

Chapter

ASYMMETRICAL HOTEL THREATS

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ABSTRACT

For many nations around the globe, tourism represents their heavy industry and this is what makes hotels ideal terrorist targets. Until now all hotels attacked experienced the consequences of conventional terrorism. Given the CBRNE (Chemical, Biological, Radiological, Nuclear, and Explosives) potential of the newly emerged Islamic State it is time to consider the probability that an asymmetric terrorist attack might take place in the years to follow or tomorrow. And such an attack might include one or more hotels not only in hot spots but anywhere worldwide. If you still believe that this is a rather futuristic approach it would be wise to consider the fact that after Paris carnage the Western response is expected to be both fierce and coordinated and this retaliation will corner Islamic State both in Syria and Iraq leading to viable possibility of fighting back by releasing CBRN agents against European or international targets. Prevention is better than treatment and it was not raining when Noah made his Arc!

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On June 26, 2015, one terrorist disguised as a vacationer attacked the Mediterranean beachfront resort Marhaba Hotel in Sousse, Tunisia killing at least 38 people— most of them British tourists — before he was shot to death by the security forces [1]. Roaming from the beach to the pool to the reception area of the hotel, the assailant methodically targeted guests with a Kalashnikov rifle he had hidden in a beach umbrella, including terrified hotel workers. At least 20 people were wounded in the attack, including six British tourists and five Tunisians. Hours after the assault, many of the vacationers in Sousse, traumatized and tearful, were packing to leave. Islamic State took responsibility for the massacre.

The Tunisia incident is not the first, and surely will not be the last, attack against hotels and national/international guests. Although in this case the terrorist used conventional means (AK-47) the impact of the incident was big enough to label it as an asymmetric attack. Asymmetric threats, techniques, or attacks in layman’s terms are defined as a version of “not fighting fair.” They include the use of surprise in all its operational and strategic dimensions and the use of weapons in ways unplanned even by a major military powers. “Not fighting fair” also includes the prospect of “an opponent designing a strategy that fundamentally alters the terrain on which a conflict is fought” [2]. In the same line US RAND Corporation defines asymmetric threats as those that “attack vulnerabilities not appreciated by the target or that capitalize on the target’s limited preparation against the threat” [3].

INTRODUCTION

Acronym	Meaning
WMD	Weapon of Mass Destruction
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosives
CWA	Chemical Warfare Agents (CWAs)
IED	Improvised Explosive Device
VBIED	Vehicle-Borne Improvised Explosive Device (car bomb)
RDD	Radiological Dispersal Device
RED	Radiological Emitting Device
TIC	Toxic Industrial Chemical

Apart from conventional terrorism, a particularly fearsome class of asymmetric strategies involves weapons of mass destruction (WMD/CBRNE). These weapons can hurt military forces and civilians in great numbers and are a significant element of adversaries' threats [4].

All WMDs do not cause "destruction" – in fact only nuclear weapons can account for this level of destruction and as of the writing of this article these types of weaponry are state owned and secured. On the other hand, CBRNEs are expected to cause massive "disruption" in the socio-economic web of a nation under attack. Within the CBRNE context it is "C" and "R" with or without explosives that are expected to disrupt communities and test effectiveness of responses. Under the "C" category we place both chemical warfare agents (CWAs) and toxic industrial chemicals (TICs) while under the "R" category there is the possibility of a radiological dispersal or emitting device (RDDRED). Although TICs result following an industrial accident, some of them can be used per se as weapons (e.g., chlorine truck bombs). Until now the only recorded urban CWA attack is that conducted by the Aum Shinkyo cult against Tokyo subway where sarin gas was released (1995) [5-7]. To the present no RDD (dirty bomb) have been actively detonated despite the fact that certain incidents in Chechnya, Russia indicate that this potential is real (e.g., incident at Izmailovsky Park, Moscow [IED with cesium source] or in a railway leading to capital Grozny [mine connected with cesium source]) [8, 9].

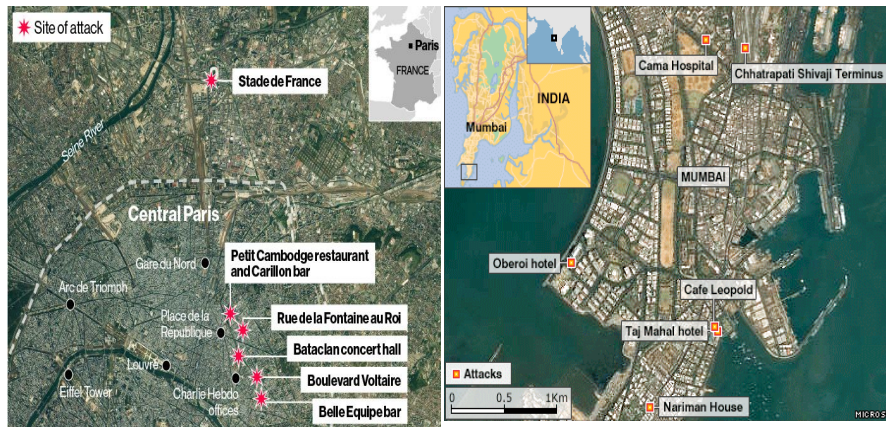
The "B" component is certainly equally important whether it is a bioterrorism attack with weaponized biological agents or a pandemic or wide outbreak [10-13] (e.g., 2009 flu pandemic; Ebola/MERS outbreaks) but it is a "gradually" developing emergency compared with the acute effects of a CRE attack. Apart from this "operational" difference "B" causes similar disruption like the rest of the CRNE agents.

Based on the above we might argue that CBRNE threats represent an "exotic" threat that does not justify special preparedness and countermeasures. This assumption is in line with the global attitude that "it will not happen to us" and that "no human will use such means against other human beings" – a logic based on both the World War I and II chemical warfare along with the Iran-Iraq war (1980s – Halabja massacre [14, 15]) and the most recent incidents of chemical weapons usage during the ongoing Syrian civil war (2012-2016) [16, 17].

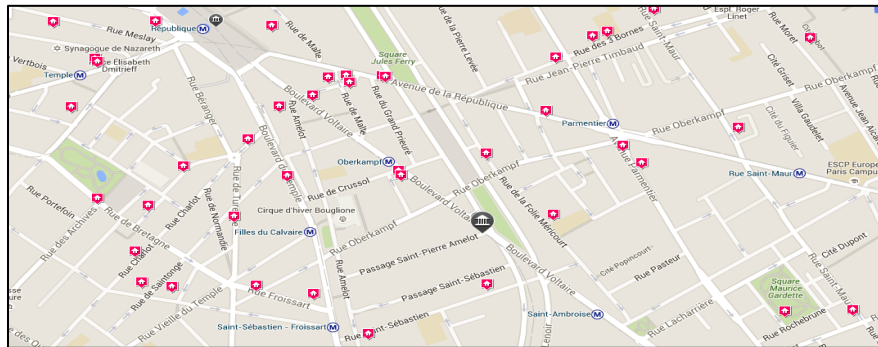
This paper focuses on the two major aspects of asymmetric threats: terrorism and CBRNE threats that might directly or indirectly affect the tourism industry and in particular the hotel industry.

TOURISM CONTRIBUTION TO GLOBAL ECONOMY

In 2014, the travel and tourism industry generated US\$7.6 trillion (10% of global GDP) and 277 million jobs (1 in 11 jobs) for the global economy [18, 19].



2008 Mumbai multiple terrorist attacks



Hotels in close proximity to Bataclan Theater, Paris.

Global economic statistics highlight one of the reasons why the tourism industry is attractive for terrorism attacks. The November 13, 2015 multiple terrorist attacks in Paris, France is (or might be) an interesting case report to study the effects of terrorism on tourism. It is also of interest to note that despite the fact that it was a “copy and paste” modus operandi of the 2008 Mumbai multiple terrorist attacks, no luxury hotels were included on their list

of targets. Will French tourism industry be negatively affected, to what degree, and for how long? [20] Same applies for the most recent (January 12, 2016) terrorist attack in Istanbul, Turkey (at the most touristic historic Sultanahmet Square) and its effects on Turkish economy [21].

HOTELS AS LANDMARKS

Hotels can be (historic) landmarks themselves (e.g., Hotel Del Coronado, Coronado, California) or can be located in close proximity to landmarks (e.g., Hôtel du Louvre, Paris, France) [22]. International hotels have guests from all over the world and are also the choice of foreign diplomats, national delegations, sports teams, celebrities etc. An attack against such a hotel will automatically have direct impact on travelers' countries of origin (e.g., Taj Mahal Palace & Tower, Mumbai, India – 2008) [23].

HOTELS AND TERRORISM

From the perspective of a terrorist organization, tourism may be used to incite political, socioeconomic, cultural or religious resentment as well as being used as a cost effective instrument to deliver a broader message of ideological or political opposition to the established society or to a government [24].

In that respect, Wahab (1996) [25] and Tarlow (2005) [26] agree that tourism is targeted by terrorists because it is seen as outsiders representing a mode of neo-colonialism or a threat to their social norms, traditions and religious convictions.

Second, hotels are symbolic targets of the Western affluence and influence that attract precisely the kind of people terrorists seek to eliminate – foreign diplomats, businesspeople, tourists, and local elites. Luxury hotels and restaurants, night clubs, shopping malls, and public transportation systems, are “soft targets” presenting few obstacles to determined terrorists since they are open to the public with multiple points of ingress and egress that at times have a constant flow of traffic, including hotel guests and visitors, staff, merchants, and delivery people [27]. It is easy to do pre-attack reconnaissance in these locations since they provide floor plans, photos, and panoramic video clips in their websites on the Internet [28].

Third, terrorists have discovered that a successful attack on a 5-star property can yield rewards equivalent to an attack on an embassy [29] or major government building such as was seen in Oklahoma City in 1995. Such an attack can cause scores of casualties, widespread panic, and extensive media attention – all of which are a boon to the terrorist group’s recruitment and cause both great harm to a country’s collective psyche and economic disruption.

A fourth reason for the upsurge in hotel attacks relates to the changing organizational composition of the terrorist groups themselves [27]. Following the US-led coalition intervention in Afghanistan after 9/11, al Qaeda evolved from a highly centralized organization to a much flatter entity (e.g., LeT in Pakistan, Jemaah Islamiyah (JI) in Indonesia, Abu Sayaaf Group in the Philippines). These affiliated groups typically lack the resources and training to mount a successful attack on a Western embassy or airline, and so have turned their attention to easier targets – hotels. This change is also evident with Islamic State’s modus operandi that is gradually changing from localized operations in Syria and Iraq to “lone wolves” or cells internationally operating or inspired [30].

Between the years 2001 and 2005 the preferred mode of attack was car bombs driven by a suicide bomber [31] (e.g., 2002 bombings of the Sheraton and Marriott hotels’ in Karachi [2002] or the Hilton Hotel and Casino in Taba, Egypt [2004]).

After 2005 hotels began to harden their perimeter defenses with check points manned by armed guards, blast walls, barricades, hydraulic barriers, etc. As a result terrorists have sought out new and innovative modes of attack (e.g., 2008 Mumbai attacks; 2009 twin suicide attacks on the JW Marriott and Ritz Carlton in Jakarta, carried out by a pair of JI operatives, one of which had checked into the former property as a guest days prior to the attack). Rapid change of modus operandi is a key characteristic of all terrorist groups while state/national responses do not equally adapt to new demands.

Should hotels far away from the front lines of the War on Terror – i.e., in Seattle or Stockholm – require the same heightened level of security as those in Kabul or Karachi? In 2009 Brian Jenkins stated that: “fewer than 500 hotel guests worldwide have been killed by terrorists over the past 40 years, out of a total global hotel guest population at any time of nearly 10 million.” [32] Despite a series of terrorist incidents, since 9/11, terrorists have killed about the same number of people in the United States as those who have drowned in bathtubs [3].

Although Jenkins is highly respected as terrorism expert and statistics support his statement, his conclusions greatly support the “it will not happen to us” mindset. A general rule of tourism based on the *Thomas theorem* is that perceptions may not be true but their consequences are always true [34]. Statistics might greatly bias planning unless they are examined separately as “worst case” scenarios requiring specific responses. Although this is pure logic, anthropocentric planning is what is missing in most planners and their plans – especially those related to CBRNE threats.

In tourism, the direct cost of counter-terrorism measures can be high. There are also a number of indirect costs ranging from cancellations during building modification to loss of revenues due to some sort of misperception. The cost of security equipment is not, however, the most important barrier preventing security upgrade. A common denominator is also the lack of planning and then adherence to security planning, and the mistaken belief that security hurts the hotel’s bottom line. There is also the problem of over or too much familiarity. For example, after one or two days in a given hotel, security people tend not to properly check people “they are familiar with”. This state of becoming lax due to assumed familiarity then becomes a major mistake since it is exactly what terrorists will take advantage of during the reconnaissance and assault phases of preparation.

The human factor is the most important element in hotel security and should be addressed and incorporated as widely as possible. Without it no technological plan is effective and applicable.

The following case reveals that technology and realistic planning are not always the perfect solution to ward off a terrorist attack. In September 2008 the Marriott Hotel in Islamabad (“the world’s most protected hotel”) with formidable antiterrorism systems in place (60 security officers on duty; four bomb sniffing dogs; 62 security cameras monitored by three security officers; under-vehicle cameras; walk-through metal detectors to screen everyone entering the building; entrance gate with Delta Barrier (drop-down and hydraulic barrier) – manned by shotgun-armed security officers; hotel was 132 feet from the vehicle inspection point) experienced a suicide truck bombing. Notwithstanding these measures, 56 people died and 270 were injured. The blast from the powerful 1,320 pound bomb ripped a 25 foot deep by 60 foot wide crater in front of the hotel, destroyed most of the upper floor rooms of the property, and ignited a blaze that burned for two days. Had the bomber achieved his goal of ramming the explosives-laden truck into the hotel lobby, the casualty count may have topped one thousand [36]. This incident partially answer the question posed since the first step in meeting the evolving terrorist

threat, is acknowledging that even the most robust countermeasures may not defeat an attack.

Beyond costs, some executives worry that the presence of visible security measures may undermine the welcoming ambiance that luxury hotels work hard to cultivate and drive away guests [35]. In this new world of terrorism, is the desire to maintain this level of “ambiance” a luxury of the past? Most probably international guests will now favor a promotion stating: “*5 star hospitality; 5 star security*”.

It is no secret that hospitality industry executives, like those in other sectors, have traditionally viewed security investments as a cost that does not add to the bottom line. Nonetheless, there appears to be growing recognition amongst hospitality executives that securing hotels against terrorism can also bring financial benefits. Surveys indicate that guests rank security at the top of their list of priorities when choosing destinations, and are willing to pay a premium for it! [35]

Few hotels currently call attention to the security features of their hotels let alone market them; this may change in the future – especially if attacks continue to increase in scope and intensity. According to Meyers “people visiting (high risk) environments aren’t looking for the softest beds now, or the best meeting space; they’re looking for the best security. If you invest in security, you’ll get the customers” [35].

HOTELS’ ARCHITECTURAL TRENDS

One of the biggest challenges hotel operators face in shielding their guests from possible terrorist attacks is that many existing properties were built with aesthetics, convenience, and cost uppermost in mind – not safety from suicide bombers and urban guerrillas. As such they often have built-in features that make them vulnerable to Mumbai-style assaults including long hallways, spiral staircases, and towering atriums. They may also be situated close to busy streets, giving terrorists easy access, or within close proximity to embassies or government buildings, leaving them vulnerable to collateral damage from attacks directed elsewhere.

With many hotels allocating more of their budgets for technology, it is important to gauge interest from travelers before determining which types of technology to implement [37]. In that respect, should they allocate money for modern technologies or for modern security shielding? And if they cannot have both, what is the best mixture to provide both security and economic

viability? Modern technology comes together with cyber threats of various levels and magnitude that might lead to serious security threats (i.e., if combined with conventional or asymmetric threats). It is a hard choice but logic dictates that less fancy technology and a bit more down to earth security will keep the hotel in one piece in the long run.

HOTELS' VULNERABILITIES

Since terrorists may seek employment at hotels as a cover for conducting surveillance, it is important to conduct rigorous background checks of job candidates to weed out those with criminal records and questionable past associations, although, it is often impossible to determine whether a candidate covertly subscribes to a violent political ideology. In fact terrorist attacks in early 2016 have shown that even close friends and neighbors may not know when a person has chosen to be part of a radical ideology. Background checks may work for certain crimes (e.g., pedophiles, sexual assaults) but not for terrorism since in the majority of cases, those arrested did not have a criminal record. Many were not even known to security agencies for radicalization tendency. A single investigation is not a panacea. As such, hotel security professionals should periodically check all employees using different approaches of gathering intelligence information [38, 39].

Guests are welcomed but at the same time they might be the core of the problem (e.g., terrorists presented as guests at Oberoi Hotel, Mumbai, India). It is very important to keep guests under control and follow certain covert intelligence techniques that will provide valuable information.

Hotels' support services represent another security issue since they have almost daily access to certain parts of the hotel that are usually lacking security presence. Support personnel should also undergo background checks either from their companies or the hotel itself (or both). Familiarity of support personnel with people working in the hotel might lead to disclosure of inside information that might be helpful to those planning an attack. The best methodology to deal with this issue is via proper education and periodic checks on who is entering your premises.

HOTELS' SECURITY

Hotels' security has two components: indoors and outdoors. The latter is more important since if terrorists penetrate the perimeter then few things can be done whether it is a VBIED or an armed group attack. Outdoors security also has two components: human security and technological security. If there is no appropriate hard perimeter fence and a main gate equipped with all the technological goods, then entrance points are greatly multiplied and intrusion becomes easy. Special attention should be given to hotels and resorts built directly along the seashore. It should be noted that intrusion by sea is less difficult especially at night – not to mention that modern weaponry can be operated from a small speed boat (e.g., RPGs). Sci-fi scenario? Good! Include it in your planning process.

A physical security plan should include enough open space with high visibility between the perimeter and the main building [40]. This concept is applicable to resorts; but it is not always possible for urban hotels. In the urban setting security specialists must think of ways to increase the hotel's "buffering" distance. If this is not possible, defensive measures that will delay intrusion once gunmen are inside the hotel (i.e., electronic doors leading to stairs and elevators) should be considered.

Special attention should be given to external air-conditioning units and emergency power generators. Usually they are not caged (especially smaller units) or in many instances the doors are unlocked. These structures are usually located in the backside of the hotel or in some other out of sight place. Often these units lack sufficient coverage from existing surveillance equipment. On January 16, 2004, about 300 patrons were evacuated from a hotel in Melbourne, Australia, after a noxious substance, possibly mace or pepper spray, was put in the heating, ventilating, and air-conditioning system. Only a few of the hotel patrons required hospital treatment [41]. What would have occurred if it had been a chemical warfare agent instead of pepper spray?

Hotels need to focus attention on measures that discourage such attacks in the first place, and involve "target hardening" as well. One of the best and inexpensive ways to harden a target, is to limit public disclosure of nonessential information [28].

Dispatching both plainclothes security officers and uniformed "greeters" to lobby areas to discreetly look for individuals casing buildings or taking suspicious photographs of entrances or security cameras is another measure. This "human fence" is of outmost importance and with certain training might

be extremely valuable in countering the reconnaissance phase always employed by terrorists.

This solution is applicable to all major targets but only very few enforce it pre-emptily. For example, the RPG attack against US Embassy in Athens, Greece could have been prevented if such a human fence had been in place as the attack was performed from a road opposite the highly guarded Embassy. On the other hand, The Mall of America (in Bloomington, MN – visited by 40 million people annually; spans 4.2 mil square feet) has already been using the above-mentioned procedure (behavior profiling executed by human screeners) under the consultation of Israeli experts implementing Ben Gurion International Airport's procedures [42].

Training employees to develop a heightened sense of awareness of the types of circumstances that could represent a threat to hotel guests and property – and immediately report them to security personnel – is another counter-terrorism imperative. One such security awareness campaign is the “*See Something? Say Something!*” posters [43] that are hung in non-public areas of hotels or the “*Back of the House*” poster [44] that encourages food service and maintenance crews to be watchful for individuals photographing the property's service entrances, as well as for tampered locks and unattended packages. “*Guest Room and Guest Floor*” poster instructs housekeeping staff to report the presence of weapons, hotel diagrams, and other suspicious items found in guest rooms [35]. Marriot Hotels use the Marriott's Threat Warning System that categorizes each facility to one of three threat conditions: “blue”, “yellow”, or “red” - these procedures are ensured by twice-yearly unscheduled visits from third party auditors and general managers found to be in non-compliance are subject to harsh disciplinary action [35].

Perhaps the most important step in countering the terrorist threat, involves forging closer ties with stakeholders in both government and private sector [45]. General Managers should provide authorities (local police; first responders) with detailed photos and floor plans along with contact information for key executives (names; mobiles; emails; Skype etc.). Familiarization drills will seal this collaboration, create relationships between the responders and identify each other's strengths and weaknesses. It is essential that hotels conduct these types of exercises regularly.

Some private security consultants advise their clients traveling to the Middle East and Southeast Asia to avoid Western five-star brands in favor of smaller, locally owned properties [46]. Stratfor think-tank, advised travelers to “*avoid large chain hotels dominated by Western clientele*”; instead it suggests smaller less conspicuous boutique hotels [47]. This notion that Western brands

should be avoided is not universally-endorsed. Bruce McIndoe, President of Annapolis, Maryland-based iJET Intelligent Systems, emphasizes that: “Overall, it’s best to stay in four or five star hotels, which cater to VIPs that demand higher security precautions” [46].

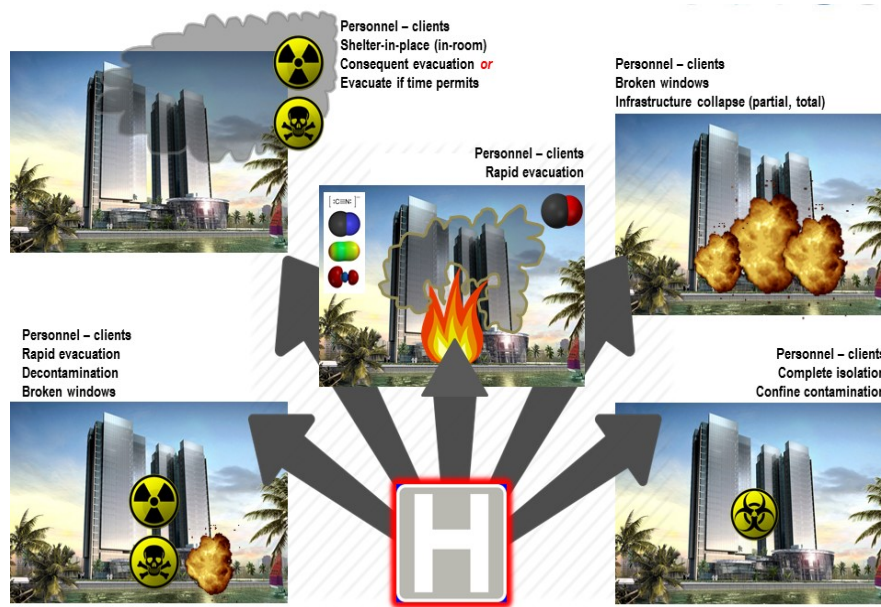
Half of 134 international business travel managers polled by the Association of Corporate Travel Executives (ACTE) said that, depending on the region they would be “reevaluating” hotel programs “with greater emphasis on guest security in the immediate future.” Another 29% said they would reevaluate regardless of region while 22% said they would not reconsider. Some travel managers seem to be cracking down on the hotels within their programs that do not have such security standards. Of those surveyed by ACTE, 14% said they would curtail travel to hotels that do not meet security requirements and 12% said they are already doing this, although 62% said it was “too soon to tell” and 11% said their companies would not avoid hotels that “cannot or will not meet” requirements [48].

Business travel managers inquire terrorism-related issues before recommending specific properties, such as: whether blueprints have been provided to security officials; whether secondary communication systems exist for guests trapped inside rooms in the event of an attack; whether hotel staff have been trained in evacuation techniques; and what surveillance systems are in place to assist authorities in the event of an incident [46].

CBRNE THREATS IN HOTEL ENVIRONMENT

Like explosive threats, CBRNe threats (table below) may be delivered externally or internally.

Chemical (C)	Biological (B)	Radiological (R)	Nuclear (N)	Explosives (E)
Nerve agents Pulmonary agents Hemotoxic agents Vesicants Riot control agents Toxic Industrial Chemicals (TICs)	Pathogens: Category A Category B Category C Toxins	Radiological dispersing devices (RDDs) Radiological emitting devices (REDs)	Nuclear weapons Improvised nuclear devices (INDs)	Improvised explosive devices (IEDs)



CBRNE SCENARIOS AFFECTING HOTELS

There are three potential methods of attacks in terms of CBRE: (1) A large external release originating some distance away from the building (includes delivery by aircraft); (2) A small localized external release at an air intake or other opening in the exterior envelope of the building; and (3) A small internal release in a publicly accessible area, a major egress route, or other vulnerable area (e.g., elevator lobby, mail room, delivery, receiving and shipping, etc.). There may not be an official or obvious warning prior to a CBRE event. Effects of CBRE release are directed against infrastructure, personnel and guests. Certain scenarios in which a hotel might be involved are presented below.

(1) Chemical Scenario

Let us assume that: an industrial accident happens in proximity to a big hotel. The contaminated plume, accelerated by wind, heads towards the hotel. There is no time to evacuate the hotel. What can be done? The only solution

would be to shelter-in-place and then to evacuate as soon as the plume overruns the hotel. Such a shelter in place is extremely difficult to execute unless there is a plan and certain inexpensive means of sealing doors and windows of designated areas big enough to host large numbers of guests.

Specialists have not come to a specific conclusion regarding the question of sheltering locations (top floors vs. ground level). Part of this debate derives from the type of substance against which people should be protected from. Chemical warfare agents, such as nerve agents and certain industrial gasses (i.e., chlorine; phosgene; ammonia), are heavier than air. This means that the cloud moves very close to ground (occupying low-lying areas such as basements) making the selection of top floors a better choice. Apart from the means for sealing doors and windows, switching off central heating/cooling system is equally important. The questions that security specialists need to ask are: “Does our hotel have these materials readily available today?” Can this problem happen to our hotel?

Two examples answer the second question: On October 16, 2012 an emergency alert was issued in the north German town of Bad Fallingb., after a chemical leak at Kraft food factory. Employees accidentally poured acid into a tank containing sodium hydroxide solution, causing a chemical reaction that created nitrous gases that are considered dangerous if they come into contact with the human body. More than 1,400 people had to be evacuated from the area [49]. On February 12, 2015 residents of five towns in Catalonia, Spain, were warned to stay indoors after a chemical explosion at a warehouse in Igualada town spread a massive orange toxic cloud. The blast occurred when products being delivered mixed, exploded and set a truck on fire. The chemicals were nitric acid and ferric chloride (exposure to nitric acid vapor can cause problems if it is inhaled, swallowed or comes into contact with the eyes or skin; higher doses can cause severe burns while prolonged exposure can eventually lead to lung damage) [50].

CWAs are not expected to be individually used against hotels. They are saved for targets with higher population density (i.e., subway systems or mega sports’ events). If they are used, then the combination of evacuation and decontamination is a one-way approach. But it might take some time until state’s first responders arrive at the incident’s site.

This is when hotel emergency plan should initiate improvised decontamination stations (i.e., by activation of indoors fire sprinkler system or create “water curtains” by using fire hoses at ground level [exits] in combination with clothing removal) and gather guests in pre-defined assembly areas until the first crews arrive. This is a very complex scenario requiring

careful planning that takes into consideration apart from the decontamination process, certain cultural peculiarities and expected language barriers.

In the security/defense market that are many additional solutions (i.e., Expandable Cabinet Shelter® that when closed looks just like a cupboard and can be expanded within 8 seconds or Noah's Ark® Bubble that provides in addition to radioactive fallout, protection against all current known chemical, biological and toxic substances and is intended for use in buildings/flats which do not have specifically protected areas or shelters) that hotels might consider as well.

(2) Radiological Scenario

In the hypothetical case of a dirty bomb being detonated in the center of a major city, the question is: What can be done? This is an even more complex scenario mainly because a part the radio-contaminated plume generated after the explosion, both structures and people will face pressure and fallout detonation effects as well. Explosion effects' might not be as devastating as that of a nuclear weapon but it will cause physical effects (burns of various degrees depending on distance; vomiting, bleeding etc.) and extreme panic and fear. Of critical importance is the distance of the hotel from the incident site that defines the decision to evacuate or not. If the latter is not possible, then sheltering in place (rooms; collectively) is the only alternative until the cloud goes over the hotel with special emphasis on respiratory protection (improvised means such a wet towel covering the face or more effective means such as escape hoods).

(3) Bombing/Arson Scenario

A conventional bombing can happen both indoors and outdoors (i.e., VBIED) and is expected to be accompanied by a secondary fire (arson can also be a standalone malicious act) and a second delayed explosion (aiming first responders). Two parameters are important in such a scenario: (1) broken glasses; and (2) carbon monoxide.

Modern hotels have extensive glass surfaces (functional and decorative). Flying glass shards may cause more than 90% of injuries following an explosion. There are solutions for securing glass surfaces that might be proven valuable in a bombing incident (e.g., blast curtain systems or bomb blast

mitigation films). Special blast films provide protection for people and property in the event of a bomb blast or chemical explosion; minimize the risk of personal injury from broken glass; ensure rapid recovery of business; and can be combined with edge retention systems for increased protection.

Carbon monoxide (CO - a colorless, odorless, tasteless, poisonous gas produced by incomplete burning of carbon-based fuels, including gas, oil, wood and coal) shares some common clinical signs and symptoms with blood agent (chemical asphyxiate) cyanide (CN). Escape hoods cover exposure to CWAs and smoke and provide an escape time of approximately 30 minutes [51]. Another product is the “evacuation cape” that is flame and chemicals’ resistant weighting [52].

Antidotes for CWAs? Many people argue that it would be too much to maintain a small stockpile of antidotes against nerve agents (preferably auto-injectable – i.e., DuoDote™) and cyanide (i.e., CyanoKit™) at hotel’s premises. On the other hand, 5-, 6- or 7-star hotels may desire to stockpile them as an added “luxury” for their VIP’s suites that often host royalties, presidencies or high level foreign delegations.

(4) Bioterrorism Scenario

Let us suppose that an international guest in a major hotel is seeking medical assistance because he or she is not feeling well. The physician who visits the patient in his room reports that there are blood vomits all over the room and the patient is in very serious condition. This scenario might look simplistic but in reality it is a highly complicated, and a complex analysis must be made from the moment the hypothetical guest has left his home to his present location. One can imagine all the people with whom the imaginary guest has come into contact: taxis, busses, airports, shops, WCs, airport personnel, co-travelers during the flight to the destination, hotel personnel, international guests, restaurants, bars, launches – just to name a few, along with the effort to identify the specific patient via international cooperation. There are protocols to be followed, and the unknown factor: is the physician able to diagnose the patient correctly? When it comes to the effects of CBRN agents on the human body, existing medical knowledge provided by accredited universities is not enough to alert an average hotel physician. In that respect, along with training of hotel’s staff it would be wise to include related training for external medical back up. This additional training might contain the problem and help minimize the effects of an infectious disease within hotel’s

premises. The hotel industry can also apply pressure to government authorities to include “CBRNE Medicine” into the curricula of universities medical and nursing schools. It is wise to invest in future front-line health professionals knowing that this investment may someday be not only save lives but also a hotel’s reputation.

Food Chain Bio-Terrorism

In 1984, The United States experienced the Rajneeshee bioterror attack characterized by the food poisoning of 751 individuals in The Dalles, Oregon, US, through the deliberate contamination of salad bars at ten local restaurants with salmonella causing the hospitalization of 45 people in an effort to incapacitate the voting population of the city so that their own candidates would win. The incident was the first and single largest bioterrorist attack in United States history and one of two confirmed terrorist uses of biological weapons to harm humans since 1945 [53].

Many luxury hotels have award-winning restaurants. Culinary excellence will not prevent them from becoming means of massive food poisoning (the other face of food bioterrorism). In March 2013 the globally-renowned two-Michelin star Danish restaurant Noma in Copenhagen was involved in such an incident that led 67 out of 78 guests into hospital [54]. The norovirus infection identified is primarily transmitted through poor hygiene, infected staff or food contaminated by fecal matter.

Cruisers’ Poisoning

Luxury cruisers (“floating hotels”) have also experienced occasional-scale food poisonings. In 2015, Royal Caribbean International’s “Legend of the Seas” reported that 114 passengers (6.53% of the 1,763 onboard) and two crewmembers reported suffering from vomiting and diarrhea during the March 30-April 14 voyage, according to the Vessel Sanitation Program (VSP) operated by the Centers for Disease Control and Prevention (CDC). The cause of the outbreak was listed as unknown, although the symptoms were indicative of norovirus. During the same period, Celebrity Cruises’ “Celebrity Infinity” returned to port on April 13 after 106 passengers (5% of the 2,117 onboard) and six crew members reported gastrointestinal symptoms [55]. In January 2014, a 10-day Royal Caribbean cruise ship (“Explorer of the Seas”) returned two days early after an outbreak of gastrointestinal illness. According to the CDC, 577 of the 3,050 passengers and 49 of 1,165 crew members reported being ill – again symptoms were consistent with norovirus infection [56].

Water Contamination

Apart from food, contamination of water supplies may be subject to contamination. However a successful attack with aerosolized toxins or biological agents is unlikely due to water dilution in a reservoir or lake. The results would be nontoxic exposure as water treatment (chlorination, filtration) methods are effective against viruses, bacteria and most of protozoa. But there is a risk when contamination is directed against near end-user such as a hotel. Some bio-threat agents survive chlorination (i.e., anthrax spores are stable in water for two years and spores are chlorine resistant [57]; ricin toxin is resistant to chlorination at 10ppm [58]).

HOTEL CBRNE DESIGN VS. HOTEL HARDENING

Two questions need to be addressed: (1) Does the cost justifies the investment? (2) Who is going to do the hardening? Luxury hotels are “mega” hotels able to host hundreds or even thousands of guests. These hotels are huge investments and owners hope to offset the cost by attracting high profile guests. Such a hotel might face tremendous loses if involved in an asymmetric terrorist attack (chemical/radiological). Hardening is more expensive than designing a CBRN proof infrastructure not to mention functionality and effectiveness.

IS THE CBRNE THREAT REAL? [59]

From the day it emerged the Islamic State has shown no moral constraints regarding human life. So far its members have used chlorine gas in Iraq roadside bombs; they have seized a chemical weapons’ depot near Bagdad and nearly 40Kg of uranium compounds that were kept at Mosul University. There is a growing belief worldwide that the Islamic State militant group is making and using crude chemical weapons (mustard) in Iraq and Syria. Additional information warns that universities in ISIS-controlled territory are giving terrorism lectures to British jihadists, who may return to UK soil to carry out their attacks. Trainee terrorists are attending organic chemistry and toxicology seminars in Mosul University in northern Iraq, which was closed in 2014 after the region was taken over by ISIS but re-opened soon after with new buildings and jihadi-approved courses. The return of Western jihadists to their home

countries makes the threat real and the possibility of the CBRNe threat becoming a reality ever more likely.

CONCLUSION AND PROPOSALS

In the past, hotels and other soft targets have tended to adopt a “bunker mentality” when faced with a rising terrorist threat. While protecting the perimeter continues to be a key imperative, the latest round of suicide and guerrilla-style attacks throughout the Middle East, Asia and Africa suggest that it is no longer sufficient, as resourceful terrorists will often find ways to penetrate even the most robust defenses. Luxury hotels – particularly if located in high threat locations – need to adopt a new mindset.

Many experts believe that international hotels need to begin operating on the principle that terrorist attacks against their facilities are “inevitable” and take action to build resiliency. This involves embedding security into everything from architectural designs to hiring practices, while developing intelligent systems to thwart hostile surveillance, and crafting more effective emergency response plans that involve close government/private sector collaboration.

Adopting such an approach, will be neither easy nor cheap and is likely to be resisted by general managers who believe that luxury properties should focus exclusively on maximizing guest comfort and convenience and pursuing profits.

Nevertheless, unless there is a “paradigm shift” in the way hotels around the world conceive of and manage this new and rapidly evolving threat, the lives of their guests and employees, their reputations, and indeed their long-term economic viability will be at risk.

The multiple recent terrorist attacks in diverse places such as London, England; Istanbul, Turkey; San Bernardino, California; Sharm El-Sheikh, Egypt, and Tel Aviv, Israel along with the major tourism threats in places such as Ankara, Brussels, Munich and New York, ought to be a warning to the tourism industry that it is entering into a new and dangerous age.

Based on the above facts, there are certain things that tourism professionals can do to be prepared:

- Tourism professionals need to obtain their news from various sources;
- Establish a tourism-terrorism task force in place;

- Create new ways for people to provide insights and information without appearing to be bigoted;
- Invest in law enforcement and private security professionals;
- Do not create a false sense of security;
- Get over denial, acts of terrorism can happen in any community;
- Send representatives to tourism security conferences – knowledge and updating is power!
- Bring hotel industry, civil engineers, architects and CBRNe experts together in order to find best solutions for future asymmetric-proof hotels;
- Remember that the best crisis management is good risk management!

Finally, consider the unthinkable and prepare for the worst case scenario: direct/indirect involvement of your hotel in a chemical or radiological terrorist attack. Global intelligence repeatedly warned (especially after November 13, 2015 attacks in Paris), that the Islamic State have chemical and radiological terrorism capabilities. Are we prepared to deal with the consequences affecting staffs, guests and the future in the tourism industry?

A FINAL WORD

On January 15, 2016, al Qaeda jihadists murdered 28 people (from 18 different countries) and injured at least 56 after attacking the Cappuccino restaurant and the luxury Splendid Hotel (a popular meeting place for Western diplomats) in Burkina Faso's capital, Ouagadougou, West Africa. Security forces stormed the hotel, freed 176 hostages and killed three of the gunmen. Local al-Qaeda in the Islamic Maghreb (AQIM) branch Al-Mourabitoun have claimed responsibility for the attack. Fourth terrorist was killed at the nearby Yibi Hotel [60].

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BIOGRAPHICAL SKETCHES

Brigadier General (ret'd) Ioannis Galatas, MD, MA, MC (Army), is a retired military physician with 35 years of military industry experience (Army Medical Corps). He is specialized in Allergy and Clinical Immunology (Board certified) and for more than two decades he served as Head of the Department of Allergy & Clinical Immunology at Army General Hospital of Athens, Greece. Since 2001 he has been involved in CBRNE operations as planner and instructor trained (including live agent training) in a number of countries abroad. His main passion focus on “Hospitals’ CBRN Defense & Preparedness in Megapolis Environment”, “CBRNE Design/Hardening of Critical Infrastructure” [airports, shopping malls, hotels, etc.] and “CBRN Forensics & Management of Contaminated Corps”. During the 2004 Athens’ Olympic Games, he served as Commandant of the Olympic Hospital CBRN Response

Unit – the only hospital-based specialized unit (70 people) deployed for the Olympic & Paralympic Games. He holds a MSc. degree (with merits) on “International Terrorism, Organized Crime and Global Security” from Coventry University, UK (2010) and he is a PhD candidate (Athens Medical School/Dept. of Forensics & Toxicology). His last appointment (as of August 2010), was as Head of the Department of Asymmetric Threats at the Intelligence Analysis Branch, Joint Military Intelligence Service of the Hellenic National Defense General Staff in Athens. After retirement he conducted CBRNE classes for Abu Dhabi Police Authority and continues to participate as invited speaker in many CBRNE/security conferences, congresses and workshops around the globe. Currently he is the Editor-in-Chief of the monthly on-line “CBRNE Terrorism Newsletter” (www.cbrne-terrorism-newsletter.com) initiated in November 2005 and delivered freely to CBRNE-CT First Responders of more than 80 countries worldwide. He is also a CBRNE Research Associate at “Center for Security Studies” (KEMEA), Athens, Greece (under the Ministry of Public Order & Civil Protection) and a Research Associate at “National Nuclear Research Center Democritus”. As of January 2015, he is member of the Didactical Board of University of Rome “Tor Vergata” delivering classes at “International CBRNe Masters” programs (Levels 1 and 2).

Dr. Peter E. Tarlow, PhD, is a world-renowned speaker and expert specializing in the impact of crime and terrorism on the tourism industry, event and tourism risk management, and economic development.

Tarlow earned his Ph.D. in sociology from Texas A&M University. He also holds degrees in history, in Spanish and Hebrew literatures, and in psychotherapy. In 1996, Tarlow became Hoover Dam’s consultant for tourism development and security. In 2000, due to interagency cooperation on the part of the Bureau of Reclamation, Tarlow helped to prepare security and FBI agents for the Salt Lake City 2002 Winter Olympic Games. He also lectured for the 2010 Vancouver Olympic Games. Tarlow is currently working with police departments of the state of Rio de Janeiro for the 2014 World Cup Games and 2016 Olympic Games. In 2013 Tarlow was named the Special Envoy for the Chancellor of the Texas A&M University System. At almost the same time the US State Department asked him to lecture around the world on issues of tourism security and safety. In 2013, Tarlow began working with the Dominican Republic’s national tourism police (CESTUR). Since 1992, Tarlow has been the chief organizer of multiple tourism conferences around the world, including the International Tourism Safety Conference in Las Vegas. Tarlow

is a well-known author in the field of tourism security as well. He is a contributing author to multiple books on tourism security, and has published numerous academic and applied research articles regarding issues of security including articles published in *The Futurist*, the *Journal of Travel Research* and *Security Management*. In 1999 Tarlow co-edited “War, Terrorism, and Tourism.” a special edition of the *Journal of Travel Research*. In 2002 Tarlow published *Event Risk Management and Safety* (John Wiley & Sons). Tarlow also writes and speaks for major organizations such as the Organization of US State Dams, and The International Association of Event Managers. In 2011, Tarlow published: *Twenty Years of Tourism Tidbits: The Book*. The Spanish language addition is to be released in 2012. He has recently published a book on Cruise Safety (written in Portuguese) entitled *Abordagem Multidisciplinar dos Cruzeiros Turísticos*. In June of 2014, Elsevier published Tarlow’s newest book: *Tourism Security: Strategies for Effective Managing Travel Risk and Safety*. Tarlow is a member of the Distance Learning Faculty of “The George Washington University” (Washington, DC.); an adjunct faculty member of Colorado State University and the Justice Institute of British Columbia (Vancouver, Canada); member of the graduate faculty of Guelph University in Ontario, Canada; honorary professor at the Universidad de Especialidades Turísticas (Quito, Ecuador), of the Universidad de la Policía Federal (Buenos Aires, Argentina), la Universidad de Huánuco, Peru, and on the EDIT faculty at the University of Hawaii in Manoa, (O’ahu). Tarlow is a founder and president of Tourism & More Inc. (T&M). He is a past president of the Texas Chapter of the Travel and Tourism Research Association (TTRA). Tarlow is also a member of the International Editorial Boards of “Turizam” published in Zagreb, Croatia, “Anatolia: International Journal of Tourism and Hospitality Research,” published in Turkey, and “Estudios y Perspectivas en Turismo,” published in Buenos Aires, Argentina, and *American Journal of Tourism Research*.

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