — what scientists call an atmospheric river — that is getting set to dump catastrophic amounts of precipitation on California.

First the rain comes in spurts. Then it pours and pours and keeps on pouring.

It's more than enough to water parched almond trees and cotton fields. It's enough to wipe those groves and fields away.

The story is that Noah built an ark to survive rain that fell for 40 days and 40 nights. This is what happens here and then some. No exaggeration.

Week after week, the rain comes relentlessly. After three weeks of solid rain, accompanied by hurricane-force winds, much of the state's infrastructure and its flood control systems start to give way.

California's first responders and flood control systems are prepared for storm and flood events that might come every couple of hundred years at maximum. They are not prepared for this.

The first major landslide — the first of tens of thousands — occurs at the picturesque community of Fort Bragg on the Mendocino Coast, where dozens of properties are crushed on the ocean side rocks below the town's cliffs.

Soon, the news media report that the levees that hold back the Sacramento River from businesses and residents in the area's delta towns are failing. Evacuations are hampered by flooded roads.

Flooding swamps San Francisco, Los Angeles and heavily populated San Diego and Orange counties. The state's capital, Sacramento, suffers a repeat of what it went through in 1861, when its streets were impassable and the governor had to be transported to his inauguration by boat.

The van of a family trying to drive away from the town of Pittsburg in the Sacramento River delta is swept into the surging river. A young couple and their three children are lost.

Dozens of migrant farm workers in California's Central Valley are drowned before anyone knows they're gone. They owned no vehicles in which to make their escape. As usual, it's the poor who suffer the worst.

Flood waters in the Central Valley are at 10 feet and rising and will crest at 20 feet. It won't be long before the valley is an inland lake 300 miles long and 20 miles wide. Floating on the surface of that massive lake are the bloated, decaying carcasses of thousands of cattle, poultry and swine, swept out of the largest agricultural center in the country and drowned by the storm.

Interstate 5 within the state is under water. Trucks bearing tens of millions in retail goods can't get where they need to go. It will be weeks before I-5 is passable and it will require millions of dollars in repairs.

The ocean movement from the storm takes many of Southern California's most treasured structures and smashes them.

The gorgeous terra cotta-roofed seaside racetrack grandstand at Del Mar — founded by Bing Crosby and some of his friends — is heavily damaged by the sea. The piers at Manhattan Beach, Hermosa Beach and Venice Beach are torn to pieces.

The flooding overwhelms coastal wastewater plants. Those residents who live along the concrete-lined Los Angeles River who weren't forced out by the rain are driven out by sewage, as it erupts out of hundreds of manholes, turning the manmade river into a giant sewer.

The Terminal Island pumping station located between San Pedro and Long Beach is cut off by the floods. Abandoned by its 70-plus employees, raw sewage spews from it and runs untreated into the Pacific Ocean.

Chastened by its failures during the flooding in New Orleans after Katrina, the federal government moves much more quickly than it did in 2005 to support overwhelmed local and state emergency responders.

National Guardsmen and U.S. Army soldiers can help evacuate residents and

AP PHOTO/ERIC GAY

hoist sandbags. They can't, however, offer financial disaster recovery assistance.

As a result of this 45-day storm, there is more than $400 billion in property damage and an additional $325 billion in business interruption losses.

No more than $30 billion is recoverable through private or public insurance.

When the waters recede, more than 170 California cities and towns are insolvent, unable to cover the costs of the services they required and hamstrung by drastically reduced property and income tax collections.

Deaths number in the thousands.

The state's agricultural economy, once the biggest in the world and already damaged by years of drought, teeters on collapse.

Goodbye Disneyland. Goodbye Rodeo Drive.

Welcome to the ARkStorm.

**THE MODELING**

What we describe is no apocalyptic fantasy. Rain and wind in these amounts came to California in December of 1861 and didn't leave until the following February.

Geologists studying ocean sedimentation off of the coast of California determined that atmospheric rivers have dropped this much rain on California — or more — on at least six occasions.

The most muscular academic research in this area of catastrophe modeling is that done by the U.S. Geologic Survey's Multi-Hazard Demonstration Project (MHDP), a multi-discipline effort involving more than 100 scientists, consultants and public sector officials.

As we described above, the ARkStorm that the project modeled in 2010 would

# ARkStorm

**FREQUENCY: 1 IN 750-YEAR EVENT**

**Assumptions**

- An ARkStorm forms over the northern Pacific Ocean and induces snow and rainfall in California for a minimum of 45 days, with wind speeds of up to 125 mph in places
- Cliff failures numerous high-value coastal locations
- Between 15 to 20 river levee breaches at critical sites throughout the state
- Flooding in the Central Valley up to depths of 20 feet
- As modeled by the U.S. Geological Survey, Multi Hazards Demonstration Project (MHDP), now the USGS Science Application for Risk Reduction

**Casualties**

- Substantial loss of life, particularly if evacuation plans can't be carried out. More than 1.5 million people would require evacuation

**Damage**

- $400 billion in property damage: $20 billion to $30 billion of which is recoverable through private and public insurance
- $325 billion in business interruption
- Potentially catastrophic impact to U.S. mortgage lenders and regional public sector solvency

Source: EQECAT and Swiss Re. Map supplied by ESRI

AP PHOTO/TED S. WARREN

produce more than $700 billion in property and business interruption losses.

"All of these scenarios are scientifically plausible," said Dale Cox, the project manager for the USGS Science Application for Risk Reduction, the successor organization of the MHDP. Cox co-founded the MHDP and oversaw the ARkStorm scenario.

"They are not worst case scenarios but they are in general low probability, extreme events. We're trying to create them so that they will be accepted. If it's too big, people are going to blow it off and nobody is going to do anything about it," Cox said.

To create the ARkStorm scenario, the team of scientists under Cox's direction took the science used for studying earthquake trench faults — looking at where offsets in the fault occurred with carbon dating — and applied that to the deltas and marshes of California's coast line.

What they deduced from that geologic evidence is that atmospheric rivers — massive storms that collect huge amounts of water from the atmosphere over the Pacific and pour it on California — have occurred and could well occur again.

"The metaphor I like to use is that it's like turning on a fire hose and pointing it at California and moving it up and down California's coast line," said Laurie Johnson of San Rafael, Calif.-based Laurie Johnson Consulting. She previously worked at Risk Management Solutions, the modeling firm.

Prasad Gunturi, the lead for North America-related CAT modeling research and evaluation at Willis Re, said a recent scientific report likened an atmospheric river to taking all of the water in the Amazon River and dumping it in California's Central Valley.

For this project, Johnson focused on long-term recovery implications. Willis Re's Gunturi pitched in on economic loss analysis.

"The whole purpose of loss modeling is to come up with a risk management strategy. So if we know what we know now, what could we do and what would be the best investment to make now."

— LAURIE JOHNSON, FOUNDER, LAURIE JOHNSON CONSULTING

"The whole purpose of loss modeling is to come up with a risk management strategy. So if we know what we know now, what could we do and what would be the best investment to make now," Johnson said.

To model the amount of wind, storm surge and flooding that accompanies an ARkStorm, Cox's team "stitched" together data from two separate storms: a winter storm that affected predominantly Southern California in 1969, and a 1986 storm that impacted predominantly Northern California.

The team also mapped, for the first time ever, what it would look like if the entire state flooded.

"The team had to build that from scratch," Johnson said. "Team members worked with FEMA and the state department of water resources to develop a statewide hydrology model and figure out how flooding progressed across river systems and through time statewide," Johnson said.

## LEGACIES

Using trench analysis carbon dating to study California's storm history is one of the project's legacies.

Bringing the term ARkStorm into public consciousness is another. "It's something you hear quite commonly now with the media and the weather media. Not because *we* did it, but … it was a new concept," Johnson said.

The ARkStorm scenario also showed California's emergency responders that they were going to have to look at flooding in a whole new way.

Here was a statewide event they had never considered before.

"Central California was once a large inland sea with very low elevations in many spots. I knew that from my geoscience background," Johnson said.

"But I don't think people appreciated that in 1861-1862, flooding basically closed the capital, Sacramento; the whole Central Valley became a lake for more than three months. It took more than three months to drain the city," she said.

"Nobody had looked at the statewide flows," Cox said.

"California has really good flood fighters. We have really good emergency responders. We are looking at a scenario that would challenge them and that is what we're trying to do," Cox said.

Since the ARkStorm report was produced, Cox and some of his teammates have taken its hydrology and meteorology science and applied it at local levels. They've presented an ARkStorm scenario to officials in Ventura County.

"It was a really eye-opening experience for them," Cox said.

Cox has also produced a study, published in January, detailing what would happen to the Lake Tahoe community in the event of an ARkStorm.

Look at these two factors alone.

One: That community takes its drinking water out of Lake Tahoe, untreated for the most part.

Two: Tahoe's sewage treatment facilities are mostly at lake level. Should an ARkStorm strike, pumping that sewage out of the basin would become impossible.

Also, take into account that the workers who operate those sewage plants live on the other side of the mountain ridges, in more modest communities.

The snow from an ARkStorm would stop them from getting to their jobs.

"We often talk about The Big One [a big earthquake on the San Andreas Fault]; this is a bigger event," said Anne Wein, an operations research analyst with the U.S. Geological Survey based in Menlo Park, Calif.

"What struck me was the evacuation being similar in size to a hurricane. We forget that this can happen in California," Wein said.

**DAN REYNOLDS** *is editor-in-chief of Risk & Insurance®. He can be reached at dreynolds@lrp.com.*


**RADIOLOGICAL CONTAMINATION,** such as occurred at Chernobyl, can last years.

AP PHOTO/SERGEI GRITS

# To Clean Up A Dirty Fight

**A dirty bomb detonated in Manhattan could make a ghost town of the most populous city in the U.S.** **BY KATIE SIEGEL**

When explosions shook the Chernobyl nuclear power station in 1986, they released enough radioactive material into the environment to kill 30 workers within a few weeks of the incident due to acute radiation poisoning, and sicken at least 100 others.

Large areas of Belarus, Ukraine and Russia had to be evacuated due to high levels of contamination, displacing roughly 335,000 people. A 30-kilometer area around the reactor was completely closed off, and a square mile of contaminated pine forest was cut down and buried.

The explosion in this case was an accident, triggered primarily by the poor training of plant workers, but it demonstrated what kind of long-term damage can result from improper use of radioactive materials.

Before the reactor explosion, 14,000 people called Chernobyl home. The surrounding villages were erected mostly to house plant workers. The City of New York, by comparison, boasts 8.4 million residents and nearly 700 skyscrapers.

The Federation of American Scientists (FAS) took a map of the radiological damage from Chernobyl and laid it over a map of New York City to demonstrate just how many properties, businesses and lives would be impacted by an explosion of radioactive material.

But the FAS scenario isn't based on a nuclear power plant explosion; it's based on the possibility of a terrorist "dirty bomb" attack. Dirty bombs, or radiological dispersion devices (RDDs), combine a conventional explosive with radioactive material, and concern is growing that they could be the next terrorist threat.

Research laboratories, food irradiation plants, oil drilling facilities and medical centers are just some examples of facilities that house radioactive elements like cobalt, cesium, plutonium and Americium. The small quantities that these facilities work with are protected as a commercially valuable asset, according to the FAS, but "once radioactive materials are no longer needed and costs of appropriate disposal are high, security measures become lax, and the likelihood of theft or abandonment increases."


Dirty bombs, or radiological dispersion devices (RDDs), combine a conventional explosive with radioactive material, and concern is growing that they could be the next terrorist threat.


### THE ATTACK

The FAS focused its scenario on a dirty bomb built with cobalt-60, a radioactive material used in cancer treatment, industrial radiography, sterilization and food preservation. Facilities keep cobalt-60 in the form of small metal rods that are perfectly safe when encased inside therapy units or other machinery, but emit dangerous levels of radiation if the casings and rods are broken and particles of the cobalt-60 are dispersed.

The explosion of an RDD with cobalt-60 would send a cloud of radiation over a radius of at least several miles from the blast site.

"Based on the type, size and location of the device, we predict that in an urban environment, one building will need to be demolished, eight others will need repair, and about 75 more will need cleanup or decontamination," said Hart Brown, vice president, organizational resilience, at HUB International.

"The physical nature of the damage will be localized, and small in comparison to the contamination aspect."

A highly radioactive and powerful bomb could reasonably result in "180 to 200 fatalities, 250 to 300 injured, 20,000 possibly contaminated, and as many as 100,000 to 200,000 that think they could be contaminated," Brown said.

Mark Lynch, head of terrorism model development on the impact forecasting team at Aon Benfield, estimated that radiation could spread over a 32-block radius from the blast site, which would cover roughly 49 square miles.

A 2003 report titled "Radiological Weapons: How Great is the Danger?" foresaw an even larger impact. This analysis, written for the U.S Department of Energy by George Malcom Moore, a former senior analyst in the Office of Nuclear Security at the International Atomic Energy Agency

# Radiological Contamination – New York City

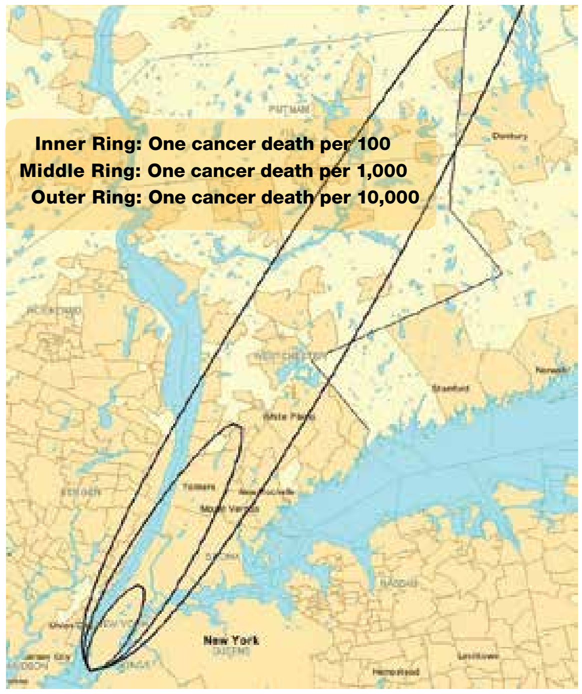
**LIKELIHOOD >50% OVER NEXT DECADE**

**Assumptions**
- Dirty bomb built with cobalt-60 detonated at lower tip of Manhattan
- Cobalt-60 source of one inch in diameter and one foot long
- Even dispersion of radioactive material

**Casualties**
- 180 to 200 fatalities
- 250 to 300 injured
- 20,000 possibly contaminated
- Risk of cancer death increased to one-in-10,000 or greater up to 75 miles from blast

**Damage**
- 621 square miles contaminated
- Property repair and cleanup costs could be hundreds of millions
- Demolition and reconstruction of property in one-mile zone could top $50 billion
- Business interruption losses could reach hundreds of billions

Source: "Dirty Bombs: Response to a Threat," FAS Public Interest Report, March/April 2002




(IAEA), concluded that even a very small amount of cobalt-60, if dispersed evenly, has the capacity to contaminate 137 square miles.

That would cause millions of dollars' worth of damage, so imagine what contamination of 621 square miles could do. That's just what the FAS predicted in its scenario. The simulation surmised that if a tube of cobalt-60, about one inch in diameter and one foot long, were detonated and the particles dispersed from a bomb in lower Manhattan, it would contaminate an area of 621 square miles, or about 300 city blocks.

By EPA standards, lingering radiation from a source of this strength could increase the risk of dying from cancer to one-in-100 for anyone living in the borough of Manhattan.

Within 30 miles of the blast site, the risk remains high at one-in-1,000. Within 75 miles, the risk reduces to one-in-10,000.

In a presentation of these risks made to the Senate Foreign Relations Committee in 2002, the FAS reported that EPA recommendations dictate decontamination or destruction within that 75-mile zone.

"Everybody agrees that not a lot of people will be killed, but not everybody agrees on the amount of property damage," said Moore, the scientist in residence at the James Martin Center for Nonproliferation Studies. "The big hazard from a dispersion device or a dirty bomb is not killing people, but contamination of property, which is an expensive proposition. You can create an extensive amount of economic loss by doing that."

### THE CLEANUP

Decontamination is no easy task. Removing the radioactive material would involve sandblasting the top layer off of everything, and repeating the process until radiation levels meet the EPA's emergency standard, which is twice the normal background level.

(According to the EPA, low levels of radiation exist naturally in the environment at all times. Sources include cosmic radiation from space, radioactive minerals in the ground and radioactive gases like radon and thoron.)

"We're talking taking the top layer off of sidewalks, off the outer side of buildings, off of all the furnishings inside those buildings," HUB International's Brown said. "It could be months to years to get everything cleaned up."

The FAS suggested that decontamination alone may not be enough. In cases where the risk of cancer could not be reduced to one-in-10,000, total demolition may be necessary.

If all of the buildings within a 1.2 mile area in New York City had to be demolished and rebuilt, the cost could top $50 billion, according the organization's report, "Dirty Bombs: Response to a Threat."

Overall, "if such an event were to take place in a city like New York, it would result in losses of potentially trillions of dollars," the report said.

Even greater than the costs of repair and cleanup, though, is the loss from business interruption.

It's possible that an exclusionary zone would have to be established until radiation levels fell low enough. Businesses in that zone would be unable to function.

Even companies in the surrounding area would lose a major portion of their customer base; when buildings are able to reopen, it's likely that former residents and employees will not return, fearing the long-term health effects of any lingering radiation.

Brown referred to this as "radio-phobia," where people treat radiation exposure as a type of virus they can catch and transmit.

"The federal government would have to provide some economic stimulus, some funds, to prop up the city throughout this timeframe, which again could be years."

— HART BROWN, VICE PRESIDENT, ORGANIZATIONAL RESILIENCE, HUB INTERNATIONAL

"The fear," said Aon Benfield's Lynch, "is usually significantly higher than the actual damage."

While very high doses can cause acute radiation poisoning and even death, most people will not be physically affected, though fear among the general public persists.

Brown estimates that BI losses could fall anywhere in the range of tens to hundreds of billions.

### THE LIKELIHOOD

The likelihood of a radiological attack using a small amount of radiation occurring within the next decade "is probably greater than 50 percent," Moore said. "Most people who deal with radiation are surprised we haven't yet had an incident of this type."

Many medical facilities have rods of cobalt-60 on site, and they are not always well-guarded.

That leads to many of what the U.S. Nuclear Regulatory Commission (NRC) calls "orphaned sources," or small volumes of radioactive material that are uncontrolled, lost, or in the possession of someone not licensed to own it.

The NRC reports that U.S. companies have lost track of nearly 1,500 radioactive sources within the country since 1996, and more than half were never recovered.

Incidents outside of the country have demonstrated how easily the wrong people can get their hands on a radiological device.

In 2013, in the Mexican town of Cardenas, for example, a couple of thieves stole a truck carrying iridium-192, which is used for cancer treatment, to a waste storage facility.

That source was eventually found, but not before six people were hospitalized for radiation exposure.

In the city of Goiania, Brazil, in 1985, a private radiotherapy institute relocated, but left behind some cesium-137.

Part of the institute was later demolished, which destroyed the protective casing around the cesium and led to contamination of the surrounding environment.

Ultimately, about 112,000 people were medically monitored, 249 were contaminated either internally or externally, and four died. It took three years to totally restore contaminated areas to livable conditions.

### RESPONSE AND RECOVERY

Coverage for any losses stemming from a dirty bomb attack could be difficult to find. In order for TRIA to kick in, the incident would have to be clearly defined as an act of terrorism, but "crime scene contamination makes it more difficult to collect and examine evidence," Lynch said.

Without a declaration of terrorism by the Secretary of the Treasury and the Secretary of Homeland Security, the losses could be insurmountable for affected businesses to handle on their own.

"When you get into nuclear terrorism, there's really no ability to predict that loss. It gets complex based on the coverage, and there are a lot of exclusions," Brown said.

"The federal government would have to provide some economic stimulus, some funds, to prop up the city throughout this timeframe, which again could be years."

It's not known whether extremist groups such as ISIS are actively building RDDs, but mishaps like those in Mexico and Brazil and the growing list of orphaned sources make a dirty bomb a very real threat.

In 2012, 160 incidents of lost radioactive materials were reported to the IAEA, 17 of which involved some type of criminal activity.

The NRC and Department of Energy have since made more aggressive efforts to document and locate orphaned sources; here's hoping they pay off.

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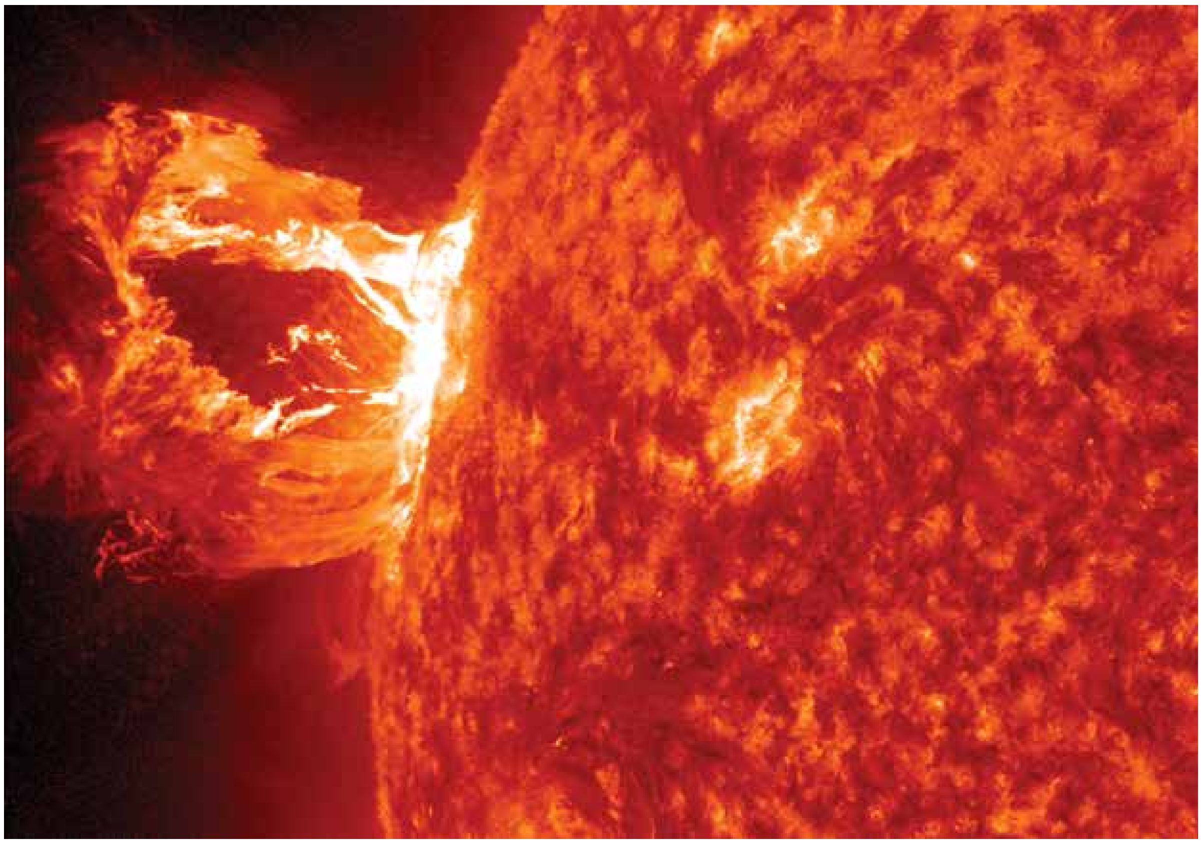


**THE NEXT** solar superstorm is inevitable, and denying it could cost the economy dearly. NASA/SDO/AIA

"The concern becomes, now that we know, do we make the choice to act?"

— KYLE BEATTY, PRESIDENT, VERISK CLIMATE

# The Darkness Of the Sun

**A fast-moving geomagnetic storm blasts the North American power grid, leaving a large swath of the Northeastern U.S. temporarily uninhabitable.** **BY MICHELLE KERR**

"Daddy, wake up! Come see the rainbows!" 6-year-old Amanda LeBlanc insisted as she shook her father out of his slumber. Joel LeBlanc stirred slowly, feeling like he hadn't slept at all.

"What? Go back to bed," he grumbled, rolling over.

"No, Daddy you have to *look*," insisted Amanda, throwing the bedroom curtains wide open. Joel squinted at the light, confused. It was way too early for sunrise, wasn't it?

Joel hoisted himself out of bed and joined his daughter at the window, catching his breath at the sight. "Huh. You know what that is, honey? It's called an aurora. Don't see that every day — not in Florida anyway."

"I'm going outside to take a picture," Amanda declared, cantering off.

Northward, there was less wonderment and more worry. Scientists had warned that week of a large coronal mass ejection (CME) that the sun had hurled toward Earth. Only three days later, it was followed by a pair of still-larger CMEs. The latter two bursts combined during their brief journey from the sun, pushing billions of tons of highly charged particles toward Earth at unprecedented speed, thanks to the path cleared by the earlier blast.

Scientists' predictions on the size and speed of the event fell short of the mark. But even if they'd been right about everything else, they couldn't have gauged that the CME's magnetic field was aligned in a way that left Earth at its most vulnerable, allowing the maximum infusion of charged plasma into the Earth's magnetosphere. It was a recipe for a perfect solar superstorm.

By the time the NOAA Space Weather Prediction Center issued an urgent warning, there were only minutes left to act. Power generation companies kicked into emergency mode, working to mitigate the impact by taking transformers offline.

But even large generators couldn't act fast enough. Geomagnetically induced currents flowed into the power grid in a matter of minutes, overheating extra-high-voltage (EHV) transformers and frying coils, destroying or damaging hundreds.

The North Atlantic corridor was hardest hit, thanks to higher ground conductivity along the coastline. In short order, upwards of 35 million people from New York City to Washington, D.C. were suddenly without power. There was an eerie stillness that morning as schools and many businesses were forced to remain shuttered.

Backup-generator owners went in search of fuel, but most gas pumps had stopped functioning immediately or soon afterward.

ATMs were all down. Within hours, land and cell phones would fail, and water could no longer pump. Worse, wastewater treatment plants shut down, causing sewage to overflow into drinking water.

Beyond the area affected by the power outage, disruptions to global positioning systems and satellite communications wreaked havoc with cellular networks, financial transaction processing and logistics operations.

The hardy Northeasterners made the best of it at first, boiling water on camp stoves, firing up barbecues and grilling the thawing food from their freezers. But before the week was out, nerves had frayed. Residents and businesses demanded answers from utilities and government officials.

The news was bad — very bad. It's not as if hundreds of EHV transformers were warehoused waiting to be called into service. Replacements had to be ordered. and replacement for any given transformer would be at least five months and possibly up to a year or even longer, given the high level of need and the short list of manufacturers.

Units coming from foreign manufacturers would take even longer, involving arduous and complex transportation arrangements.

Residents and business owners were stunned. Public officials explained that with no power or fuel, no water pumps or waste treatment facilities, no readily accessible food supply and badly strained emergency services, there was no option other than to evacuate the affected regions.

The impact to the economy was staggering. National companies struggled to maintain communications with evacuating employees, while putting plans in place to shift operations to other locations. But an overwhelming number of small and mid-sized local businesses without the means to relocate simply folded.

Companies with business interruption or contingent business interruption policies presumably triggered by the mandatory evacuation breathed a sigh of relief, not yet aware of the lengthy battles they'd face later on about whether or not fried transformers, or the incapacity of the power grid itself, constituted a property damage trigger under policy terms.

Supply chains nationally and globally faced upheaval as companies raced to secure secondary suppliers. Those select few companies that had chosen to take up supply chain coverage quietly congratulated themselves and used the opportunity to its fullest advantage while their competitors faltered.

Once the dust had settled, much of the North-Atlantic corridor was a patchwork of ghost towns. Members of the Army and National Guard were stationed in the region to curtail damage from looters and gangs who evaded evacuation, sometimes squatting in unoccupied buildings and setting fires

## Transformer Vulnerabilities

**FREQUENCY: 1 IN 150 YEAR EVENT**

**Assumptions**
- Three coronal mass ejections impact the Earth's magnetic field within 3 days
- Up to 300 transformers damaged or destroyed
- Many communities evacuated for up to two years, and up to 40 million people affected

**Casualties**
- Highest casualties to elderly and disabled people trapped in high-rise buildings
- Significant casualties resulting from civil unrest and overwhelmed emergency medical and hospital services

**Damage**
- Total economic cost between $.6 trillion and $2.6 trillion
- Significant business interruption, contingent business interruption and supply chain losses, largely uninsured
- GPS and satellite disruptions impact transaction processing and financial trading worldwide during active storm period
- Property damage after evacuation from vagrants, looting, vandalism, fires, and non-functioning sanitation. Additional damages related to properties vacant during winter months

**SOLAR STORMS** can cause conditions that pull the aurora borealis further south than usual. As a result of a moderate solar storm in late June of this year, aurora sightings were reported in Minnesota, South Dakota, Virginia, West Virginia, New Hampshire and Wyoming.

at night for light and warmth. Many buildings that hosted squatters would eventually need to be condemned.

Two years later, a handful of transformers still awaited replacement. Only a fraction of the evacuated population had returned, and local governments struggled to rebuild long-vacant communities. Estimates calculated the total economic cost at upwards of $2 trillion.

### THE INEVITABLE STORM

The largest solar storm in recorded history occurred in 1859. It was dubbed the Carrington Event, after British astronomer Richard Carrington, who witnessed the megaflare. He was the first to realize the link between activity on the sun and geomagnetic disturbances on Earth.

During the event, Northern Lights were reported as far south as Cuba and Honolulu. The flares were so powerful that people in the Northeastern United States could read their newspapers just from the light of the aurora. U.S. telegraph operators reported sparks leaping from their equipment — in many cases setting fire to nearby materials.

Now, take a storm of that magnitude and let it play out in the modern world. Far smaller events have occurred many times. One such storm struck in 1989, taking out Quebec's power grid in less than two minutes, causing $6 billion in damages and leaving millions of people without power for nine hours.

For the sake of comparison, scientists measure these storms using an index based on nano-Teslas (nT). The lower the number, the harder the Earth's magnetic field shakes when a storm hits. The Quebec storm in 1989 measured at -589 nT. The far more powerful Carrington Event is estimated at around -850 nT.

And then there was a near miss in July 2012. Had that solar blast occurred only one week sooner, the Earth would have been directly in its path, and scientists calculated the storm would have clocked in at up to -1,200 nT. The fabric of society would have been profoundly altered, and we would still be picking up the pieces today.

There is more or less universal agreement among experts and scientists that another Carrington-level event or stronger is an inevitability — the only uncertainty is when. Some experts even opine that this kind of event shouldn't even be called a Black Swan, because the probability is higher than most might realize.

In an article published in the journal "Space Weather" in 2012, solar scientist Pete Riley of Predictive Science Inc. calculated that the probability of a solar storm at the power of the Carrington Event or stronger in the next 10 years is around 12 percent.

The potential impact of such an event to our hyper-connected, electricity- and satellite-dependent society is a sobering prospect, and one that is netting an increasing amount of interest.

In 2013, Lloyd's published the report that our scenario is partially based on, "Solar Storm Risk to the North American Power Grid," in partnership with Atmospheric and Environmental Research Inc. (AER), a division of Verisk Climate.

"This is a topic that is drawing strong interest in the government levels at a national and international scale, because the impacts could be so large and because this is one of the only natural perils that could create simultaneous impact across continents," said Kyle Beatty, Verisk Climate president, who worked on the study. "… When we get into an event of this size, it would impact Europe as well — it's a global phenomenon."

"We understood that the engineering and science communities were talking about space weather as a potentially high impact phenomenon," added Nick Beecroft, emerging risks and research manager at Lloyd's of London.

"But we felt that the understanding of the phenomenon and what it could mean to the insurance industry was very limited."

### DOOMSDAY ASSUMPTIONS

Experts stress that while it's popular to paint this level of solar superstorm as a virtual "doomsday" event, that outcome need not be the case. The key is to commit to doing something about it now.

Since the 1989 Quebec storm, the Canadian government has invested $1.2 billion into protecting the Hydro-Quebec grid infrastructure. But you have to wonder how many billions could have been saved if that investment had come sooner.

"If we were to experience a major solar storm event — and I really should say it's a question of when, not if — the key ramifications of that would be for a complete rethink of power grids and of all those technologies that rely on satellite navigation systems," said Beecroft.

We would also see worldwide cooperation and huge global investments to build in resilience to key systems, he said, as well as enhanced satellite systems and technology to improve monitoring and early warning systems for space weather events. In addition, it's likely there would be "much greater demand for specific insurance products that would be able to respond after an event like this."

At the risk manager level, Beecroft said, organizations around the world should be thinking "about how they can diversify their reliance on power systems and on key technologies."

But Beecroft and other experts drive home that there is simply no reason for all of these things to happen *after* the fact.

"The concern becomes, now that we know, do we make the choice to act?" Beatty asked.

Something else that needs to happen sooner rather than later is the development of strong plans and procedures, especially on the part of power generation companies, said Lou Gritzo, vice president of research at FM Global.

Gritzo said the nonprofit North American Electric Reliability Corp. (NERC) has already developed recommendations to help power generators respond in such an event.

"The big wildcard is, when push comes to shove and power generators have to make those difficult decisions about what they're going to do, do they do the right things? And how many of them do the right things?" he said.

The ideal scenario, said Gritzo, is that when the storm hits, the power generators most likely to be affected by the storm disconnect their power supply from the grid and adequate power can be temporarily supplied to the grid by other generators in areas where the storm is not going to be as intense.

The ability to make that happen quickly, said Gritzo, could go a long way toward shifting from a doomsday scenario to one of minimal consequences.

He also said risk managers should be asking power suppliers some hard questions to help them assess the need for additional investments, such as a backup power system.

Not taking any action would be a mistake. "If there's one number in this whole report that's significant," said Beatty, "it's the estimate that the return period of a Carrington-like event is estimated at around 150 years," a figure that can be backed up with evidence tracing back to 17 B.C.

Bottom line, he said, is that "the likelihood is high enough that we actually have a responsibility to act."

**MICHELLE KERR** *is an associate editor with Risk & Insurance®. She can be reached at mkerr@lrp.com.*

**OBESITY AS** a barrier to injury recovery is often accompanied by factors such as a lack of purpose and financial worries.

# Treating the Whole Person

**The biopsychosocial piece of workers' compensation and return-to-work is getting more and more attention. BY ROBERTO CENICEROS**

Recent research from Gallup and Healthways Inc. shows what claims payers already know: The percentage of obese Americans continues to increase. In their May 2015 report, Gallup and Healthways stated that the nation's obesity rate rose again in 2014, reaching 27.7 percent, up from 27.1 percent in 2013.

Even more unsettling — and perhaps surprising to some — is that research indicates changes in diet and exercise are not enough to reverse the trend.

What's needed, according to the studies, is a more holistic engagement that boosts a person's sense of purpose and strengthens their community and social relationships; even their financial health.

Professionals that help injured workers address biopsychosocial issues say they agree with that assessment. They also say it is increasingly a factor in their work with employers and other workers' compensation and disability claims payers.

Biopsychosocial issues refer to psychosocial factors impacting a person's medical problems, said Michael Coupland, CEO and network medical director at Integrated Medical Case Solutions Group, which provides biopsychosocial assessments and interventions.

Most biopsychosocial approaches take into account that factors such as emotions, behaviors, social environments and culture all impact human medical conditions and performance.

Services addressing biopsychosocial problems are being applied more often when medical treatment alone fails to mend injured workers. They can help with depression, pain medication misuse and obesity, which can delay or even thwart successful return to work.

About 75 percent of the workers' comp and disability claimants referred to his group are obese or morbidly obese, IMCS's Coupland said. They are referred by claims payers, treating physicians, self-insured employers and others.

"They are the people that tend to have psychosocial factors that are delaying their recovery," Coupland said.

IMCS Group specialists offer their patients cognitive-behavioral techniques for taking control of their health and wellness, Coupland said. The techniques include meditation, mindfulness and biofeedback.

Those practices can help, for example, with decreasing muscle discomfort so recovering workers are able to go for walks and reap the benefits of exercise.

Darrell Bruga, founder and CEO, LifeTEAM Health, agrees with the Gallup and Healthways findings that factors such as social interactions, financial well-being and a sense of purpose must be addressed.

> "It makes sense that if you are having challenges from a psychosocial standpoint in life as a whole, that is certainly going to impact your well-being and potentially your body composition."
> — DARRELL BRUGA, FOUNDER AND CEO, LIFETEAM HEALTH

Bruga said many of the injured and disabled workers his company sees are obese, although his organization does not directly treat obesity. LifeTEAM professionals provide services for reducing psychosocial and return-to-work obstacles.

Interventions that help people develop a sense of purpose, achieve financial well-being and develop community interactions "are exactly the sort of things we are focused on in helping people re-engage," Bruga said.

"It makes sense that if you are having challenges from a psychosocial standpoint in life as a whole, that is certainly going to impact your well-being and potentially your body composition," he said.

"No question."

But it's important to recognize that returning to work is part of the solution — it can help meet the needs the researchers outline because work is social and it also improves peoples' financial position, Bruga added.

Bruga will speak on mitigating psychosocial risk factors with biopsychosocial measures during the National Workers' Compensation and Disability Conference® & Expo to be held at Mandalay Bay in Las Vegas November 11-13.

Dr. John T. Harbaugh, occupational medicine physician director at Southern California Permanente, will join Bruga and share results from helping his organization's injured employees overcome psychosocial risks with a biopsychosocial strategy.

## RECOVERY OBSTACLES

What's important to keep in mind in managing the biopsychosocial aspect of work injury and return-to-work is that any injury creates stress for both the employer and the employee. The mere fact that a once-productive employee is leaving work creates a host of issues.

"There is a stigma to going out of work. Nobody wants to go out on leave," said Rebecca Moya, a behavioral health manager with Sun Life Financial.

"So if we can battle that, have employers manage that piece in a more empathetic, supportive and understanding way, that's one less hurdle that insurers or benefit analysts or vocational rehabilitation consultants have to jump over to get there," Moya said.

There is also psychological trauma that lives within a worker who associates pain and injury with their workplace.

"It's hard to revisit and go back to that place,"


## Summary

- Treating injured workers successfully requires a much more holistic approach.
- Most of us get our sense of purpose from work.
- A significant shift in 2009 allowed more psychology specialists to provide treatment under physical medicine codes, not psychiatric codes.

**Percentage of Americans Experiencing Negative Emotions**

| | Obese | Not Obese |
|---|---|---|
| Sense of Purpose | 17.2 percent | 13.3 percent |
| Social Interactions | 16.3 percent | 14.2 percent |
| Financial Health | 24.6 percent | 18.4 percent |
| Community Ties | 16.1 percent | 13.7 percent |

Source: Gallup-Healthways Well-Being Index

Moya said.

"We've worked with employers to ask, 'Are there other sites? Is it possible to have this person work at a different site?' Because they're ready to come back — it's just that the emotional and psychological aspect of returning to the site of their injury is very challenging," she said.

There are also the injuries to self-esteem and the sense of self-worth that a physical injury can bring about.

Even without obesity or some other comorbidity dogging them, a worker who faithfully performed a task for decades can suffer a loss of confidence or suffer depression when a work injury means they will never be as strong or able again.

"That's hard for people. They don't always want to go back and do something different. Even with accommodations, it's hard for people to accept that's going to be the way things are going to be going forward," Moya said.

Overcoming those fears and that damage to self-esteem means focusing on the positive, Moya said.

"If an analyst starts off a relationship with an injured worker with a positive, 'We're going to work on your abilities, not your disabilities, and we are going to get you back to work,' then people are really receptive to that.

"It's all about the foundation you lay at the start of a claim," Moya said.

IMCS Group's Coupland agrees that helping people return to work and reclaim their sense of purpose is a key piece of the well-being issue that the Gallup and Healthways researchers raise.

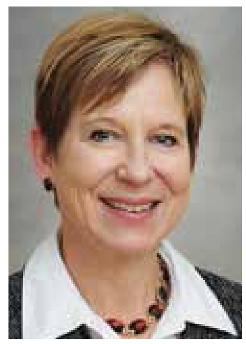
"We get so much of our purpose from work," Coupland said.

## DATA DRIVES DOWN SKEPTICISM

Growing acceptance of paying for biopsychosocial approaches to wellness is being helped along by a significant shift that occurred in 2009, Coupland added.

Health providers in psychology gained the ability to provide health and behavior treatments under Current Procedural Terminology codes for physical medicine rather than having to provide them as treatments under psychiatric codes, he said.

Now, workers' comp payers are much more accepting of the treatments, Coupland said.



**DEBRA LEVY,** senior VP of workers' comp product management and national workers' comp practice leader, York Risk Services Group

Even so, some workers' comp claims payers are skeptical about a concept calling for treating the "whole person" and are still reluctant to pay for providing injured workers with biopsychosocial treatment approaches.

But increasingly, sophisticated claims payers are funding such programs and their numbers will continue to rise, said Debra Levy, senior VP of workers' comp product management and national workers' comp practice leader for York Risk Services Group.

Payers funding those programs are doing so because their data shows a positive return on investment, Levy said.

"The earlier you can recognize those are factors and offer solutions or guided care … you see a positive impact as opposed to throwing away money," she said.

**ROBERTO CENICEROS** *is senior editor of Risk & Insurance® and the chairman of the National Workers' Compensation and Disability Conference® and Expo.*

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**SUMMERTIME MEANS** water park fun for some. But water parks have a unique set of risks and there is no margin for operator error.

# No Room For Error

**Drowning is an obvious risk for water parks, but now drones and civil unrest are entering their list of perils. BY KATIE KUEHNER-HEBERT**

Everyone's familiar with the traditional summertime risks of poolside slips, falls and drownings. But now a whole new cadre of water park risks is coming into play.

They include a heightened risk of active shooter situations or civil unrest, bacterial infestation and camera-equipped drones.

Exposures are also increasing because water parks continuously develop new features, and more and more are now open year-round, said Bob Murphy, global sports and events practice leader at Marsh in Philadelphia.

"Water parks are no different than any other entertainment organization — they are always looking for the next best attraction, the newest ride — it's all about fun and excitement," Murphy said.

Moreover, many water parks have become destination resorts not limited to outdoors venues, he said.

One new potential risk exposure that is entering the world of outdoor activity is the public's growing use of camera-equipped drones, said Michael Greear, director, risk control at Aon Risk Services in Denver.

Technological advances in these flying cameras have made them more affordable and accessible to the general public, leading to concerns about drone collisions as well as invasion of privacy issues.

"Water park operators should consider the development of a drone use/non-use policy and communicate this to all staff and water park guests through training of staff to signs in the park to messages on websites," he said.

### FREQUENT EXPOSURES

"Operators need to have a very specific skills set on their management team if they are going into the water park business," said Franceen Gonzales, executive vice president, business development at WhiteWater West Industries Ltd. in Richmond, British Colulmbia, Canada, a manufacturer of water park and amusement attractions.

The three biggest risks in the water park business are water quality, bather supervision, and attraction operations, she said.

Gonzales serves as a board member for various safety-related organizations, including the technical committee for the Centers for Disease Control-hosted Model Aquatic Health Code (MAHC).

For water quality standards, sometimes even separate counties within a state have their own code, so it's important to review all applicable regulations, she said.

The CDC's MAHC was recently created to provide model language for states to adopt, which could improve consistency across the country. "The MAHC takes into account the scientific research and new technology that's been developed since most state codes were formed over 30 years ago," Gonzales said.

"This is a great resource on how to manage water quality and other safety considerations in aquatic environments."

One potential risk is water-borne illnesses from bacteria such as cyclosporidium, Murphy said.

The chlorine used in water park pools may kill 99.9 percent of the bacteria, but a minute risk remains, he said.

"Lifeguards also have to be hyper-vigilant about watching for people with open cuts, such as when a kid's Band-Aid falls off, a bike scrape, or when somebody takes a spill and cracks their head open and bleeds," he said.

"The entire area needs to be disinfected before they let anyone back into the area."

Another risk is posed by common filtration and recirculation pump systems, such as when multiple pools are being operated at the same location, Greear said.

If blood or fecal matter contaminates one pool, water park operators need to respond to the reality that other pools could also be indirectly contaminated through the common filtration system, he said.

Regularly testing the water for the appropriate chemical balance is important, he said, noting that before a park is built, the design should take into account all water-borne risks.

### SUBSTANTIAL BUSINESS INTERRUPTION

A major issue for water park operators is business interruption, especially if it is a seasonal park that makes virtually all of its revenue over a fairly short period of time, Murphy said.

Parks that depend on summer for their revenue cannot afford to be shut down, particularly for a contingent business interruption, such as in the event of a riot or water main break.

"We also get parks to think and train for the unthinkable catastrophic event, such as an active shooter situation," Murphy said.

A more common exposure is slips, trips and falls, given the wet surfaces on pool decks, slide ladders, stairways and locker rooms, said Greear.

They are often not high-dollar claims, but "frequency often breeds severity," he said.

In addition to posting no running rules and trying to enforce compliance, some parks have installed abrasive strips to minimize accidents, Greear said.

This is particularly helpful when adults are the transgressors — "it can be tough for a young, 18-year-old worker to tell a 45-year-old what not to do."

When risk managers and safety engineers are involved in the park's design discussions, they can offer input on what sort of materials should be used on the decks, tiles and other surfaces, he said.

Water slides and other attractions also need to be well-designed and engineered, fabricated with quality, well-installed, and tested prior to opening to the public, Gonzales said.

They also need to comply with industry

## Summary

- **Expansion of water parks to destination resorts is creating new risks.**
- **Risk engineering, including filtration systems, can mitigate many water park risks.**
- **The risk of drowning means water park operators must have trained, vigilant staff.**

> "Water park operators should consider the development of a drone use/non-use policy and communicate this to all staff and water park guests ... ."
>
> — MICHAEL GREEAR, DIRECTOR, RISK CONTROL, AON RISK SERVICES

standards, state-specific codes and manufacturers' instructions, she said.

Collapsing water slides can result in injury or death, Murphy said. Parks should document every inspection of their slides, and immediately fix every issue, no matter how minor.

### SWIMMERS IN DISTRESS

As for bather supervision, parks should focus not just on prevention, but on managing the diverse risks posed by different types of aquatic venues. Training staff to be able to recognize someone in distress and have the ability to reach that person quickly is crucial.

The training organization credited with developing the 10-20 protection standard for lifeguards is Jeff Ellis & Associates Inc., said Richard Carroll, the firm's chief operating officer.

"Lifeguards have a zone of protection — a defined area where they are able to scan the entire zone of water within 10 seconds, and be capable of physically reaching a distressed swimmer within 20 seconds," Carroll said.

"Parks should overlap these zones so that multiple lifeguards are scanning areas that are adjacent to each other."

Wave pools generally have such zones, but that's not the case at most catch pools for slides and other attractions, which typically have a two- to four-person maximum bather load, depending on the depth of the water, he said.

"The single most important factor in being able to maintain a drowning-free environment is lifeguard vigilance and attentiveness," Carroll said. It requires foundational and continuous vigilance training as well as proactive supervision of the lifeguards on duty.

Ellis' vigilance awareness training program uses live employees or mannequins, putting them at the bottom of the pool in certain lifeguard zones during the day to see how fast lifeguards react and reach the object. The firm's clients conduct hundreds of these drills throughout the season, and remediation is provided if needed.

"The drills become so commonplace, we have patrons who frequent our clients' facilities going back to their community pools and telling managers they need to be doing the same things," he said.

Operators should also ensure that lifeguard staff regularly rotate positions, said Charles Landrum, director of underwriting at Specialty Insurance Group in Carmel, Ind., because when lifeguards sit in the same place for a long period of time, their minds begin to gloss over important details.

He said the quality of management is the most important factor when underwriting policies for water parks.

"We clearly want an operation that has the latest state-of-the-art safety equipment, which could be devices that eliminate water-borne illnesses, or water suction lines to prevent hair or body entrapment, or the types of chemicals used to treat the water, how they are handled and stored," Landrum said.

Having a robust aquatic safety management program is also very important to underwriters.

"Unlike other amusement options, there really isn't any margin for error when it comes to the water park business," he said.

"For an amusement park kiddie ride that has adequate restraints, if an operator has a momentary distraction there won't be catastrophic consequences.

"But in the water park business, any distraction could have catastrophic results," Landrum said.

**KATIE KUEHNER-HEBERT** *is a freelance writer based in California specializing in financial services. She can be reached at riskletters@lrp.com.*

**EDUCATIONAL AND** other nonprofit risk retention groups would like to be able to write property coverage in addition to casualty.

# Time for Property

**Potential legislation in Congress would allow risk retention groups to write property. Here are the arguments for and against.**

**BY MATTHEW BRODSKY**

Is it an insurance issue or a nonprofit issue? Is there an insurance market for these risks or is government intervention needed? Is Congress looking to tell the insurance industry what's what or are lawmakers looking to facilitate a market-based solution?

The bigger question is: Whom do you trust?

At the heart of these questions is an insurance law: the Liability Risk Retention Act (LRRA). Having passed it in 1981 in response to a collapse of the product liability insurance market, Congress last amended the law in 1986 to include most commercial liability.

Since then, a vibrant subculture within the self-insurance world has grown up. In 2014, the average annual premium written by risk retention groups (RRGs) was $12.6 million. With 234 RRGs now in existence, according to the Risk Retention Reporter, that amounts to nearly $3 billion in total premium.

Despite such a success story, surprisingly, RRGs haven't expanded further — say, to property coverages. It's not for want of trying.

Janice Abraham, CEO of one of the biggest RRGs, United Educators, has been in her position for 18 years.

"I have been working on this for almost the whole time," she said, referring to the fight for RRGs to retain property risk.

Right there with her has been Pamela Davis, CEO of another massive RRG provider, the Alliance of Nonprofits for Insurance (ANI). They spearhead a renewed effort to expand the LRRA to allow RRGs to underwrite property coverage.

The fight is being led in Congress by Florida Republican Rep. Dennis A. Ross, who assures constituents and insurance professionals that he's a "strong free market person."

"I don't believe the government should be in the business of insurance at all," he said. Efforts to expand the LRRA is not "the camel's nose under the tent trying to get into the industry."

Instead, Ross, whose brother Bill served as CFO of the Hillsboro County Boys & Girls Club, said that he appreciates the challenges nonprofits face, and hopes to create an opportunity for such groups to pool resources and focus on their primary missions, not premiums.

The pro-LRRA expansion argument is best illustrated by a plausible example: A nonprofit senior center can purchase $1 million in liability through an RRG to cover the liability to transport its seniors in a van, but that RRG cannot underwrite damage to the $20,000 van itself.

Or take the example of a college that buses its sports teams to various competitions and shuttles its students around campus. An RRG could offer the school millions in third-party liability, but not the thousands to fix the bus after a fender-bender.

That just doesn't make sense, advocates said. Of course, their opponents tell a different story.

## ONE SIDE

A primary argument for the new LRRA is that it won't be a big change at all. The draft bill now in Congress would only allow certain groups to write coverages like property, fleet auto physical damage and business interruption: RRGs active for 10 consecutive years, with at least $10 million in capital and surplus.

Perhaps most limiting, the bill only applies to RRGs protecting 501(c)(3) organizations.

The argument: The commercial insurance market has failed these nonprofits. These community and educational nonprofits tend to be small in size and faced with unique risk.

"These are hard to cover property, auto physical damage issues that really warrant a lot of attention and a lot of risk management," said Abraham.

Sometimes, commercial insurers are interested in these risks, Abraham said. Sometimes, they are not.

What often happens: A 501(c)(3) purchases liability insurance through an RRG, then finds it challenging to buy unbundled property from a commercial carrier. What's more, seeking out unbundled property coverage adds operational costs to small organizations on constrained budgets.

According to Davis, 85 percent of 501(c)(3)s that would benefit from the law change have annual budgets of less than $1 million.

In United Educators' case, schools come to the RRG year after year looking for help with this issue, Abraham said.

She went on the record — the *Congressional Record* — about that unmet demand when she testified to the Subcommittee of Housing and Insurance of the Financial Services Committee of the U.S. House of Representatives on May 20, 2014.

Davis said she hears from insurance brokers about these problems and the unmet demand. They tell her that only 6 percent of commercial markets would consider standalone property risks from nonprofits.

"I would love to see the market come up to [nonprofits] and say, 'There is no need for this,' " Ross said, but unfortunately "games" are being played in the commercial market.

But the main takeaway from proponents is: A vote for the LRRA change is a vote that benefits communities and their nonprofits. It's not about commercial insurance. So how can people dare oppose it?

## THE OTHER SIDE

Opposition is aligned against the LRRA expansion, just as it has been for the past 18 years that Abraham fought for it.

On one side of the opposition is the National Association of Insurance Commissioners (NAIC).

The insurance regulators have never been fond of risk retention groups, as one insider in the captive insurance industry put it, perhaps in large part because the 1981 law and its 1986 addendum are two of only a few instances when the feds have intervened in state-based regulation.

In the last serious effort to reform the LRRA, a two-year attempt that ran aground in 2013, opposition from the NAIC was cited as one major reason the bill didn't pass.

News reports at the time focused on the NAIC's belief that RRGs are more prone to insolvency than

## Summary

- **Proponents have been trying to expand the Liability Risk Retention Act for years.**
- **Nonprofits especially are hungry to write property in their risk retention groups.**
- **Opponents of expanding the act say traditional insurance is a safer form of coverage.**

"I have been working on this for almost [18 years]."

— JANICE ABRAHAM, CEO, UNITED EDUCATORS

commercial carriers.

For their part, commercial carriers might argue that RRGs aren't on an even playing field. Once formed, RRGs are regulated only by the insurance department in the state in which they are domiciled (not in every state they write business).

Another argument might be that they aren't as safe for consumers. RRGs are not subject to state guarantee funds in the event they go belly up.

Beyond these two distinctions and the fact that they can only write liability, RRGs are also a unique form of captive because only owners can contribute capital, only policyholders can be owners.

Independent insurance agents, represented by the Independent Insurance Agents & Brokers of America (Big I), also oppose expanding LRRA.

Jen McPhillips, its senior director of federal government affairs, said concerns include consumer protection and the fact that RRGs have no experience writing property, but the primary objection is the failure to demonstrate a market using empirical data.

"The traditional marketplace is there and is willing to take on the risk," she said.

Whereas the original LRRA was passed in response to a clear crisis in coverage, no such crisis exists today.

However, data does support the contention that RRGs serve their policyholders well.

In A.M. Best's "2015 Captive Review," the rating agency found that risk retention groups outperformed commercial counterparts in loss adjustment expense, underwriting expense and combined ratio, among others. They did not outperform them in policyholder dividends.

The review's authors were also quick to mention the other benefit of the RRG structure — dividends and surplus buildup are returned to policyholders. Between 2009 and 2013, that amounted to $638 million for rated RRGs.

Also, RRGs are known to provide members with tailored risk management and loss-control services.

"Because RRGs serve a single industry, they are able to develop and share best practices including risk management initiatives, which isn't common among commercial carriers," wrote Christina Kindstedt, senior vice president of Willis' Global Captive Practice for the Americas, in a blog calling for the LRRA expansion passage.

To insurers that voice concerns about RRGs not "playing on a level playing field," David Provost, deputy commissioner for Vermont's Captive Insurance Division, said: "Most RRGs are playing on a field that you abandoned."

Vermont, it should be noted, is the No. 1 home for RRGs in the world; one-third of all groups are domiciled in Vermont, and they bring in two-thirds of all RRG-related premiums.

## THE CHANCES OF PASSAGE

Beyond the insurance industry lobbying against the bill in Washington, D.C., another hindrance is the overall inertia in the Capitol.

"Ask Congress," said Abraham when asked why an LRRA expansion hasn't passed. It "would be foolish to be overly optimistic" about the bill's passage this year, she said.

As of early July, Ross had not yet presented the bill to the Subcommittee on Housing and Insurance, waiting on industry groups to provide market information.

Davis is optimistic and determined. Even if it doesn't pass this year, she is "absolutely determined to get this through."

"It certainly would help our schools and it certainly help our small nonprofits in our communities," she said.

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**LOW INFLATION,** minimal interest rates and meager investment returns have dominated the RendezVous agenda since 2008.

# 2015 RendezVous: Smiles or Scowls?

**Managing the steady decline in rates has become a recurrent theme of the reinsurance industry's annual RendezVous event. R&I previews the topics that will be debated on its terraces. BY GRAHAM BUCK**

Nikolaus Von Bomhard was not a happy man this time last year. The CEO of German reinsurance giant Munich Re — in line with its general policy — is rarely outspoken. However, ahead of the September 2014 Monte Carlo gathering of the reinsurance industry's key personnel, he spoke of being "disappointed, exasperated and even rather appalled by what is happening in the market."

It's unlikely that the past 12 months have offered much to lift his spirits. Guy Carpenter reports that global property catastrophe rates were down by 11 percent on average at Jan. 1 2015, the same rate of reduction as the year before. "Reductions were sustained across all lines of business with few exceptions," the group commented. "We continue to see rate reductions and easing terms and conditions at the various key renewal anniversaries during 2015."

Attendees at the 59th annual RendezVous in the tiny European principality of Monaco next month will therefore be confronting familiar problems; indeed, the mood could best be described as "the same, only more so."

Low inflation, minimal interest rates and meager investment returns have regularly featured on the RendezVous agenda since the 2008 global financial crisis broke. More recently, Europe has seen low inflation turn to deflation, while some corporates have followed the lead of its more confident governments and been emboldened to offer negative rates on bond offerings. This year also began with the European Central Bank (ECB) belatedly adopting the experiment applied by both the Federal Reserve and the Bank of England, to kick-start an economic revival by launching a quantitative easing (QE) program.

As for Munich Re, more recent pronouncements have employed milder language — although when the group issued its annual results in May, board member Torsten Jeworrek admitted that market conditions looked fairly certain to remain soft.

"The question for us is not how far the rates can decline," said Jeworrek. "The question is how to manage the cycle and where to find new business opportunities. We are proceeding on the assumption that the market environment will not change significantly in the upcoming renewal rounds in 2015, unless extraordinary loss events occur, or there are any major changes in the market."

## NEW CHANNELS FOR EXCESS CAPITAL?

With what Aon Benfield describes as "too much capital and less opportunity to deploy it" prevailing, 2015 has seen an upturn in merger and acquisition activity with more defensive and strategic deals than in any year since 2007. Swiss Re's chief economist, Kurt Karl, said recently that activity pointed to a squeezing out of the middle-tier specialist insurers and reinsurers. "Some firms do not have the scale or the breadth of services to differentiate their offering from more commoditized reinsurance capacity," he noted.

The unsolicited takeover attempt launched by Italian investment firm Exor for PartnerRe is still grabbing headlines. This has threatened to overturn the reinsurer's planned "merger of equals" with rival Axis Capital Holdings that was announced at the start of this year.

The resulting turbulence was recently commented on by XL Catlin's CEO Mike McGavick, who cheerfully admitted: "We're awfully happy to be able to take advantage of the confusion that mergers create for others." Admittedly XL can display a degree of schadenfreude; the group's $4 billion takeover of Lloyd's of London underwriter Catlin went through relatively smoothly — announced in January, it had wrapped up by April.

"While both XL and Catlin were major reinsurers pre-combination, we are now the eighth largest P&C reinsurer in the world and have a larger suite of products and a broader geographic reach together," said Greg Hendrick, CEO of XL Catlin's reinsurance operations.

"This will be the main thrust of our meetings at Monte Carlo; we can entertain any P&C risk that a client faces anywhere in the world and we will be very focused on the overall relationship across products and geographies."

It will take rather more major M&A deals to change Aon Benfield's assessment. However, Bryon Ehrhart, CEO of Aon Benfield Americas and a regular speaker at the RendezVous, said that while the pronouncement remains valid, he sees grounds for optimism. "The growth in reinsurance capital continues to outpace the growth in demand for reinsurance," he said.

"However, material new demand has emerged for U.S. mortgage credit risk and certain life reinsurance transactions. While the industry clearly has the capital to deploy in these areas, the industry's skills are still developing and currently limit the ability of the industry to match the opportunity."

Ehrhart also believes that the industry's leading players have made "material progress" toward incorporating lower-cost underwriting capital into their value proposition. "Reinsurers have seen that they have and can sustain their significant competitive advantages when they optimize their

> "The debate now is less about Solvency II content, but about how companies are going to live with it."
> — ERIC PAIRE, HEAD OF GLOBAL STRATEGIC ADVISORY, GUY CARPENTER'S EMEA REGION

## Summary

- Reinsurers are assuming that the market environment will not change significantly in the upcoming renewal rounds in 2015.
- M&A activity may be squeezing out middle-tier specialist insurers and reinsurers.
- Negative interest rates are likely to be a key topic at the 2015 RendezVous.

underwriting capital structures."

### RATE UNCERTAINTY

So what else will feature on the Monte Carlo agenda next month? Negative interest rates are likely to be a key topic, said Jean-Jacques Henchoz, CEO reinsurance for Europe, the Middle East and Africa (EMEA) at Swiss Re. "After large parts of European sovereign yield curves dipped into negative territory during spring this year, investors have certainly become aware that zero may not necessarily be the lower bound for bond yields."

He believes that deflation fears may diminish: While the ECB's bond buying program under QE had a major negative impact on bond yields over the first half of 2015, it is unclear whether it will remain the dominant driving force. "There are other forces which may push bond yields higher," said Henchoz. "The U.S. Fed is likely to start hiking interest rates later this year. In addition, it is expected that inflation rates will increase in the second half as oil prices stabilize.

"Overall, the outlook for interest rates remains highly uncertain at this point in time. What is clear, however, is that insurers' investment returns will not improve significantly anytime soon. This is because even if bond yields increase, existing higher-yielding bonds in insurers' portfolios will need to be reinvested into lower-yielding bonds. So insurers' investment returns will recover only slowly and with a time lag."

Long-established players are also coming to terms with the fact that many of the market's newer entrants have joined for the long-term. "We believe that alternative capital is here to stay and will be a part of the capital base supporting the reinsurance market," said Hendrick.

"The only open question in our mind is what size and portion of the overall market will this capital source attain in the coming years. We are positioning XL Catlin to be able to utilize all forms of capital, our own and third party, to ensure that we match each risk profile with the appropriate capital."

Ehrhart suggested two other topics likely to feature in many discussions. "Cyber [risk coverage] will recur as a topic that is driving demand growth," he said. "The discussion of alternative capital will move from the debate over whether or not it is a good or bad thing to how best it can be incorporated into a reinsurer's value proposition to its customers and shareholders."

### SOLVENCY II ISSUES

Just over the horizon is the European Union's Solvency II legislative program, which introduces a new and harmonized EU-wide insurance regulatory regime in all 28 member states. As it takes effect from Jan. 1 2016, it might be expected to feature highly on this year's RendezVous agenda. Conversely, having been in the pipeline for several years, is the debate over Solvency II — and the industry's objections to the directive — now largely over?

"Not at all," said Eric Paire, head of global strategic advisory for Guy Carpenter's EMEA region. "I think the debate now is less about Solvency II content, but about how companies are going to live with it, and this includes topics such as internal model validation, volatility of capital requirements, and reconciling increased required capital with low prices and interest rates.

"Furthermore, with doubts about the readiness of some companies and indeed regulators, Solvency II is a long way from disappearing from the agenda."

Henchoz agreed. "The focus is currently very much on implementation, on understanding how business operates under the new EU solvency regime as well as preparing for application," he said.

"Many companies are still busy getting their systems ready by 2016, in particular on reporting, and the change towards an economic and risk-based regime has some wider implications which demand a different approach to strategy and products."

RendezVous 2015 also poses the question of where delegates who usually check in at Monte Carlo's five-star central Hotel de Paris will find a bed. The iconic venue began a major renovation program last October that won't be completed until September 2018; until then many will have to settle for an address that is less prestigious — or located further out of town.

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REUTERS/STEPHANIE MCGEHEE
**DEFENSE CONTRACTORS** work in some of the most inhospitable places on the planet and receive statutory workers' compensation coverage.

# In Danger's Path

**Defense contractors work in hostile environments. But that doesn't mean their job sites can't be managed safely.** **BY SUSANNAH LEVINE**

Defense contractors in the Middle East work in some of the most dangerous and inhospitable conditions on the planet. Workers are drawn there by high pay rates, but face a long list of exposures.

Defense Base Act (DBA) insurance provides the sole workers' compensation remedy for these employees, although some employers supplement that cover with employer liability coverage, in case of legal action from injured workers or third parties.

Provided through the Department of Labor, DBA coverage is congressionally mandated for civilian employees working outside the United States on military bases or under a contract with the government for public works or for national defense unless their employer obtains a waiver. DBA carriers qualify for full reimbursement from the government for injuries caused by a "war-risk hazard" under The War Hazards Compensation Act.

Although conflict is spreading in the Middle East, many areas are not considered "conflict zones" where qualified injuries would be reimbursable by the federal government.

Still, DBA benefits are broad, said Karen Dobson, national client director, Aon Risk Solutions. They don't officially provide 24-hour coverage, but they apply to many activities, sometimes even those as questionable as bar fights and softball injuries.

AIG has the lion's share of the statutory DBA business, followed by CNA and ACE.

Neither the Department of Defense nor the Department of Labor releases statistics on the number of workers covered by the DBA, but the Business Benefits Group, a benefits consultant, reports that it covers almost 200,000 prime and subcontractor employees overseas and that it generates annual government-wide premiums of more than $400 million. DBA coverage extends to foreign nationals as well as U.S. citizens.

Contractors accounted for at least 50 percent of U.S. forces in Iraq and Afghanistan over the last decade, and before that, in the Balkans, said Moshe Schwartz, specialist in defense acquisition, before the House of Representatives' Committee on Armed Services in October 2013.

## HIGH RISK AND HIGH REWARDS

Despite its dangers and discomforts, the Middle East is an attractive place to work for many, said Aon's Dobson, in large part because the work pays so well. For example, a truck driver who makes $40,000 per year in the United States may make $100,000 per year in the Middle East.

But fundamental safety considerations sometimes get pushed to the back burner by extreme conditions. In challenging environments, such as 120-degree heat, "people just want to get the job done, and they're not always focusing on safety procedures or taking the time to avoid risk," said Alan Leibowitz, corporate director, environment, safety, health and security for Exelis Inc., a contractor with a large Middle East footprint.

Those shortcuts can lead to high injury rates. Workers in the Middle East are injured at least 10 times more frequently than their stateside equivalents, said Haleh Khodayari, chief executive officer, Advanced Consulting Inc., a global risk management firm based in California.

The costs in those cases can escalate rapidly due to exorbitant medical, medevac and repatriation expenses, in addition to lost time from work. The list of regional and war zone exposures is long and can be grisly, Khodayari said, ranging from slip-and-fall injuries to environmental exposures to death and injury from detonated roadside bombs and other extreme hazards from strife in the Middle East.

Post-traumatic stress and fatigue disorders occur frequently in Iraq and Afghanistan, sources said. The list of regional exposures includes allergies to foreign plants, such as palm pollen, and traffic accidents as workers try to negotiate unfamiliar or haphazard traffic patterns.

Adding to underwriters' headaches is that the high compensation rates overseas sometimes motivate applicants to hide disqualifying ailments such as asthma or heart conditions during pre-employment screenings, which could put them at risk. It could also put their colleagues at risk if the safety of one depends on the unimpaired function of the other.

## WHEN DBA APPLIES

The Department of Labor is vigilant in its oversight of the DBA program, said Dobson, to the extent that it is "paternalistic" about looking after workers. In several cases, she said, the insurance company and claimant agreed on a settlement, but the DOL didn't agree with the terms. It compelled the insurer to pay more, even though the claimants had competent legal representation.

Some disputes arise over whether or not idiopathic ailments, such as cancers and heart conditions, are related to employment, said Scott Bloch, a Washington, D.C. attorney who represents injured employees in many DBA cases.

"A DBA remedy could kick in if any aspect of the employment hastens or aggravates the conditions," he said, which pulls the employer into complex legal and medical situations to prove or disprove a claim.

"An attorney will ask, 'Is the worker's heart condition or inflamed liver related to drinking bad water in Afghanistan?' "

To stave off financial crises in case DBA does not apply or while a case is in review, Bloch said, many employers offer their workers disability insurance over and above the workers' compensation insurance to cover gaps that DBA may not cover.

Although DBA prevents employers from being hauled into civil lawsuits for its direct employees, employers may still be liable for third-party suits independent of DBA, Bloch said.

For example, if an employee leaves a live electrical cord that electrocutes a subcontractor in the shower, the employer may be subject to liability in civil court for action or inaction taken vis-à-vis the electrocuted subcontractor, who is a third party despite being part of "the team."

The same pertains to any third party who wanders onto a work site or is struck by a contractor's car.

## CLAIMS MANAGEMENT IN FARSI

Language and distance often hobble claims management for injuries in the Middle East, said Terri Rhodes, CEO of the Disability Management Employer Coalition. U.S. doctors and carriers have to read medical reports from non-English-speaking countries to determine the nature and cause of


### Summary

- **Workers in the Middle East are injured at least 10 times more frequently than stateside workers are.**
- **Injuries include slips and falls, environmental hazards and post-traumatic stress.**
- **Extreme environments often push more fundamental safety practices to the back burner.**

injuries and whether they're job-related.

They have to be able to read a treatment plan to arrange return-to-work. Even when she hires interpreters, Rhodes said, she never has full confidence that the interpretation is accurate.

"There's always some variance in language," Rhodes said.

Extracting, transporting and repatriating injured workers from conflict zones and remote regions to a location with adequate medical facilities can be complicated and expensive, said Eric Dean, senior vice president, ACE Risk Management Global Casualty.

DBA insurance provides coverage for repatriation. But problems multiply when a worker is medically incapacitated and can't speak, Rhodes said, and it becomes necessary to obtain medical records.

"We have to communicate with hospitals," she said, "and we run into time zone problems. In an emergency, we have to find out immediately when the injured worker was admitted and what the injury is."

As elsewhere, incident prevention in the Middle East is the best claims management strategy, to whatever extent that's possible in an environment where explosives and extreme heat are a fact of life.

Michael Baker International, a global engineering, planning and integrated consulting firm, strives for a "zero-incident, zero-accident" workplace at every site around the world, said Nicholas Gross, chief operating officer, international operations. That pays off both in protection of its employees and in its claims experience: Last year, Michael Baker International got "the best DBA rates in history," Gross said.

"Our safety record has a direct benefit on our bottom line."

Industry best practices include thorough pre-and post-employment screens, which include medical, dental and psychological exams, followed up with checkups during deployment, even in war zones, Aon's Dobson said.

Michael Baker keeps a solid, detailed documentation trail about every incident, illness and injury, which ensures that injured employees get swift treatment and also protects the company against future claims.

Like Michael Baker, Exelis spends a lot of resources training its workers, both U.S. and foreign nationals, in safety protocols. It holds workers in the field to the same standard as its U.S. offices and factories.

Safety protocols could include redundant testing for electrical current on a rewiring site — an important precaution where infrastructure is cobbled together and wiring is "not always the safest," Exelis' Leibowitz said. It also includes forced hydration breaks, because people don't notice heat exposure until it's too late.

Compliance is high, Leibowitz said, because workers appreciate that the protocols are in their best interest. Exelis offers incentives for following safety rules and applies penalties, such as being sent home, for breaking them.

Return-to-work programs for Middle East contract workers can be hard to implement, Advance Consulting's Khodayari said. A fairly simple injury such as a broken leg can be treated in most regions of the Middle East, but the worker can't get back to work as quickly as in the U.S. because light duty assignments are not usually available.

The cost of lost wages can be high because the DBA entitles some injured workers to full wage loss for the rest of their lives.

"If a worker can't return to the original contract, we may conduct a formal Labor Market Survey and help the injured worker look into other jobs with the same employer in a different capacity," Khodayari said.

Gross attributes much of Michael Baker International's safety success to its proactive approach — and to its partnership with its broker and DBA insurance provider.

"Our broker took an active role in identifying and managing risk, reducing claims and getting personnel back to work," he said. "Our partnership with our carrier helped us reduce claims and experience."

And key to the successful relationship, said ACE Group's Dean, is working directly with the client, face to face when possible.

"Insurance is a contract of trust. Putting a face to the name helps build that trust," he said, even with statutory coverage, such as DBA insurance.

"The relationship doesn't change the coverage, but it facilitates the placement of coverage."

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**LIAM MCGEE,** who died in February, left a memoir on his successful turnaround of The Hartford. Part One of his exclusive memoir appears in this issue. Part Two will be published in the Sept. 1 issue. The entire memoir is available at www.riskandinsurance.com.

# In Memoriam: Liam McGee

**Recalling the turnaround of The Hartford, in his brief memoir.**

**BY LIAM MCGEE**

In the wake of the Great Recession, it's tempting to think that the surviving banks and other financial service companies have gotten a severe wake-up call. Surely they've overhauled their controls and strategies to prevent themselves from carrying so much risk in the future.

I'm hopeful that things have changed, but my own experiences have sobered me on this point. Organizational overhaul is possible, but it is difficult. When I became CEO of The Hartford in October 2009, soon after the company nearly collapsed, I was struck by the organization's resistance to major change. I didn't find a sense of urgency. We ultimately succeeded in restoring the company's strength, and it is now well positioned for future growth. But it was much more challenging than I expected.

## GOOD INTENTIONS GONE BAD

Founded in 1810, The Hartford Financial Services Group was one of the largest property and casualty insurers in the United States in the 1990s. That's when the managers in the company's small life insurance business started offering variable annuities. Their initial success in this new product category led to a major push, to the point where the company became an industry leader and a stock market darling. But as the annuity marketplace became crowded, the company tried to maintain its growth with riskier products and expansion to overseas markets, supported in turn by a riskier investment portfolio.

The financial crisis of 2008 brought this all to an end, and the stock price fell from $100 all the way to the low single digits. Only a $3.4 billion capital infusion from the federal government's Troubled Asset Relief Program, coupled with $2.5 billion in crisis capital from the big European insurer Allianz, kept the company going.

From the outside, the turnaround of The Hartford might look pretty simple. In the short term, we got a lift from the recovery in the financial markets. We also had a successful capital raise in March 2010. That allowed us to pay off TARP and gain breathing room to work on the underlying problem. (We paid off Allianz a year later.)

We then determined that the company's balance sheet was simply not big enough to absorb the risk in the annuity business, so we stopped issuing new policies. The remaining life-related activities were not strong enough to survive on their own, so we sold those off to better-capitalized companies that specialized in those areas. We refocused around our historic expertise in property and casualty insurance, which had languished during the run-up in annuities. The company is now in a solid capital position, with much better risk-management capabilities and a more collaborative senior executive team. It's poised for sustained growth.

## IT'S COMPLICATED

Like other financial services companies that sank in 2008, however, the story is more complicated. Let's start with how The Hartford got in such a mess. It had lots of smart, talented people who understood risk. The people in variable annuities started off doing just what they were supposed to do: exploring opportunities. When the product became a hit, they understandably built up a process to ramp up sales domestically. Then they went overseas, including a decision to enter Japan without hedging the currency risk. Executives in headquarters, delighted at the profitable growth, encouraged them on, while investors cheered. Prompted by The Hartford's successes, competitors entered the markets and offered even riskier annuity products. It was the same story that played out elsewhere in the run-up to the financial crisis, with subprime lending, collateralized debt obligations and other financial innovations that got out of hand.

Soon, the company was growing faster than it could add infrastructure to support the added size. It didn't keep up with risk management and technology platforms in the life business, because all the spare capital went directly into new annuity programs. Rule of thumb: Financial services firms are just not equipped to handle revenues rising much faster than the rate of GDP growth.

The complexity was the biggest challenge, as The Hartford was suddenly a multiline business, not a P&C-dominated company with a few smaller operations. Each division was watching over its own risk in the narrow sense, but management did not develop a strong risk management function at the corporate level. It couldn't aggregate the risks from the separate divisions.

Meanwhile, the rapid growth in the company's annuity and other life businesses meant that the company had to build up its investment portfolio quickly. It had a lot of liquidity to invest. But the investment management division's incentives were geared to maximize return, not to balance risk versus reward. The division lacked the tools to properly assess the risk it was taking or to see how it correlated to risks embedded in the annuity products that were being sold. Like a salesforce rewarded for gross revenue, not profitability, the managers didn't fully factor risk into their investments. As a result, like many investors, they went after riskier assets, especially securities backed by commercial and residential real estate — right before the real estate market crashed.

The Hartford's organization was inevitably influenced by the mood in financial services generally. People were dazzled by complex new packages of securities that managed risk in creative new ways. The Hartford's executives tolerated more risk than they would have otherwise.

Still, there were certainly smart people who understood that The Hartford had bitten off more than it could chew. In 2007, the company decided not to match competitors that were adding even riskier elements to their variable annuities. And well

**Summary**

- **Liam McGee became CEO soon after The Hartford nearly collapsed during the financial crisis.**
- **The rapidly growing annuity business had increased the company's risks.**
- **The company's siloed structure kept employees from seeing the big picture.**

before the crash, some executives were urging the company to cease selling annuities or to sell the life business to a better-capitalized rival. But decisions were deferred by leaders who understandably couldn't give up on the money machine. When the company finally accepted the seriousness of the situation, the economy tanked.

It's easy to blame headquarters for failing to assess risk at the corporate level. But you have to remember that The Hartford historically had a fairly narrow product line. When one of your businesses is growing fast, you want to put your resources first into supporting that business directly. That leaves less time and energy to put into setting up new resources at the corporate level. Assessing aggregate risk is a complex undertaking that requires sophisticated tools and staff.

It's a political as well as a resource challenge. When one of your businesses is thriving, it's hard for anyone at headquarters to tell it what to do. And traditionally, the business unit CFOs had much more power than their corporate counterpart.

For headquarters, allowing a successful product line to keep expanding is one kind of decision, a pretty easy one. But reining in that same product line because of risk on the corporate level is a much harder decision that inevitably invites pushback from the managers whose bonuses depend on the business. Insurance involves long time horizons, so people like to deliberate and study a problem carefully. You can always find a relevant issue to justify a delay. Combine that with a headquarters staff less powerful than the businesses it's supposed to oversee, and you inevitably got a kind of "states-rights" mentality that refrained from making tough calls.

> "When one of your businesses is thriving, it's hard for anyone at headquarters to tell it what to do."

## TURNAROUND RESISTANCE

Turnarounds may be tough, the thinking goes, but at least people will be open to changes. They know their company is in trouble, so you'll get less of the political resistance you usually find when you push a major initiative.

That's certainly what I thought. When I was offered the CEO position, the company was in such bad shape that I almost didn't accept. Even with the TARP bailout to cover some of the toxic assets and buy some time, I worried that the unprofitable annuity policies, especially in Japan, would destroy the company's insurance ratings and therefore its ability to compete.

The problems were so severe, and so clear to me that I assumed the organization shared my anxiety. I had very little background in insurance, so I figured I got the job because the directors wanted a fresh start. At least I would have a burning platform.

Boy was I wrong. Many senior executives didn't think things were so bad. They blamed the troubles on the deep recession coupled with some excesses in variable annuities. Now that they had the TARP and Allianz money, they figured they needed to make only incremental changes and just ride out the inevitable economic recovery. The impressive run of profitable growth until 2007 made it hard to give that up and fashion a new strategy. At a minimum, they argued, difficult decisions should be deferred to give the economy time to improve and rectify our situation.

The company's siloed structure also kept people from seeing the big picture. Executives could focus on their individual product lines and customer bases, rather than the macro financials. At the same time, the size of the overall company insulated them from threats in the marketplace. How could a big, 200-year-old institution like The Hartford really be in dire straits?

People weren't outright opposed to changing the strategy. Almost every kind of move had been looked into before I came.

But I still remember those early meetings, where we would talk for hours about a change. And then people would want to go back and study the issue further. The organization didn't share my urgency.

## CHANGING EVERYTHING

The first thing I did was to focus on the immediate challenge: boosting our capital levels in order to withstand the continuing volatility in the market. As an insurer, we had strict rules in place to protect policyholders. Once we were able to raise capital, in March 2010, I was eager to focus on the strategic issues.

We formulated a rough strategy as follows. We wanted to be in businesses with growth prospects, where we could invest and increase profits. But these businesses had to generate capital over time, not consume capital. And they had to lower the firm's overall market volatility.

By those standards, the life business didn't make sense. The only way we could make the credible guarantees we needed for a competitive annuity business was through a much bigger boost in our capital ratios. That wasn't going to happen. The annuities really belonged in the hands of a scale player. As for other life division products, we didn't have a strong enough market position to expect much growth. The annuities really dominated the division.

Meanwhile, we still had a core competency in property and casualty. Parts of that business had atrophied because the company had put most of its available capital into the annuities business, but it was still performing reasonably well with a strong market position. It also came with ancillary businesses in employee benefits. So we formulated a clear strategy to return to the company's historic focus on property and casualty.

I was eager to move forward, but we couldn't, for two reasons. First, like most financial services companies in multiple businesses, the company's position was so complex and market-dependent that the structure couldn't change quickly. Which businesses should we sell, in what kind of package, and when? We needed to find a buyer at a good price. And how were we going to unload the Japan albatross?

Second, I didn't think the existing senior team was capable of such a major shift. They had just gotten too used to the old ways, and would have difficulty with major changes.

So we set the overall direction, but we couldn't carry it out immediately. We were also hoping to get some short-term benefit from the "green shoots" of economic recovery in early 2010.

Our mix of businesses wouldn't work in the long term, but in the short term they could improve their numbers and get us a better purchase price down the road.

Meanwhile, I realized we needed to get to work overhauling the company's culture. We needed to make the company more decisive, and make people think outside their own silos. That latter point really came home to me when I asked all the senior managers to discuss the big issues. It seemed an obvious thing for a Fortune 100 company to do.

But when we held our first gathering of the top 50 or so executives, most of them didn't understand the point of it all. Many had never met their counterparts in different business lines.

"What did all of this corporate talk have to do with me?"

To get everyone focused on the whole company, we launched the "One Hartford" campaign. Executive bonuses got flipped around so people couldn't get big payouts unless the company as a whole prospered. Division-level results still mattered, but the priorities were clear.

**LIAM MCGEE'S** *entire memoir is online at www.riskandinsurance.com. Part II of this piece will appear in the Sept. 1 edition. Comments can be sent to riskletters@lrp.com.*


REUTERS

**INCREASING INTERNATIONAL** political instability is one reason global companies might want to consider a captive to cover business interruption.

# A Narrow Slice

## Using captives for business interruption coverage is still rare but interest is growing. BY ANNE FREEDMAN

Business interruption is one of the most complicated exposures that companies face. And it takes so many faces: Does it cover supply chain interruption? Is it due to political upheaval, or a cyber event?

When it's part of a standard property policy, business interruption coverage requires a physical event, like a fire or earthquake, to trigger coverage. When business interruption coverage is placed in a captive, however, the terms and conditions can be specialized to each individual organization.

If an organization wants business interruption coverage without the need for it to be triggered by a physical event, or if it wants coverage to begin immediately instead of dealing with a waiting period, a captive allows the organization to do so.

But that doesn't mean that it's a popular way to transfer the risk. BI coverage is only a narrow slice of the captive market at this point. Experts believe though that globalization and supply chain risks amidst a world in upheaval may increase attention to the potential benefits.

"We do see it, but it's rare," said Ellen Charnley, managing director, and global sales and marketing leader of Marsh's captive solutions practice.

"That doesn't necessarily mean it will always be the case, but it's not common to date."

Charnley said that of the more than 1,250 captives in a recent Marsh benchmarking report, the brokerage has "literally a handful of clients" that write supply chain or business interruption risk in their captive.

One company that does see the value, said Darren Caesar, senior executive vice president and chief commercial lines officer at HUB International, is a large telecom client.

The telecom, which has a large number of offsite facilities, uses the captive to insure up to the first million in BI coverage, as well as excess coverage. It took the step when underwriters were unreceptive to covering the exposure, he said.

"In my experience and my colleagues', we've only seen that captive used for business income and business interruption loss," said Caesar.

In most cases, he said, business interruption coverage is "either a super-high exposure or it's very low, and therefore, it's not really germane to a captive," he said.

### AN UNPREDICTABLE WORLD

The sticking point for many organizations is that business interruption is unpredictable, hard to calculate and difficult to price.

For multinational organizations, though, it's an unpredictable world. Of the top 10 global risks cited by the World Economic Forum for 2015, three of the top four most likely risks were related to geopolitical instability: interstate conflict, failure of national governance, and state collapse or crisis. The other, ranked No. 2, was extreme weather events.

Protecting against political violence is not a traditional use of captives, but interest is growing, said David Anderson, senior vice president, director, global business development credit, and political risk, Zurich.

"Few do it, but there are a lot more who want to talk about it," he said, noting that events in Ukraine, North Africa, Latin America and the Middle East have sparked concern.

"I think multinational firms are clearly more worried about the world than in the past," he said.

"Obtaining political risk coverage in places like Ukraine can be difficult. There is some capacity available for certain projects in high risk areas, but it can be challenging," Anderson said.

"Using captives for these types of exposures and partnering with insurers on the broader portfolio, customers can efficiently achieve prudent risk management."

### STRATEGIC PLANNING

A company's risk transfer strategy, said Charnley, depends on how sensitive the organization's balance sheet is.

"If the loss is easily absorbed, I don't see the need to fund into a captive. If the exposure is significant, I do think there is value to funding this over time, to smooth the volatility over time."

It also adds visibility for senior leadership of the risks that are retained by the organization, she said. A captive can also assist a corporation which has multiple business units by providing specific coverage to match each unit's risk appetite.

One difficulty in planning for a captive, she said, is that companies really can't use historic losses to determine this risk. The exposure is "too volatile."

Captives should always be thought of as a long-term strategy, said Steven Bauman, senior vice president, head of capital services, Zurich global corporate North America.

Generally, he said, companies "have to plan strategically to grow into the risk. They should start slowly and step up the risk; take up more risk each year and build up. You wouldn't want to expose your captive in a first year scenario to a fairly significant business interruption loss."

Once the captive is making an underwriting profit and investment income, and has built up its capital, it can afford to take on more risk in their captives around different lines of business, he said.

He also suggested partnering with insurers or other risk-bearing entities to cover some of the risks, since they are low frequency/high severity exposures.

"It comes down to the potential volatility," he said.

"Doing it with a captive means finding capacity to share the risk."

Jeffrey Kenneson, senior vice president, business development, R&Q Quest Management Services Ltd., said his firm has a sponsored captive that covers business interruption losses, with some members "paying multiple millions of dollars" for the coverage.

The mostly U.S.-based captive members run the gamut from law firms, a motorcycle manufacturer and a movie studio to a pharmaceutical company, architectural firm and fitness center, among others.

Instead of general business interruption coverage in smaller captives, what he has seen is BI coverage that has "morphed into some other coverages that you see more frequently," such as loss of key vendor or loss of key employee.

Regardless of coverage, however, there must be a legitimate insurance risk, as opposed to a general business risk, he said.

For example, if a key vendor is unable to do business with an insured due to a factory fire, that would be a covered risk. If the vendor simply

**Summary**

- Business interruption coverage in a captive allows an organization to tailor policies to specific needs.
- The volatility of business interruption impacts makes it difficult to assess and price coverage.
- One large telecom company is using a captive for business interruption.

decides to break ties with the insured, such a loss would not be considered insurable, he said.

For the largest P&C captives, he said, he has not seen a great deal of interest in using captives for business interruption. "That's a very narrow topic," Kenneson said.

## RISK MANAGEMENT BENEFITS

One of the ways a captive can help organizations is through the focus on resiliency and risk management, said Hart Brown, vice president and practice leader, organizational resilience, HUB International.

Because coverage in captives can be tailored to an organization's specific needs, it helps better control costs and offers more control over risks.

He noted that risk management conversations related to building in operational redundancy and financial resilience tend to take place more often when captives are involved.

"When a captive comes into play, the company can write policies very specific to what the company needs in that time of crisis. ... Claims can be very straightforward. We can reduce a lot of those challenges about how to recoup some of those financial issues that are lost and continue to be lost," Brown said.

"You can pretty much write whatever you want in it," Marsh's Charnley agreed.

"That's the beauty of a captive."

The only caveats are that the captive must gain approval of the domicile regulator and the IRS.

"I do anticipate growth in the next few years in this style of risk," she said.

"Not business interruption on its own, but among the bucket of trade credit risk, cyber risk [and] ERM risk. ... Larger organizations seem keen to retain more risk these days."

The first step to considering whether a captive should be formed for BI coverage, or whether such coverage should be added to an existing captive, is to identify the exposure and determine whether it could be mitigated by other means, such as through contracts or better vendor management, said Caesar of HUB International.

Then, companies must quantify the cost of the risk transfer and determine whether it makes sense to fund all or part of the exposure through a captive.

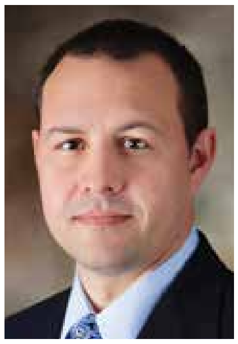
That's not an easy task because of the unpredictability, since you need "some level of statistical probability you can work with in managing your own capital," Brown said.

He also noted that business interruption coverage does not have "a very high acceptance within the market," even without the use of captives entering the conversation.

Why? "I think it's how companies prioritize their risk. Some are not able to look at the risk to prioritize and address the financial impact," he said.

"It's a difficult conversation to have unless they can get an assessment done and get a real sense of the financial impacts and decide which risks to retain and which not to retain.

"Because we know that the coverage is complex for business interruption and business income," Caesar said, "the captive can be a very beneficial mechanism to transfer that risk. It can be very broad versus what you would get in the marketplace."



"When a captive comes into play, the company can write policies very specific to what the company needs in that time of crisis."

— HART BROWN, VICE PRESIDENT AND PRACTICE LEADER, ORGANIZATIONAL RESILIENCE, HUB INTERNATIONAL

Still, with pricing so soft in the insurance marketplace, and more insurer flexibility on terms and conditions because of that, it may be cheaper and easier to purchase insurance on the open market instead of forming a captive, or adding the line to an existing captive.

"If you could obtain large limit coverage in the open market for a very low price," Kenneson said, "it wouldn't make sense to put this through your captive. If you own your own captive, you are putting the captive's equity at risk, and if you can get large limits in the open market at a very low premium, why take the risk yourself?"

**ANNE FREEDMAN** *is managing editor of Risk & Insurance®. She can be reached at afreedman@lrp.com.*

# Tainted Goods

Partner: XL CATLIN

Contaminated oil undermines a firm's ability to capitalize on low oil prices. **BY DAN REYNOLDS**

## BIG PLANS

Nothing beats working with the best. That's what Jerry Oliver, a senior vice president with Manhattan-based Lupex, told himself as he left the morning meeting.

In that meeting, executives with Lupex, an energy trading firm, voted to buy two million barrels of crude and store it offshore. A precipitous decline in oil prices was the motivation.

All the firm had to do was keep the oil safe and sound until the prices rose again, which they inevitably would. Major domestic drillers were already laying off staff and cutting production. These latest low oil prices were just another bend in the cycle.

Oliver's marching orders from that morning's meeting were clear. Working with other members of the Lupex team, it was Oliver's responsibility to find the right vessel and a safe place to moor it.

The strategy was to keep the oil safe by avoiding CAT-exposed locations and hold it long enough for the firm to cover its storage costs and still make a handsome profit when the price rose.

"Let's get this done," Oliver said to himself before walking into his office to get on a phone call with a colleague in Texas.

After consulting with his colleague, Oliver decided to use the Miller Line, a company based in the energy hub of Houston. The Miller Line was an owner of Very Large Crude Carriers — or VLCCs.

One of the company's ships, the Mariana, had the capacity that Lupex needed and was available. Adding to the attractiveness of the Mariana was that she was already in Southern California, not far from the tank farm in El Segundo where the oil was stored.

The Lupex team decided to moor the Mariana off of Long Beach, once she'd taken on the Lupex crude.

"We don't want to store it in the Gulf, or anywhere near Florida," Oliver told his team, pointing to the hurricane hazards in those locations.

"Long Beach has also got the security infrastructure we like," Oliver said.

Lupex procured the oil at $50 per barrel the following morning, making its value at purchase $100 million. To wrap up the deal, Oliver and his associates took care of some final details, among them, getting insurance in place.

Loading at the tank farm went off without a hitch and the Mariana was moored off of Long Beach. Within days, it looked like oil prices had bottomed.

Weeks later, after a particularly sharp, sustained rise in the price of oil, Lupex executives gave the "sell" order.

With oil at $80 per barrel at the time of the sale, it looked like the company's strategy was playing out as well as could be hoped. The Mariana made her way to Houston, to offload the oil for the buyer.

At 2 p.m. on the afternoon the oil was offloaded in Houston, Jerry Oliver got a call from Antony Ellis, his associate in Houston.

"We've got a problem, a very serious problem," Ellis said.

"What is it?" Oliver asked.

"The oil's contaminated," Ellis replied.

"What?" Oliver said.

"It's true," Ellis said. "Apparently, the ship was carrying gasoline before it picked up the crude load and wasn't cleaned properly."

"The gasoline additives that remained in the tanker contaminated the crude, lowering its grade and market value," Ellis further explained.

"Somebody's got to tell the executive committee.

I'll do it," Oliver said.

Then he hung up the phone.

## GAME CHANGE

On their follow-up call, Ellis and Oliver began to put the pieces of a disturbing picture together.

"So we can re-blend it?' Oliver said.

"In essence, yes," Ellis said.

"It's a lower product grade, and far less valuable, and then there's our mixing costs and other related expenses," he said.

"If we're very, very lucky and we get this done in no more than two days' time, we might be able to get $42 per barrel for this lower grade product. I don't see how we can hold it any longer," Ellis said.

"Nobody up here has any patience for anything more than that," Oliver said.

Oliver wasn't sharing with Ellis the exact tone and temperature of the conversation that he'd had with senior management when he brought them the bad news to begin with. He'd spare his colleague that extra pain.

Working as quickly as they had ever worked, with neither of them sleeping more than four hours over a 48-hour period, Oliver and Ellis arranged for the re-blending of the ill-fated oil from the Mariana.

When all was said and done, Lupex got $41 per barrel for the re-blended product. A down day in the markets worked against them, but as traders, they knew that timing was everything. They were already down millions. They could not afford to wait a day longer.

Two days after the sale of the re-blended product, Oliver was speaking with a senior executive,

Once that product leaves land and goes into a ship, you're in a completely different ballgame from a coverage perspective.

conducting a post-mortem on what became an instant legend at Lupex, "The Long Beach Loss."

"What do our insurance carriers have to say about this?" the executive asked.

"Ummm, I haven't talked to them yet," Oliver said. He was back in his office and on the phone with Lupex's broker within a minute, his ears still hot from the tongue-lashing his superior had given him.

The broker, Danny Parker, a young gun with a multinational firm, listened to the details of the loss as relayed by Oliver.

"Well, I've got a question for starters," Parker said.

"What?" Oliver said.

"Why didn't you contact me earlier?" Parker asked.

### A LIST OF ILLS

Falling oil prices in 2014 were something that got everybody's attention. Everyone of driving age could see it as gasoline prices at the pump plummeted.

Lupex executives couldn't be blamed if they were practically obsessed with the rate at which oil prices were going down. After all, this was what they did; it was their bread and butter.

They had the capital and the connections to do very well on what looked like a historic trading opportunity. A two-year average oil price of more than $110 per barrel was becoming a dream-like memory as oil prices fell to below $80 per barrel, then $70 per barrel and on and on down.

Lupex executives were bright and well-schooled. They knew the history of the energy sector. They'd worked extremely hard, done very well over the years and felt they had earned this moment.

As with anyone, it was what they didn't know that dealt them such a painful blow.

It fell to Danny Parker, the energy insurance broker, and his colleague, Lee Ann Farmer, a cargo specialist, to give Lupex the most painful messages of all.

"Jerry and Antony … let me ask you something. When you arranged to lease the Mariana from the Miller Line, did you ask them about what the Mariana previously held, and whether the vessel posed a contamination risk?"

"That's on me," Antony Ellis said. "The short answer is no. You have to understand — we weren't the only traders on the planet that had their eye on this opportunity. VLCC rates were showing a lot of volatility of their own in late 2014," he said.

"A lot of people were after this opportunity," Oliver said.

"We understand …" Danny Parker managed to get out before Antony Ellis interrupted him.

"We're talking about storage rates of tens of thousands of dollars per day, and in one week alone in November, we saw a 20 percent increase in those leasing rates. There was a lot to consider here," Ellis said.

"I'm sure there was," Lee Ann Farmer said.

"I know you had a lot to consider," she continued. "But you should have thought about a cargo policy. After all, once that product leaves land and goes into a ship, you're in a completely different ballgame from a coverage perspective."

"Okay, but how exactly?" Jerry Oliver began.

"Just hold on a second," Danny Parker said.

"That contamination issue you had? I bet you I could have covered that for you," Lee Ann said.

Oliver felt nausea roil his stomach.

"You're kidding me," he said. "All of it?"

"I'm pretty sure the carrier would have you retain some of it," Lee Ann said. "But in our world, these days, there's a lot of capacity out there."

"I never knew," Antony Ellis said.

"Sorry. But now you know," Danny Parker said.

Lupex would live to seek other opportunities in coming months and years, but its insurance coverage lapse in the Long Beach loss cost the company an opportunity that might have been once in a lifetime.

*Disclaimer: The events depicted in this scenario are fictitious. Any similarity to any corporation or person, living or dead, is merely coincidental.*

## LESSONS LEARNED - PARTNERS CONTENT

*Risk & Insurance® partnered with XL Catlin to produce this scenario. Below are XL Catlin's recommendations on how to prevent the losses presented in the scenario. These "Lessons Learned" are not the editorial opinion of Risk & Insurance®.*

**1. Consider an Ocean Cargo Policy:** For a relatively low cost compared to the value of goods, an ocean cargo policy can be structured to cover perils of the seas (i.e. sinking, fire, collision, explosion, heavy weather), general average, theft, fire, acts of war, shortage, leakage and contamination. In the "Tainted Goods" risk scenario, if Lupex had purchased an appropriately structured ocean cargo policy, the company would have been covered for the loss due to contamination.

**2. Choose Appropriate Limits:** When evaluating an ocean cargo policy, risk managers need to ensure that the amount of insurance will be sufficient to cover the goods at the maximum foreseeable financial interest. This is especially important in dealing with commodities, like oil, where there's a chance of financial fluctuations.

**3. Valuation of Goods:** For an effective ocean cargo policy, it should be structured to allow the buyer to be indemnified for the highest value of goods for several different situations, including:

- The invoice value + 10% (for ancillary/related costs)
- The selling price (if sold)
- The market value on date of loss

With these different evaluations structured into the policy, this will allow for recovery of the amount paid at a minimum, or the full mark up if sold or unsold at a maximum.

**4. Ensure Professional Handling of Goods:** Bulk liquids and solid goods pass through a number of loading mechanisms, holding tanks/locations, pipelines, conveyor belts, loading machinery and pumps when moving from shore to vessel and vice versa upon unloading. This opens up the potential for many types of losses, including: shortages, contamination and loss in weight. In order to reduce this risk, companies should take the steps to ensure professional handling of their goods by working with tenured logistics providers.

**5. Reduce Your Contamination Risks:** It's common for companies to conduct and pay for testing and approval of tanks as well as a certificate by a qualified surveyor. However, it's important that additional samples are taken at loading and unloading to determine if, where, or when the contamination occurred. This is also recommended for barges, lighters, tank cars and port side tanks. Most of all, a company operating in this space should make sure the handling guidelines are adhered to. By following the handling guidelines, the insurance coverage will remain valid.

**6. Consult With Your Marine Broker and Underwriter:** Marine brokers and underwriters can offer specific knowledge and experience that can be leveraged in certain classes of businesses. They can discuss best practices and provide recommendations to reduce your risk. In addition, they can provide value added services in terms of risk engineering, claims, and various technical white papers, which can serve as readily available resources.

## Recent White Papers

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Through late October 2012, the U.S. property/casualty (P/C) industry was on track to record a significant improvement in financial results following 2011's substantial underwriting loss.

### Waste Minimization - Part of the Environmental Solution

Waste minimization is fast gaining recognition as a means of dealing with the nation's hazardous waste problem and other forms of environmental pollution. Opportunities exist throughout the industry for waste minimization.

### The Heart and Science of Workers' Comp - Tipping points: When Good Claims Go Bad

Preventing typical workers' compensation claims from escalating to high-cost levels resulting in return-to-work (RTW) delays and possible litigation is a recurring challenge.

### Opioids in the Treatment of Injured Workers: When and How to Maximize Effectiveness

Use of prescription painkillers has increased in staggering proportions compared with other medication classes, in terms of the number of prescriptions written, costs and incidence of overuse and abuse.

### Role of Pharmacist-Provided Medication Reviews in Workers' Compensation Claims Management

The ability to effectively manage the multitude of medications a claimant may take during the course of their claim can be daunting. Learn how PBMs & their pharmacists are uniquely positioned to provide value in the management of drug costs.

### Teacher Tears Earlobe at Work: One Call Provides Guidance and Expertise, Results in Optimal Care

A male teacher was grabbed by the ear by a student, which tore his earlobe. One Call Care found a plastic surgeon and got the claimant an immediate appointment. As a result, the injured worker received prompt care and returned to work shortly after.

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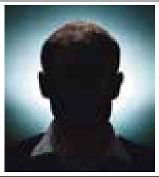
ADJUSTER X

• Edited by Michelle Kerr



# Claim With a Kick

The first report of accident appeared pretty straightforward, if vague. Pete Lanto, 27, injured his right foot while working at Carl's Custom Motors. No details on how he hurt it.

First stop was a visit with Lanto's supervisor. "How exactly did Lanto injure his foot?" I asked. The supervisor shrugged, "Not really sure. Told me he banged it into something. Didn't say what. He was limping pretty bad and obviously in a lot of pain."

The incident occurred around 10 a.m. I asked about breaks and was told Lanto had 15-minute breaks at 10 a.m. and 2:45 p.m.

"Anyone witness the accident?" I asked. The supervisor said, "I'm not sure, but Cal Smith and Mike Nardi work next to Pete. I didn't even think to ask them."

I introduced myself to Smith and asked if he witnessed how Lanto had injured his foot. Cal looked down at the floor and said, "I, ah … don't recall."

"It was only two days ago," I pointed out. "I just need to know — the accident report is vague." Cal replied, "You'll have to ask Pete."

Nardi was next, but his reply was about the same. "I don't remember … Pete can tell you." Both Smith and Nardi were in their 20s. Faulty memory wasn't likely an issue. Something was off.

I drove to Lanto's home. Pete was on crutches with an Ace bandage on his right ankle.

After gathering the basics, I asked, "How exactly did you injure your foot?" Pete slowly replied, "I hit it on the side of the dynometer. There was something on the floor and I used my right foot to sweep it out of the way. I hit the machine with my foot."

"Huh," I said. "Must have been a pretty hard sweep to sustain this kind of result." Pete said, "Yeah, guess so."

I decided to return to the work site and met with Pete's supervisor again. "What do you do on break?" I asked him. He looked quizzical and said, "Usually go and grab a cup of coffee in the break room, and read the paper for a few minutes, if I'm not involved in work that requires me to skip break."

"Mind if I stay until the 10 a.m. break?" I asked. "I want to observe Pete's area."

"Sure," said the supervisor, "but I'm not sure what you're going to see as the guys will be on break."

I silently approached the work area, keeping out of sight. At first I didn't hear anything, but then there were some slightly raised voices and the sound of something metallic sliding across the concrete floor. The voices became louder. It was cheering. I peeked around the corner. About a dozen guys were having a kick hockey game with a flattened can being used as the puck. Mike Nardi and Cal Smith were involved. I whipped out my phone and took several photos of the match. The game soon ended and everyone went back to work.

I walked back to the office and explained my theory about Pete Lanto's injury to his supervisor. I suggested he put an end to the kick hockey game. Then I drove back to Lanto's home.

He looked surprised to see me. I asked, "How did you injure your foot?" Lanto said, "I already told you that."

"Well," I replied, "you left out the part about kick hockey and how you hurt your foot kicking the flattened can puck. Tough when that thing winds up in the corners."

Lanto's eyes went wide, "Who told you about that?"

I shook my head. "I saw it for myself and put two and two together. Oh, by the way, that's called 'horseplay' and it's not covered under workers' compensation."

**MICHELLE KERR** *is the editor of this column and can be reached at mkerr@lrp.com. This column is based on the experiences of a group of long-time claims adjusters. The situations they describe are real, but the names and key details are kept confidential.*

“There is still such a lack of understanding related to cyber risk.I think we still don’t comprehend the true exposure.”— Ken Davis, director of risk management, Nuverra Environmental Solutions



# THE PROFESSION

The industry is getting better at education, but still has room to grow.

**R&I: What was your first job?**

Country club pool monitor, age 15.

**R&I: How did you come to work in risk management?**

My first insurance-related job was as a claims assistant at AIG. I started off as a workers’ compensation claims assistant then moved into claims adjuster roles, and ultimately ended up handling the Swift Transportation account for the TPA I worked for. After some time, I was asked by Swift to come aboard and become their workers’ comp claims manager. That’s really where the doors to risk management opened up for me.

I worked closely with the director of risk management as well as the VP of risk, litigation and claims. I was also working with the finance department and with other lines of coverage, as well as with insurance-related items including the creation of a captive. My first risk job title was in 2008 at a company called Total Transit, and the rest is history, though I’ve always kept claims as part of my job function.

**R&I: What is the risk management community doing right?**

I’d say educatiing the next generation of risk professionals. I think through the local chapters of RIMS (I’m president of the Arizona chapter), good education and resources are being provided for risk managers in their communities.

**R&I: What could the risk management community be doing a better job of?**

Oddly enough, the answer is the same. Employers, insurers and insurance brokers could be doing a better job of educating risk managers today. As I understand it, in the ’80s and even ’90s, the insurance community was so driven toward education — the breadth of knowledge of the people who are now nearing retirement age is huge. Now the training you are receiving is coming from places like RIMS and outside resources rather than learning through the companies you work for.

**R&I: What was the best location and year for the RIMS conference and why?**

San Diego, close to a decade ago. Why: Location, location, location. San Diego has the infrastructure, hotels, restaurants and everything you need to hold as many risk people as attend.

**R&I: How do you grade the insurance industry’s response to the threat of cyber attacks?**

I think the insurance industry is trying to do its best to warn risk managers of the potential threats involved, but the trouble is that there is still such a lack of understanding related to cyber risk. I think we still don’t comprehend the true exposure.

**R&I: What insurance carrier do you have the highest opinion of?**

There are so many excellent carriers, it’s too difficult to pick a single one.

**R&I: How much business do you do direct versus going through a broker?**

I would say greater than 90 percent of our insurannce is transacted through a broker.

## Ken Davis

### Director of Risk Management

**Company:** Nuverra Environmental Solutions

**Years in risk management:** 7 years as a risk manager; 18 years in claims.

**Place of Birth:** Bullhead, Ariz.

**Alma Mater:** Northern Arizona University

**Degrees and certifications:** B.S., Criminal Justice

**R&I: Is the contingent commission controversy overblown?**

My thought here is that no matter what, the controversy itself increased transparency and that is an excellent result. As long as I know what I’m paying for and what people are getting out of it, I’m OK with it.

**R&I: Are you optimistic about the U.S. economy or pessimistic and why?**

I’m very cautious about the economy. There are so many variables that play into it; it’s no longer just about the U.S. economy since our economy is tied into the global status. Today you’ve got the Middle East, Greece, etc. — name the country and name the issue, whether it’s travel, oil, or concerns about hacking into various infastructures.

There are just a number of different factors to acknowlege and be mindful of. Nuverra is not global but is closely tied to oil and gas so these issues touch us every day.

**R&I: Who is your mentor and why?**

I’ve had many mentors who have helped me develop my skills over the years, but I would point to a woman by the name of Belinda Lopes. Belinda probably had the largest impact on me. Despite being busy with her own career, she was always willing to stop what she was doing and educate me.

For me it’s been critical to my success and one of the reasons I ended up trying to give back to the people that work with me.

If you don’t take the time to do that, what’s the legacy that you’re leaving?

**R&I: What have you accomplished that you are proudest of?**

My family. I’ve got a wonderful family and two girls that are remarkable and one is graduating from the eighth grade today. Everything that I do in life is for my girls. I am so proud of the young women they are becoming and I am so excited to see their accomplishments in life.

**R&I: What’s the best restaurant you’ve ever eaten at?**

Nick’s Italian in Scottsdale.

**R&I: What is the most unusual or interesting places you have ever visited?**

Next month, I’m headed to Denmark, Germany and Austria. It will be my first time in Europe. Ask me when I get back!

**R&I: What is the riskiest activity you ever engaged in?**

Marriage — and skydiving. Both are life and death activities.

**R&I: If the world has a modern hero, who is it and why?**

I used to work at a fire and ambulance company. So I would say our first responders. They put their lives on the line every single day.

**R&I: What about this work do you find the most fulfilling or rewarding?**

I love looking at a situation, evaluating the risk, and working with a team to evaluate the issues. It’s very rewarding to see how you were able to mitigate or completely avoid an exposure.

**R&I: What do your friends and family think you do?**

My kids think that I pretend to be a lawyer and a doctor.

**R&I: Why a doctor?**

Just because dealing with workers’ compensation, there are so many medical issues.

**R&I: And why a lawyer?**

Dealing so much with litigation and mediation and because of some of the lingo I’ve picked up dealing with attorneys all the time … or maybe because I like to argue.

*—By Janet Aschkenasy*