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TERRORISM RISK: A CONTINUING THREAT

Impacts for Property/Casualty Insurers

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INTRODUCTION

International terrorism—starting with the terrorist attack of September 11, 2001, and followed by the 2002 Bali bombings, the 2004 Russian aircraft and Madrid train bombings, the London transportation bombings of 2005 and the Mumbai bombings of 2008—had a profound influence on the 2001 to 2010 decade.

Then came 2011, a landmark year, which simultaneously saw the death of al-Qaida founder Osama bin Laden and the 10-year anniversary of September 11.

The changing nature of the global terrorism threat is highlighted in a report from the U.S. Department of State, which notes that the total number of worldwide terrorist attacks in 2011 was more than 10,000 in 70 countries, resulting in more than 12,500 deaths.¹ While large, that figure represents a drop of 12 percent from 2010. More than 75 percent of the world's attacks occurred in South Asia and the Near East, and 85 percent of attacks in these regions occurred in just three countries: Afghanistan, Iraq and Pakistan.

Bin Laden was not the only top al-Qaida leader removed from the battlefield in 2011. Other key terrorist figures killed in 2011 included: Ilyas Kashmiri, a terrorist operative in South Asia; Harun Fazul, an architect of the 1998 U.S. Embassy bombings in Kenya and Tanzania; Atiya Abdul Rahman, al-Qaida's second-in-command after bin Laden's death; and Anwar al-Aulaqi, al-Qaida's chief of external operations in the Arabian Peninsula.

While the loss of bin Laden and other key figures put the network on a path of decline that is difficult to reverse, the State Department warns that al-Qaida, its affiliates and adherents remain adaptable and resilient, and constitute “an enduring and serious threat to our national security.”

Last year's counterterrorism success came as a number of countries across the Middle East and North Africa saw political demonstrations and social unrest. The movement known as the Arab Spring was triggered initially by an uprising in Tunisia that began back in December 2010. Unrest and instability in this region continues in 2012.

Countries also face homegrown terrorist threats from radical individuals, who may be inspired by al-Qaida and others, but may have little or no actual connection to militant groups.

¹ Country Reports on Terrorism 2011, U.S. Department of State, July 31, 2012.

Catastrophe modeler RMS points to an increase in the number of homegrown plots in the U.S. in recent years.² Many of these have been thwarted, such as the attempt by Najibullah Zazi to bomb the New York subway system and Mohamed Osman Mohamud who targeted a Portland, Oregon, Christmas tree lighting ceremony. Perhaps most notable was the 2010 attempted car bomb attack in New York City's Times Square (**Figure 1**). Other thwarted attacks against passenger and cargo aircraft indicate the ongoing risk to aviation infrastructure.

Figure 1
RECENT TERRORIST ATTACK ATTEMPTS IN THE U.S.

Date	Location	Event
August, 2012	Ludowici, GA	Four U.S. soldiers charged in connection with murder and illegal gang activity, linked to foiled plot to commit domestic acts of terrorism, including overthrowing the government and assassinating the President
May, 2012	TBD	Foiled underwear bomb plot to bring down U.S.-bound commercial airliner around the anniversary of bin Laden's death
July 27, 2011	Fort Hood, TX	U.S. Army Pfc Naser Jason Abdo arrested and charged with plotting bomb attack on fellow soldiers at Fort Hood, TX
June 22, 2011	Seattle, WA	Two men arrested in plot to attack military recruiting station in Seattle
May 11, 2011	New York City, NY	Ahmed Ferhani and Mohamed Mamdouh arrested in plot to attack Manhattan synagogue
February 23, 2011	Lubbock, TX	Foiled plot to bomb military and political targets, including former President George W. Bush in New York, Colorado and California
December 8, 2010	Baltimore, MD	Attempted bombing of Armed Forces recruiting center by U.S. citizen Antonio Martinez, aka Muhammad Hussain
November 26, 2010	Portland, OR	Attempted bombing at Christmas tree lighting ceremony in downtown Portland by naturalized U.S. citizen Mohamed Osman Mohamud
October, 2010	Washington D.C.	Attempted plot to bomb D.C.-area metro stations
May 1, 2010	New York City, NY	Attempted SUV bombing in Times Square, New York City, by naturalized U.S. citizen Faisal Shahzad
December 25, 2009	Over Detroit, MI	Attempted bombing of Northwest Airlines passenger jet over Detroit by underwear bomber Umar Farouk Abdulmutallab
September, 2009	New York City, NY	U.S. resident Najibullah Zazi and others charged with conspiracy to use weapons of mass destruction in New York City
September, 2009	Springfield, IL	Attempted plot to detonate a vehicle bomb at the federal building in Springfield, IL
September, 2009	Dallas, TX	Attempted bombing of skyscraper in Dallas, TX
May, 2009	New York City, NY	Foiled plot to bomb Jewish synagogue and shoot down military planes in New York City
May, 2009	Various U.S. targets	Conviction of Liberty City six for conspiring to plan attacks on U.S. targets, including Sears Tower, Chicago.

Source: Federal Bureau of Investigation (FBI); various news reports; Insurance Information Institute.

² RMS Terrorism Risk Briefing, July 2012.



Meanwhile, the July 2011 attack by a lone right-wing extremist in Norway—a country rarely targeted in the past—that left more than 70 people dead and dozens injured, underscores the inability of any country to escape from terrorism, the State Department notes.

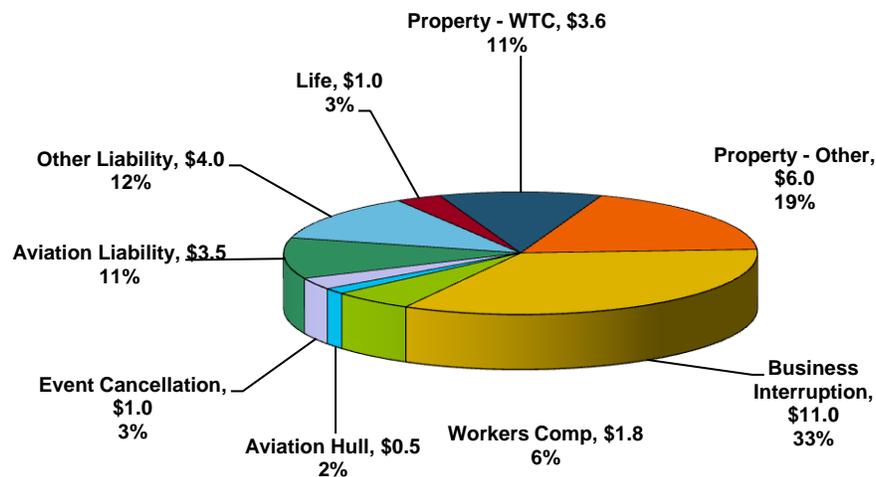
Another evolving threat is cyber-terrorism. Recent high profile attacks, such as the sabotaging of Iran’s nuclear program via the Stuxnet computer worm and malicious infiltration attempts by China, underscore the growing threat to both national security and the economy.

All these factors suggest that terrorism risk will be a constant and evolving threat for the foreseeable future.

For property/casualty insurers and reinsurers, the impact of the terrorist attack of September 11, 2001, was substantial, producing insured losses of about \$32.5 billion, or \$40.0 billion in 2011 dollars. Losses were paid out across many different lines of insurance, including property, business interruption, aviation, workers compensation, life and liability (**Figures 2 and 3**). The loss total does not include the March 2010 settlement of up to \$657.5 million announced by New York City officials and plaintiffs' lawyers to compensate about 10,000 workers whose health was damaged during the rescue and cleanup at the World Trade Center (see later section: Ground Zero Workers and Health Claims).

Figure 2
Sept 11 Industry Loss Estimates*

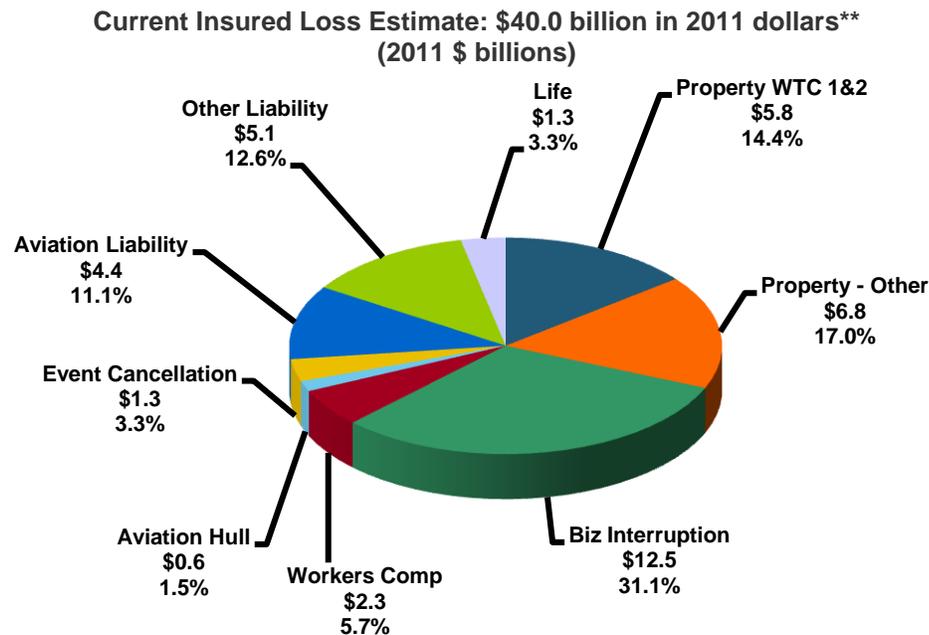
**Current Insured Loss Estimate: \$32.5 billion in 2001 dollars
(2001 \$ billions)**



*Loss total does not include NYC March 2010 settlement of up to \$657.5 million to compensate about 10,000 Ground Zero workers.

Source: Insurance Information Institute.

**Figure 3
Sept 11 Industry Loss Estimates***



*Loss total does not include NYC March 2010 settlement of up to \$657.5 million to compensate about 10,000 Ground Zero workers.

**Sum of segment totals may not equal overall total due to rounding. Adjusted to 2011 dollars using Bureau of Labor Statistics (BLS) inflation calculator.

Source: Insurance Information Institute.

A total of 2,976 people lost their lives in the September 11, 2001 terrorist attacks in New York, Washington, D.C., and Pennsylvania, excluding the 19 hijackers. It remains the worst terrorist attack on record in terms of fatalities and insured property losses, which totaled about \$23.9 billion (in 2011 dollars) (**Figure 4**). In the more than 10 years since 9/11 insurers have paid out many billions of dollars for other catastrophes, but until Hurricane Katrina in 2005 when insurers paid claims totaling more than \$40 billion, 9/11 was the largest loss in the global history of insurance.

Figure 4
WORST TERRORIST ACTS, INSURED PROPERTY LOSSES

(2011 \$ millions)

Rank	Date	Country	Location	Event	Insured property loss (1)	Fatalities
1	September 11, 2001	United States	New York, Washington DC, Pennsylvania	Hijacked airliners crash into World Trade Center and Pentagon	\$23,870	2,982
2	April 24, 1993	United Kingdom	London	Bomb explodes near NatWest tower in the financial district	\$1,152	1
3	June 15, 1996	United Kingdom	Manchester	Irish Republican Army (IRA) car bomb explodes near shopping mall	\$946	0
4	April 10, 1992	United Kingdom	London	Bomb explodes in financial district	\$852	3
5	February 26, 1993	United States	New York	Bomb explodes in garage of World Trade Center	\$794	6
6	July 24, 2001	Sri Lanka	Colombo	Rebels destroy 3 airliners, 8 military aircraft and heavily damage 3 civilian aircraft	\$507	20
7	February 9, 1996	United Kingdom	London	IRA bomb explodes in South Key Docklands	\$329	2
8	June 23, 1985	North Atlantic	Irish Sea	Bomb explodes on board of an Air India Boeing 747	\$205	329
9	April 19, 1995	United States	OK, Oklahoma City	Truck bomb crashes into government building	\$185	166
10	September 12, 1970	Jordan	Zerqa, Dawson's Field (disused RAF airstrip in desert)	Hijacked Swissair DC-8, TWA Boeing 707, BOAC VC-10 dynamited on ground	\$162	0
11	September 6, 1970	Egypt	Cairo	Hijacked PanAm B-747 dynamited on ground	\$140	0
12	April 11, 1992	United Kingdom	London	Bomb explodes in financial district	\$122	0
13	November 26, 2008	India	Mumbai	Attack on two hotels; Jewish center	\$107	172
14	March 27, 1993	Germany	Weierstadt	Bomb attack on a newly built, still unoccupied prison	\$90	0
15	December 30, 2006	Spain	Madrid	Bomb explodes in car garage at Barajas Airport	\$73	2
16	December 21, 1988	United Kingdom	Lockerbie	Bomb explodes on board of a PanAm Boeing 747	\$72	270
17	July 25, 1983	Sri Lanka		Riot	\$60	0
18	July 7, 2005	United Kingdom	London	Four bombs explode during rush hour in a tube and bus	\$60	52
19	November 23, 1996	Comoros	Indian Ocean	Hijacked Ethiopian Airlines Boeing 767-260 ditched at sea	\$58	127
20	March 17, 1992	Argentina	Buenos Aires	Bomb attack on Israel's embassy in Buenos Aires	\$48	24

(1) Includes bodily injury and aviation hull losses. Updated to 2011 dollars by the Insurance Information Institute using the U.S. Bureau of Labor Statistics' CPI Inflation Calculator.

Source: Swiss Re.

As construction progresses on One World Trade Center (a.k.a. Freedom Tower) insurance claims dollars continue to play an essential and highly visible role in rebuilding lower Manhattan. The many billions of dollars in insurance payouts has also mitigated the overall economic impact of the 9/11 attack—estimated initially by the Milken Institute as approaching \$200 billion overall.

Before 9/11 terrorism exclusions were virtually nonexistent in commercial insurance contracts sold in the United States. Following the attack, insurers moved to exclude coverage. Only when the Terrorism Risk Insurance Act (TRIA) was enacted by Congress in November 2002 did coverage for terrorist attacks resume. TRIA established a public/private risk-sharing partnership that allows the federal government and the insurance industry to share losses in the event of a major terrorist attack. The program is designed to ensure that adequate resources are available for businesses to recover and rebuild if they become the victims of a terrorist attack.

Since its initial enactment in 2002 the terrorism risk insurance program has been revised and extended twice. The most recent extension—the Terrorism Risk Insurance Program Reauthorization Act of 2007 (TRIPRA)—ensures its existence until December 31, 2014. However, the portion of the loss insurers would pay in the event of a terrorist attack has increased significantly over the years. Insurers are also solely responsible for terrorism losses that impact non-TRIA lines, such as private passenger auto and homeowners insurance and group life. Less than half of the property/casualty insurance premiums are written in lines of insurance backstopped by TRIPRA.

More recently, provisions of the terrorism risk insurance program have again come under attack. For example, the Obama administration's 2011 budget plan included a proposal seeking to scale back federal support for the program. In its latest report on terrorism risk insurance market conditions, the President's Working Group on Financial Markets noted that the program provides incentive to property/casualty insurers and reinsurers who might not otherwise provide terrorism insurance at current capacity levels or prices.³ A 2009 report by insurance broker Aon estimated that some 70 percent to 80 percent of the commercial property insurance market would revert to absolute exclusions for terrorism if TRIA is changed.⁴

³ *Market Conditions for Terrorism Risk Insurance 2010*, Report of the President's Working Group on Financial Markets.

⁴ *Terrorism Update and Key Metrics Report* – May 2009, Aon Risk Services.

HOW INSURERS TREAT TERRORISM RISK TODAY

In the immediate aftermath of 9/11 the ability of commercial policyholders to purchase adequate limits of terrorism coverage at affordable prices was severely constrained. Commercial property owners and businesses were faced with substantially reduced protection for terrorism-related risks, in addition to higher property/casualty rates overall. The situation was particularly acute for owners of high profile “trophy” buildings located in major metropolitan areas. As a result, many were forced to go without coverage or only partly insure their assets.

Today, reports of property owners, retail outlets or sporting events having problems securing terrorism coverage due to a lack of capacity in the market are no longer making headline news. For example, recent media reports suggest that major sporting events such as the 2012 Olympic Summer Games in London successfully secured insurance protection for a range of perils including terrorism coverage.

However, in its latest report on terrorism risk insurance market conditions, the President’s Working Group on Financial Markets noted that while the availability and affordability of terrorism risk insurance provided by private insurers has improved since 2006, insurance capacity remains constrained for certain high-risk locations and properties. Some commercial insurance policyholders in high-risk urban areas also have difficulty in obtaining coverage at sufficient limits, it said.

The PWG analysis follows a July 2008 report from the U.S. Government Accountability Office (GAO) on the availability and affordability of terrorism coverage in large metropolitan areas.⁵ It found that while commercial property terrorism insurance appears to be available nationwide at rates policyholders believe is reasonable, certain types of policyholders may have more difficulty obtaining the coverage amounts they need at prices they view as acceptable. These policyholders are typically owners of high-value properties in urban areas where there is a high concentration of large buildings that are seen as potential terrorism targets, such as Manhattan.

A 2011 report from reinsurance broker Guy Carpenter noted that despite the changing nature of the terrorist threat and its unpredictability, the reinsurance industry, along with myriad government terror pools abroad, continues to successfully provide terror cover.⁶ Guy Carpenter estimates that there is between \$6 billion and \$8 billion of terrorism reinsurance capacity available in the U.S. market. The current supply of terrorism reinsurance globally, combined with the

⁵ *Initial Results on Availability of Terrorism Insurance in Specific Geographic Markets*, GAO-08-919R, July 2008.

⁶ *Terrorism: Terror Market Continues to Provide Abundant Cover*, Guy Carpenter, 2011.

fact that the U.S. terrorism risk insurance program does not itself buy reinsurance, will continue to temper upward pressure on pricing, barring any significant market-changing events. Despite the current availability of capacity, Guy Carpenter cautions that the market remains vulnerable to a major terrorism loss.

Industry data shows that the proportion of businesses buying property terrorism insurance (the take-up rate for terrorism coverage) has generally increased since the enactment of TRIA in 2002, as businesses across the United States had the opportunity to purchase terrorism coverage, usually at a reasonable cost. Take-up rates for workers compensation terrorism coverage are effectively 100 percent as this is a compulsory line of insurance for all businesses.

A 2010 report from insurance broker Marsh found that the terrorism insurance market is robust and continues to support insureds' risk transfer needs.⁷ In 2003 the take-up rate was 27 percent and in the years since, the number of companies purchasing terrorism coverage increased steadily to 61 percent in 2009, Marsh said. Since 2007, take-up rates appear to have stabilized somewhat (2007: 59 percent; 2008: 57 percent). Median premium rates dropped from \$37 per million of total insured value in 2008 to \$25 per million in 2009, Marsh noted.

The number of companies surveyed by Marsh that bought terrorism coverage came from every industry sector. Of the 15 segments surveyed, utility companies were most likely to include terrorism coverage as part of their property insurance in 2009, with the highest take-up rate, 80 percent, of any industry segment. Companies in the real estate, healthcare, transportation, financial and media sectors also had high take-up rates of above 70 percent, Marsh said.

A stand-alone market for terrorism insurance coverage also exists. In its report, Marsh observed that the standalone market is an important alternative and/or supplement to TRIA coverage for some companies. Capacity in the stand-alone terrorism insurance market has grown considerably over the years with insurers now offering a theoretical maximum of \$3.76 billion in capacity, Marsh noted.

The stand-alone property terrorism insurance market offers coverage for both TRIA-certified and noncertified risks and enables companies to tailor capacity to their coverage needs. Marsh estimates approximately \$750 million to \$2 billion per risk in stand-alone capacity is available to companies that do not have sizeable exposures in locations where insurers have aggregation problems. Capacity excess of \$2 billion is available but more costly.

⁷ *The Marsh Report: Terrorism Risk Insurance 2010.*

The primary buyers of stand-alone policies have been hospitality companies, large real estate firms and financial institutions, according to Marsh. Retail companies, media entities, transportation, public entities and utilities also purchased stand-alone terrorism policies, but in lesser amounts. Companies with overseas exposures often look to the stand-alone market to provide solutions not satisfied by local (i.e., foreign) government terrorism insurance schemes.

The latest extension to the terrorism risk insurance program which eliminates any distinction between domestic or foreign acts of terrorism in the definition of a certified act of terrorism has also acted as an impetus for stand-alone markets to offer more competitive terms and conditions to insureds.

ESTIMATING POTENTIAL TERRORISM LOSSES

The fact that acts of terrorism are intentional and that the frequency and severity of attacks cannot be reliably assessed makes terrorism risk extremely problematic from the insurance standpoint. Many insurers continue to question whether terrorism risk is insurable. Large segments of the economy and millions of workers are exposed to significant terrorism risk, but the ability to determine precisely where or when the next attack may occur is limited.

At any given time, there is a range of viewpoints among industry analysts and national security experts on where the terrorist threat is highest and which country or location is most at risk. When it comes to estimating losses from potential terrorist attacks there also appears to be significant variability in outcomes, underscoring the degree of uncertainty associated with potential terrorist attacks.

Despite the differing viewpoints, the overall consensus appears to be that terrorism risk is an ongoing, and in some cases growing, threat. Here are some of the most recent projections and predictions on the terrorism threat:

- **Unrest in Middle East:** Since the end of 2010, political demonstrations and unrest have swept across more than a dozen countries in the Middle East and North Africa (MENA) region, including Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Libya, Morocco, Oman, Saudi Arabia, Syria, Tunisia and Yemen. The movement known as the Arab Spring was initially sparked by an uprising in Tunisia that began in December 2010, and ultimately led to the resignation of the country's president just three months later. The protests then spread to other countries, challenging numerous political regimes and leaderships, and leading to increased tensions in a potentially volatile region of the world. Unrest and instability in this region continues in 2012.

- **Homegrown Terrorist Threat:** A July 2012 briefing by catastrophe modeler RMS flags the growing homegrown terrorist risk, as al-Qaida and its affiliates resort to alternative methods of executing terrorist operations, particularly in the U.S. According to RMS, this change in al-Qaida's approach has significant ramifications for the U.S. terrorism landscape: "As the terrorism threat will mostly come from individual operatives with limited technical acumen, simple conventional attacks will remain the weapon of choice. While such weapons have limited range, they can potentially cause significant property damage and inflict a number of casualties." RMS says smaller but still deadly plots that circumvent security measures, such as car bombs on urban metropolitan areas are the more likely attack scenarios.
- **Transit System Threat:** Following the March 29, 2010, attacks by suicide bombers on the Moscow subway that killed 39 people, New York City Mayor Michael Bloomberg announced that the New York City Police Department (NYPD) had stepped up its patrol of the subways. "We will learn from the terrible tragedy in Moscow, and we will continue to do everything possible to protect our transit system—and our entire city—from the threat of terrorism," Bloomberg said.
- **Maritime Threat:** Experts warn that maritime piracy and terrorism continues to pose a formidable threat. On February 9, 2011, the Irene SL, a Greek-flagged very large crude carrier (VLCC) bound for the United States and carrying about 2 million barrels of crude oil worth an estimated \$200 million was hijacked by Somali pirates off the coast of Oman in the northern part of the Arabian Sea. INTERTANKO managing director Joe Angelo said the hijacking marked a significant shift in the impact of the piracy crisis in the Indian Ocean: "The piracy situation is now spinning out of control into the entire Indian Ocean right to the top of the Arabian Sea over 1,000 miles from the coast of Somalia.... If piracy in the Indian Ocean is left unabated, it will strangle these crucial shipping lanes with the potential to severely disrupt oil flows to the U.S. and to the rest of the world."
- **Country Risk:** A global ranking of 197 countries by risk analyst Maplecroft published in August 2011 reports that Somalia continues to be more at risk from terrorist attacks than Pakistan, Iraq, Afghanistan and the newly formed South Sudan. Other extreme risk nations include Yemen, Palestinian-Occupied Territories, DR Congo, Central African Republic, Colombia, Algeria, Thailand, Philippines, Russia, Sudan, Iran, Burundi, India, Nigeria and Israel. Maplecroft's research also reveals that the number of terrorist attacks rose by 15 percent globally, with 11,954 incidents between April 2010 and March 2011, compared to 10,394 from April 2009 to March 31, 2010.

- Regional Terrorism Threat:** Aon’s 2012 Terrorism and Political Violence Map shows that 46 percent of all countries assessed possessed the risk of a terrorist incident. Aon notes that despite the death of bin Laden last year, regionally active groups continue to be inspired by al-Qaida’s ideology. While South Asia and the Middle East remain focal points for Islamist terrorist groups, Aon says Africa has shown the most dramatic shift in terrorism threat in the past year. The ratings of six African countries have been downgraded, with Senegal receiving a double downgrade from low to high risk.

THE CYBER TERRORISM THREAT

The threat both to national security and the economy posed by cyber terrorism is a growing concern for governments and businesses around the world, with critical infrastructure, such as nuclear power plants, transportation and utilities at risk.

Recent high profile attacks, such as the sabotaging of Iran’s nuclear program via the Stuxnet computer worm, malicious infiltration attempts by China and the reported targeting of an Illinois water utility by a remote cyber attack from Russia, highlight the capability and breadth of the cyber risk (**Figure 5**).

Figure 5
Cyber Risk Threat Spectrum: Terrorism Is a Concern

Threat	Resources	Methods	Objectives	Examples
Nation-state, sleeper insiders	High	Highly targeted	Strategic sabotage	Stuxnet
Advanced persistent threat	High	Targeted, manual remote control	IP theft	Aurora, Ghostnet
Persistent threat	Medium	Targeted, manual remote control	IP theft, defacement	Night Dragon, “Anonymous”
Disgruntled insider with access to ICS	Low	Targeted: social engineering	Sabotage	Maroochy
Insider with access to IT network	Low	Targeted: social engineering	Sabotage	IT examples
Organized crime	Medium	Highly volume, automated	Identity theft	Zeus, Conflicker

Source: Waterfall Security Systems

In 2011, a report from the Pentagon concluded that computer sabotage coming from another country can constitute an act of war.⁸ It noted that the Laws of Armed Conflict—which guide traditional wars and are derived from various international treaties such as the Geneva Convention—apply in cyberspace as in traditional warfare.

A recent study by the Ponemon Institute in collaboration with Bloomberg Government estimated private sector spending on cybersecurity at roughly \$80 billion in 2011, but noted that this was not nearly enough.

The study found that “utilities, banks and phone carriers would have to spend almost nine times more on cybersecurity to prevent a digital Pearl Harbor from plunging millions into darkness, paralyzing the financial system or cutting communications,” according to a report by Bloomberg News.⁹ Its findings were based on interviews with technology managers from 172 U.S. organizations in six industries and government.

TERRORISM RISK INSURANCE PROGRAM: STRUCTURE AND COVERAGE

The Terrorism Risk Insurance Act of 2002 was adopted by Congress to ensure the widespread availability and affordability of property and casualty insurance for terrorism risk. The act provides a temporary program, or “backstop” for incurred losses resulting from certain acts of terrorism.

The act was extended in 2005 for two years and again in 2007 for another seven years, through December 2014, under the Terrorism Risk Insurance Program Reauthorization Act of 2007 (TRIPRA). Both extensions of the act changed some components of the program, increasing the portion of the loss insurers would pay in the event of a terrorist attack and reducing the types of commercial insurance covered by the program.

It is important to note that the program provides no coverage for personal lines insurers, reinsurers and group life insurance losses (see below).

⁸ *Cyber Combat: Act of War*, by Siobhan Gorman and Julian E. Barnes, The Wall Street Journal, May 30, 2011.

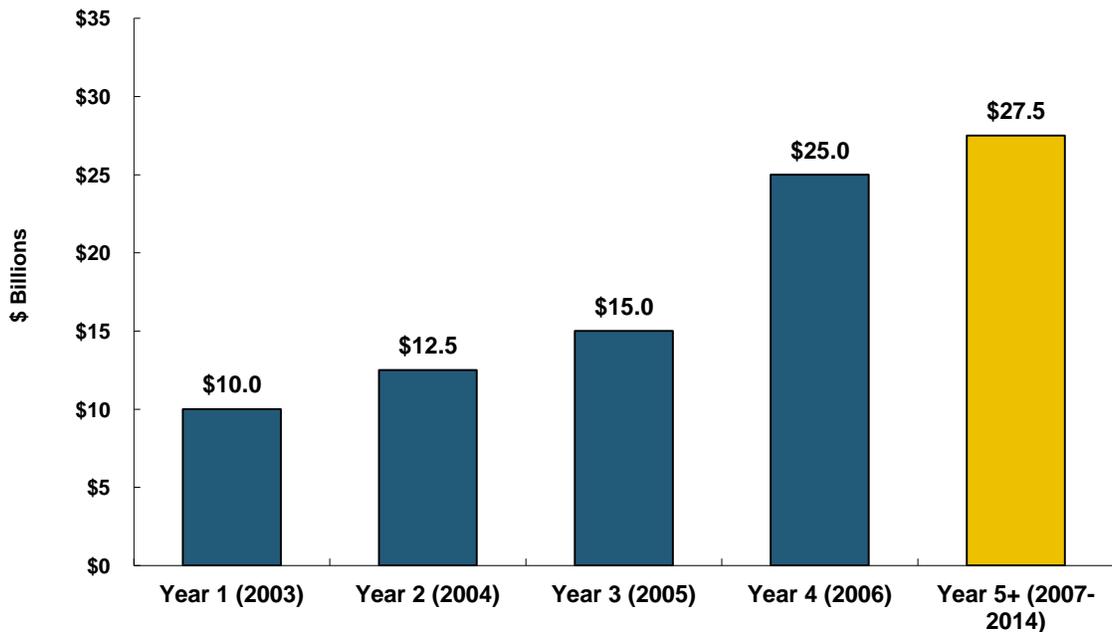
⁹ *Cybersecurity Disaster Seen in the U.S. Survey Citing Spending Gaps*, by Eric Engleman and Chris Strohm, Bloomberg News, January 31, 2012.

The major provisions of the terrorism risk insurance program are as follows:

- **Make available requirement:** Only commercial insurers and causes of loss specified in the underlying policies are covered under the program and required to make coverage available. Residual market insurers such as workers compensation pools, captive insurers and risk retention groups are also covered. Personal lines insurers and reinsurers are not covered; neither are group life insurance losses. Most types of commercial insurance lines were covered under the original legislation, except for some specialty coverages such as medical malpractice and crop insurance. Under the 2005 extension, certain additional lines are now excluded:
 - Commercial automobile
 - Burglary and theft
 - Surety
 - Professional liability, except for directors and officers liability
 - Farm owner multi-peril insurance
- **Definition of a certified act of terrorism:** The 2007 extension expanded the definition of a certified act of terrorism to eliminate any distinction between domestic or foreign acts of terrorism. The original act covered only acts of foreign terrorism on U.S. soil.
- **Triggering event:** The threshold for the program to go into effect rose from \$5 million under the original act to \$50 million after March 2006. In 2007, the triggering event threshold rose to \$100 million and remained there under TRIPRA. Federal funds will be paid out only in the event of a terrorist act that produces total insurance industry losses above this threshold.
- **Program cap:** The program is capped at \$100 billion per year for insured losses (federal and insurer combined). A provision in the law requires the U.S. Department of the Treasury to establish a process for the allocation of pro-rata payments in the event that terrorism-related insured losses exceed the federal government's annual \$100 billion cap. The law states that no insurer may be required to make any payment for insured losses in excess of its deductible and its share of insured losses.
- **Individual insurer deductibles:** The amount of terrorism losses that an individual insurer must pay before federal assistance becomes available. The level rose to 20 percent of an insurer's direct earned premiums for commercial property/casualty insurance in 2007 where it currently remains (up from 17.5 percent in 2006 and 15 percent in 2005).

- **Co-payments:** The share of losses that insurers pay above their individual retentions rose to 15 percent in 2007 where it remains today, up from 10 percent in 2006.
- **Industry retention level:** The industry as a whole must cover a certain proportion of the losses through deductibles and copayments before federal assistance kicks in. This amount rose to \$27.5 billion in 2007 where it remains today, up from \$25 billion in 2006 and \$15 billion in 2005 (**Figure 6**). If the insured loss is less than the \$27.5 billion threshold, the federal government can recoup the difference between the actual amount it paid and the required retention. This comes via a surcharge on commercial insurance policyholders not to exceed 3 percent of premium for insurance coverages that fall under the program. If the insured loss exceeds this threshold, federal expenditures may be recouped for amounts in excess of the threshold at the discretion of the Secretary of the Treasury.

Figure 6
INSURANCE INDUSTRY RETENTIONS UNDER TRIA AND ITS SUCCESSORS
(\$ Billions)



Source: Insurance Information Institute.

FEDERAL ROLE IN TERRORISM INSURANCE

The Obama administration's 2011 budget plan had included a proposal seeking to scale back federal support for the terrorism risk insurance program. Its justification was that this would "encourage the private sector to better mitigate terrorism risk through other means, such as developing alternative reinsurance options and building safer buildings." The proposal projected savings of \$249 million in the course of the following 10 years as a result of the reduction in federal support.

Industry observers noted that any attempts to modify the program would have a detrimental effect on the availability and affordability of terrorism insurance—problems that the program was designed to end.

Studies by various organizations, including the University of Pennsylvania's Wharton School Risk Center, the RAND Corporation and the Organization for Economic Co-operation and Development (OECD), have supported the idea of a substantive federal role in terrorism insurance. In particular, the Wharton School found that TRIA has had a positive effect on availability of terrorism coverage and also has significantly contributed to reducing insurance premiums.¹⁰ The OECD notes that thus far the financial markets have shown little appetite for terrorism risk.

Terrorism Risk Insurance Programs in Other Countries

A number of countries have established their own terrorism risk insurance programs and these have operated successfully, often for many years. Australia, Austria, Belgium, France, Germany, the Netherlands, Spain, Switzerland and the United Kingdom have all created programs to cover terrorism in the event of an attack on their own soil. In 1993, the British government formed a mutual reinsurance pool for terrorist coverage following acts of terrorism by the Irish Republican Army. Insurance companies pay premiums at rates set by the pool. The primary insurer pays the entire claim for terrorist damage but is reimbursed by the pool for losses in excess of a certain amount per event and per year. This is based on its share of the total market. The maximum industry retention increases annually per event and per year. Following 9/11, coverage was extended to cover all risks, except war, including nuclear and biological contamination, aircraft impact and flooding, if caused by terrorist attacks. The British government acts as the reinsurer of last resort, guaranteeing payments above the industry retention.

Fire Following

¹⁰ *Evaluating the Effectiveness of Terrorism Risk Financing Solutions*, Howard C. Kunreuther and Erwann O. Michel-Kerjan, September 2007, National Bureau of Economic Research.

State law has also addressed the issue of terrorism cover. Before 9/11, 31 jurisdictions had laws that required that property policies be based on the 1943 New York Standard Fire Policy (SFP). The SFP does not exclude fire following terrorism and, prior to 2003, the SFP did not permit this exclusion with the result that a policyholder who had rejected terrorism coverage under TRIA would still have coverage for fire following an act of terrorism. Currently, this is still the case in just a handful of states.

However, since 2003, some states have revised their SFP statutes to permit exclusions of fire following terrorism under certain circumstances. Thus, for a policyholder who has rejected terrorism coverage under TRIA, in these states there might be no coverage or limited coverage for fire resulting from an act of terrorism. Many states do not have a standard fire policy statute or have SFPs that unconditionally exclude fire following terrorism. In these states there is no stipulated coverage for fire following terrorism.

NUCLEAR, BIOLOGICAL, CHEMICAL AND RADIOLOGICAL (NBCR) THREAT

Acts of terrorism have the potential to be large, destabilizing events, giving rise to losses of an unquantifiable size and severity. Potential terrorism scenarios often include the likely impact of an incident involving weapons of mass destruction (WMD).

As recently as January 2010 the U.S. Government Accountability Office (GAO) stated that a terrorist's use of either a radiological dispersal device (RDD)—frequently referred to as a “dirty bomb”—or an improvised nuclear device (IND) to release radioactive materials into the environment could have devastating consequences.¹¹ It noted that the consequences of a terrorist attack using an RDD or IND would include not only loss of life but also enormous psychological and economic impacts.

An April 2006 study by the American Academy of Actuaries explored the insured losses that nuclear, biological, chemical and radiological (NBCR) incidents might give rise to in four U.S. cities. It estimated that in New York a large NBCR event could cost as much as \$778.1 billion, with insured losses for commercial property at \$158.3 billion and for workers compensation at \$483.7 billion. A loss of this magnitude is more than three times the size of the commercial P/C insurance industry's claims-paying capacity. The three other U.S. cities included in the analysis were Washington, DC; San Francisco, CA; and Des Moines, IA.

¹¹ *Combating Nuclear Terrorism: Actions Needed to Better Prepare to Recover from Possible Attacks Using Radiological or Nuclear Materials*, Government Accountability Office (GAO), January 2010, GAO-10-204.

Nuclear, biological, chemical and radiological attacks are another example of catastrophic events that are fundamentally uninsurable due to the nature of the risk. The Terrorism Risk Insurance Program Reauthorization Act of 2007 (TRIPRA) did not include an earlier controversial provision that would have required insurers to make available coverage for NBCR attacks. There are long-standing restrictions regarding war coverage and NBCR events in both personal and commercial insurance policies.

However, a June 2010 report by Guy Carpenter noted that some two-thirds of reinsurance markets surveyed are now offering coverage for NBCR events, reflecting a true evolution in underwriting appetite since 9/11.¹² An increasing number of reinsurers have entered the market over the last few years, offering new solutions for various large-scale risks such as airports, industrial plants, sports stadiums and shopping centers, Guy Carpenter said. It noted that costs of coverage vary depending on a number of factors, including geographical spread of risk, the location and type of exposure, proximity to other risks and the program's structure (e.g. limit and deductibles). That being said, available coverage limits remain only a small fraction of potential losses.

The reauthorization of the terrorism risk insurance program in 2007 directed GAO to review: the extent to which insurers offer NBCR coverage; factors that contribute to the willingness of insurers to provide NBCR coverage; and policy options for expanding coverage for NBCR risks. In its report, GAO said that commercial property/casualty insurers generally still seek to exclude NBCR coverage per long-standing exclusions for nuclear and pollution risks, although such exclusions may be subject to challenges in court because they were not specifically drafted to address terrorist attacks.¹³

GAO noted that commercial property/casualty policyholders, including companies that own high-value properties in large cities, generally reported that they could not obtain NBCR coverage. Unlike commercial P/C insurers, workers compensation, group life and health insurers reported providing NBCR coverage because states generally do not allow them to exclude these risks. GAO reviewed several proposals but made no recommendations on the NBCR issue.

¹² *Terrorism: Reinsurers Standing By*, Guy Carpenter, June 2010.

¹³ *Terrorism Insurance: Status of Coverage Availability for Attacks Involving Nuclear, Biological, Chemical or Radiological Weapons*, U.S. Government Accountability Office (GAO), December 2008

AVIATION INSURANCE FOR TERRORISM RISKS

Aviation insurance for terrorism risks continues to be an issue of concern for countries around the world. The attempted Christmas Day 2009 attack on a Northwest Airlines flight from Amsterdam to the United States by Umar Farouk Abdulmutallab, who allegedly tried to detonate plastic explosives hidden in his underwear, is one of the latest reminders that terrorists continue to look for opportunities to target international aviation.

Airlines are required to have passenger and third-party liability insurance coverage in order to receive landing rights and as a condition for leases, so the cancellation of insurance cover could affect the industry's ability to operate.¹⁴ In the wake of 9/11, there was a complete withdrawal of coverage for acts of war, terrorism and related perils. As a result a number of governments stepped in and established schemes to temporarily fill the coverage gap. Since then, the private market has partially reinstated coverage, though at a significantly higher cost.

Some countries, like the U.S., assist airlines in insuring war risks. The Federal Aviation Administration (FAA) began issuing premium third party liability war risk insurance to U.S. air carriers in the wake of 9/11. The Homeland Security Act of 2002 (HAS) and subsequent legislation mandated the expansion of war risk insurance coverage to include hull loss and passenger liability and required continued provision of the insurance.

The program has been extended several times. As of October 1, 2011, the FAA Aviation Insurance Program Office provides war risk hull loss, as well as passenger and third party liability insurance to regularly scheduled U.S. air carriers for the period through September 30, 2012.

THE LIABILITY FACTOR

Another distinguishing feature of terrorist attacks is their ability to generate enormous liability losses in addition to physical losses. In the immediate aftermath of 9/11 it became clear that thousands of victims and their families were prepared to litigate to recover economic and non-economic (e.g., pain and suffering, emotional distress, etc.) damages.

To minimize the likelihood of a wave of liability claims against the airlines and other likely litigants in the days following 9/11, Congress established the Victims Compensation Fund (VCF). The program was designed to provide a no-fault alternative to tort litigation for these individuals or relatives and provided compensation for losses due to personal physical injuries or death.

¹⁴ *Global Terror Update 2009*, Guy Carpenter

By the time the VCF ceased operations on June 15, 2004, it had processed nearly 7,400 claims for death and physical injury and provided around \$7 billion in payments to families of 9/11 victims. In return, victims' families were required to give up the right to sue the airlines, government agencies or other entities they perceived as responsible parties.

TRIA and its extension legislation contain no provision for handling liability claims in future. As a result, the impact of tort claims following another major terrorist attack on U.S. soil has the potential to be enormous. It is worth noting that even with the VCF a substantial number of lawsuits were filed in the wake of 9/11. For example, recent media reports suggest that settlements have been reached in 93 of 96 wrongful death and injury lawsuits related to 9/11 and submitted to Federal District Court in Manhattan. Although the amounts are confidential, reports cite a document showing that the defendants have paid out a total of \$500 million.¹⁵

Ground Zero Workers and Health Claims

In addition to the direct liability costs associated with terrorist attacks, ailments and illnesses contracted by workers involved in post-attack rescue and clean-up activities can increase liability losses by hundreds of millions of dollars. These types of suits will add hundreds of millions of dollars to the final cost of a major terrorist attack.

In November 2010, more than 10,000 workers whose health was damaged during the rescue and cleanup at the World Trade Center approved a settlement of at least \$625 million with New York City officials. For the settlement to take effect at least 95 percent of the plaintiffs had to agree to its terms. The settlement would have paid out \$712.5 million if all of the plaintiffs had opted in. According to reports, the final acceptance rate was 95.1 percent.¹⁶

The plaintiffs will be compensated according to the severity of their illnesses and the extent of their exposure to contaminants at the site. Under the terms of the settlement, individual payments will range from \$3,250 to \$1.8 million or more for the worst injuries, according to estimates from lawyers. Payouts to the plaintiffs will come from a federally financed insurance company called the WTC Captive Insurance Company with approximately \$1.1 billion in funds to provide coverage to the city.

¹⁵ *Judge's Approval Sought in 2 Lawsuits from 9/11*, by Benjamin Weiser, the New York Times, 02/05/2010

¹⁶ *Sept. 11 Workers Agree To Settle Health Lawsuits*, by Mireya Navarro, the New York Times, 11/19/2010

CONCLUSION

The cost of terrorism still looms large in United States history. After more than 10 attack-free years, the \$32.5 billion in losses paid out by insurers for the terrorist attack of September 11, 2001, places second in an Insurance Information Institute (I.I.I.) ranking of the most costly U.S. catastrophes—just after Hurricane Katrina (2005) (*Figure 7*).

Over a decade later, 9/11 also remains the worst terrorist act in terms of fatalities and insured property losses.

Figure 7
THE TEN MOST COSTLY CATASTROPHES, UNITED STATES (1)
(\$ millions)

Rank	Date	Peril	Insured loss	
			Dollars when occurred	In 2011 dollars (2)
1	Aug. 2005	Hurricane Katrina	\$41,100	\$46,591
2	Sep. 2001	World Trade Center, Pentagon terrorist attacks	32,500	40,000 (3)
3	Aug. 1992	Hurricane Andrew	15,500	22,939
4	Jan. 1994	Northridge, CA earthquake	12,500	17,726
5	Sep. 2008	Hurricane Ike	12,500	13,050
6	Oct. 2005	Hurricane Wilma	10,300	11,676
7	Aug. 2004	Hurricane Charley	7,475	8,755
8	Sep. 2004	Hurricane Ivan	7,110	8,327
9	Sep. 1989	Hurricane Hugo	4,195	7,300
10	Sep. 2005	Hurricane Rita	5,627	6,900

(1) Property coverage only, except for Sept. 11 2001 WTC, Pentagon attacks. Does not include flood damage covered by the federally administered National Flood Insurance Program.

(2) Adjusted for inflation through 2011 by ISO using the GDP implicit price deflator.

(3) Insured loss estimate for Sept. 11 terrorist attack includes property, business interruption, workers comp, aviation hull, liability, event cancellation and life insurance losses.

Source: ISO's Property Claim Services unit (PCS); U.S. Bureau of Labor Statistics; Insurance Information Institute.

A number of converging factors point to the fact that, while the risk is changing, terrorism is an evolving and ongoing threat for the foreseeable future. Failure to focus on and prepare for this threat will come at an enormous cost to the millions of individuals and businesses who rely on insurance contracts to offset the overall economic impact of a terrorist attack.

For property/casualty insurers, the increasing share of losses that they would have to fund in the event of a major terrorist attack on U.S. soil suggests that now is the time to take stock of their terrorism exposures.

APPENDIX I:

FAQ: TERRORISM INSURANCE—WHAT IT IS AND WHAT IT COVERS

Terrorism insurance provides coverage to individuals and businesses for potential losses due to acts of terrorism.

Businesses

Prior to 9/11, standard commercial insurance policies included terrorism coverage as part of the package, effectively free of charge. Today, terrorism coverage is generally offered separately at a price that more adequately reflects the current risk.

Insurance losses attributable to terrorist acts under these commercial policies are insured by private insurers and reinsured or “backstopped” by the federal government pursuant to the Terrorism Risk and Insurance Act of 2002 (TRIA). TRIA has been renewed twice, and the current law, known as the Terrorism Risk Insurance Program Reauthorization Act of 2007 (TRIPRA) runs until December 2014. Under the program, owners of commercial property, such as office buildings, factories, shopping malls and apartment buildings, must be offered the opportunity to purchase terrorism coverage.

Individuals

Standard homeowners insurance policies include coverage for damage to property and personal possessions resulting from acts of terrorism. Terrorism is not specifically referenced in homeowners policies. However, the policy does cover the homeowner for damage due to explosion, fire and smoke—the likely causes of damage in a terrorist attack.

Condominium or co-op owner policies also provide coverage for damage to personal possessions resulting from acts of terrorism. Damage to the common areas of a building like the roof, basement, elevator, boiler and walkways would only be covered if the condo/co-op board has purchased terrorism coverage.

Standard renters policies include coverage for damage to personal possessions due to a terrorist attack. Again, coverage for the apartment complex itself must be purchased by the property owner or landlord.

Auto insurance policies will cover a car that is damaged or destroyed in a terrorist attack only if the policyholder has purchased “comprehensive” coverage. Most people who have loans on their cars or lease are required by lenders and leasing companies to carry this optional form of coverage. People who buy liability coverage only are not covered in the event their vehicle is damaged or destroyed as the result of a terrorist attack.

Life insurance policies do not contain terrorism exclusions. Proceeds will be paid to the beneficiary as designated on the policy.

Under What Circumstances Is There Coverage?

For the terrorism coverage to be triggered under TRIPRA for commercial policies, a terrorist attack has to be declared a “certified act” by the Secretary of the Treasury.

No such declaration is needed to trigger coverage under homeowners and auto policies because there are no exclusions for terrorism.

In some states a doctrine known as “fire following” applies. This means that in the event of a terrorist-caused explosion followed by fire, insurers could be liable to pay out losses attributable to the fire (but not the explosion) even if a commercial property owner had not purchased terrorism coverage. Insurers have sought to limit fire coverage resulting from a terrorist attack, because commercial policyholders that choose to reject TRIPRA or other terrorism coverage are effectively paying no premium for the protection offered by fire-following coverage. Currently, there is coverage for fire following an act of terrorism in just a handful of states.

What Is Not Covered?

There are long-standing restrictions regarding war coverage and nuclear, biological, chemical and radiological (NBCR) events in both personal and commercial insurance policies.

War-risk exclusions reflect the realization that damage from acts of war is fundamentally uninsurable. No formal declaration of war by Congress is required for the war risk exclusion to apply. Nuclear, biological, chemical and radiological attacks are another example of catastrophic events that are fundamentally uninsurable due to the nature of the risk.

Under the terrorism risk insurance program, if some NBCR exclusions are permitted by a state, an insurer does not have to make available the excluded coverage.

Business Interruption Insurance

Property damage to commercial buildings from a terrorist attack also may include claims for business interruption. Business interruption insurance (sometimes referred to as business income coverage) covers financial losses that occur when a firm is forced to suspend business operations either due to direct damage to its premises or because civil authorities limit access to an area after the attack and those actions prevent entry to the business premises. Coverage depends on the individual policy, but typically begins after a waiting period or “time deductible” of two to three days and lasts for a period of two weeks to several months.

Business interruption losses associated with acts of civil authority (e.g., closure of certain area around the disaster) can only be triggered when there is physical loss or damage arising from a covered peril (e.g., explosion, fire, smoke, etc.) within the area affected by the declaration. The loss/damage need not occur to the insured premises specifically. Reductions in business income associated with fear of

traveling to a location, in addition to closure to areas by authorities because of a heightened state of alert, would not be covered by business interruption policies.

Workers Compensation and Other Coverages

Workers compensation—a compulsory line of insurance for all businesses—covers employees injured or killed on the job and therefore automatically includes coverage for acts of terrorism. Workers compensation is also the only line of insurance that does not exclude coverage for acts of war. Coverage for terrorist acts cannot be excluded from workers compensation policies in any state.

There are essentially three types of workers compensation benefits. The first reimburses workers for lost wages while they recover from their injuries. The second covers workers for all medical expenses incurred as a result of the injuries they sustain. The third type of benefit provides payments to the families of workers killed on the job.

Life/health and disability insurance policies may provide coverage for loss of life, injury or sickness to individuals in the event of a terrorist attack.

What Is the Terrorism Risk Insurance Act (TRIA)/Terrorism Risk Insurance Program Reauthorization Act (TRIPRA)?

TRIA is a public/private risk-sharing partnership between the federal government and the insurance industry. The program is designed to ensure that adequate resources are available for businesses to recover and rebuild if they become the victims of a terrorist attack.

TRIA was extended for another two years in December 2005 and for another seven years to 2014 in December 2007. The new law is known as the Terrorism Risk Insurance Program Reauthorization Act (TRIPRA) of 2007.

Specific provisions of the legislation are:

- An event must cause at least \$100 million in aggregate property and casualty insurance losses to be certified by the Secretary of the Treasury as an act of terrorism.
- The definition of a certified act of terrorism has been expanded to cover both domestic and foreign acts of terrorism.
- Each participating insurer is responsible for paying out a certain amount in claims (a deductible) before federal assistance becomes available.
- For losses above a company's deductible, the federal government will cover 85 percent, while the insurer contributes 15 percent.
- The aggregate insurance industry retention in 2007 was \$27.5 billion, up from \$25 billion in 2006 and \$15 billion in 2005.

- Losses covered by the program are capped at \$100 billion.
- Lines originally excluded from the program are: personal lines (auto and home), reinsurance, federal crop, mortgage guaranty, financial guaranty, medical malpractice, flood insurance provided under the NFIP and life and health. Additional lines now excluded are: commercial auto, professional liability except for directors and officers liability, surety, burglary and theft, and farmowners multi-peril insurance.
- The Terrorism Risk Insurance Program Reauthorization Act (TRIPRA) of 2007 is due to sunset on December 31, 2014.

Does the Terrorism Risk Insurance Program Affect the Availability and Price of Coverage?

Yes, by sharing potential losses from terrorist attacks between private insurers and the government, the terrorism risk insurance program has brought much needed additional capacity to the terrorism market. Before the program existed, businesses were left with little or no terrorism coverage, but since it came into effect they are able to purchase the cover they need.

Terrorism coverage is very difficult to price because the frequency and severity of an attack is so unpredictable. Pricing of terrorism coverage varies according to the individual risk (based on factors such as location and industry, for example), but it is clear that the terrorism risk insurance program has had a stabilizing influence on the market.

Does an Insurer Have to Make Terrorism Coverage Available?

Yes. Under TRIPRA, all property/ casualty insurers in the U.S. are required to make terrorism coverage available. The “make available” provision applies to commercial lines of P/C insurance. Insurers are required to make an offer of coverage for “certified acts” to policyholders. If the insured rejects an offer, the insurer may then reinstate a terrorism exclusion.

What if Terrorism Coverage Is Not Purchased and a Loss Occurs?

A business that has not purchased TRIPRA or other terrorism coverage will not be covered for damage caused to their property by a terrorist attack. An individual who has homeowners or renters coverage may be covered, according to the individual terms of their policy.