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**CEO’s FOREWARD**

Welcome to RaySecur’s first Annual Mailroom Security Report. We’ll highlight key mailroom security events in 2018 and predict what you will see in 2019.

Unfortunately, 2018 was defined by more than 3500 mailroom incidents ranging from biological threats to explosive devices. The cost to industry is calculated in billions of dollars in time wasted, first responder expense, and clean-up costs. The impact on the bottom line to each company and community can easily reach $500,000 per event. Downtime alone for the victim typically costs about $120,000.

Ricin and black powder letters lead the list with multiple events in 2018. Ricin production is easy. Most terrorists can develop and produce Ricin at home from a castor oil plant. It also does not need to be weaponized like Anthrax to cause death. Just a small amount of Ricin, about the size of a few grains of table salt, can kill you if properly delivered.

2019 will see additional threats. What worries me most are the many seizures of Fentanyl all over the country. Forty-five kilos seized in New Jersey was enough to wipe out the entire metropolitan area of New York City. The 33 pounds of Fentanyl seized in Massachusetts is enough to wipe out Boston and the entire state.

Much of the Fentanyl in North America is being shipped from China via the dark web. There is likely enough Fentanyl in the mail stream to take out the entire population of North America.

Could a terrorist plot an attack using Fentanyl? Many people including Homeland Security, the FBI, and the President, are worried about it. Business needs to be worried too. The procurement of the drug is so common that users are ordering it online directly from China and having it delivered to their workplace.
Most companies do not follow a protocol for screening mail on a regular basis. A handful rely on x-ray technology, which is not adequate for detecting modern threats like powders and liquids. The adoption of new technologies, such as millimeter wave (mmWave) technology, lags behind in the corporate world. We predict that companies will face legal or insurance rate challenges in 2019 if readily available preventive mailroom technology is not adopted.

While the powder threat is growing, explosives delivered by the mail also made the news in 2018. Mark Anthony Conditt, who dropped out of college and had no military training, was able to build and deliver five accurately working mail bombs using Internet blueprints. Those blueprints are available for anyone in the country to see and use.

While the exact number of explosive devices sent using the mail is not in the public domain, the Wall Street Journal published that in 2018 there were 335 incidents involving explosives. Fortunately, 335 is down from 440 incidents the year before. However, it remains a significant number that should make us all concerned.

We hope that you will find our new Annual Mailroom Security Report to be useful. Please feel free to share it with others in the industry. Our mailroom security outlook report for 2019 is located at the end of the report. It will highlight our predictions, and help you define what counter-measures you should put in place in your mailroom.

Best regards,

Eric Giroux
Chief Executive Officer
RaySecur, Inc.
2018: YEAR IN REVIEW

January
Two State Troopers And Civilian Employee Hospitalized After Opening Letter Containing Biohazard

Pennsylvania – Three people at the Carlisle State Police Station in Central Pennsylvania were hospitalized after opening a letter containing a suspicious substance. The police barracks was evacuated and partially shut down as a result of the event. Sources say the letter was allegedly laced with K-2, which is a chemical often sold as synthetic marijuana.

The interesting thing about this case is that the investigation led police to an inmate named Donovan Lee who they believe mailed the letter from within the prison. That means that the K-2 laced paper was smuggled into a prison, then mailed out from the prison, delivered to a police station, and finally opened without being detected at any point. Not only is it easy to deliver a hazardous substance through the mail, it's apparently easy to do so from behind bars.

State trooper Brent Miller said mail is screened for suspicious packages but this one wasn't considered out of the ordinary.
February

Marine Corps HQ Received Suspicious Letter With Powder. 11 Treated For Symptoms. Three Evacuated To Nearby Hospital.

Virginia – Eleven people became ill after a certified letter containing a suspicious substance was opened at Joint Base Myer - Henderson Hall military base in Arlington. Some of the victims were treated for nose bleeds and burning sensations on their hands and face after being exposed to the powder.

Many Ft. Myer, Arlington County and Alexandria firefighters and Hazmat units were dispatched to the scene, as was an “EMS task force” that is usually dispatched to mass casualty incidents according to ARLNow.

The letter that was sent with the powder contained derogatory text and unintelligible ranting language. Three employees were treated at the hospital after this event, and all of them were released late that evening. There is no update on the source of the letter. Initial tests of the substance deemed that it was not a harmful substance, however it was passed on to the FBI for further investigation in its lab in Quantico.

While no new information has come out for this story, it’s an example of how a powder in an envelope can do serious damage even if the substance isn’t deemed to be dangerous. This event evacuated the building, and the powder caused a Hazmat response from local emergency services and the FBI. We do not know what the substance was, but it was enough to send people to the hospital simply due to opening the letter.
March

**Austin Mail Bombs Kills Two And Wounds Five**

Texas – Arguably the most frightening event of 2018 was the 23-year-old Austin, Texas bomber who killed two people and wounded five in March. Mark Anthony Conditt built homemade explosives and put them in cardboard boxes which he left as packages in front yards or in porches. He also attempted to send explosives through the mail, resulting in an explosion at a FedEx sorting facility near San Antonio, injuring an employee.

The reason why these events were so frightening is that the motive is completely unknown. The targets were seemingly chosen at random, and Conditt killed himself with one of his own bombs when he realized police were closing in on him.

Police found a 25-minute video confession on his cell phone, but Conditt did not make any terror or hate related references in the confession. We will never know why this man decided to act the way he did.

Police used surveillance video from a FedEx store to track down Conditt, which is a significant detail. Packages require some type of paper trail and chain of custody. Flat mail, however, can be sent completely anonymously. Had Conditt been using powder as the terror threat instead of homemade explosives, he would have been much more difficult to stop.
April

**Ten People Charged For Trafficking Fentanyl Which They Shipped Through The Mail**

July

**Record Amount Of Pharmaceutical Grade Fentanyl Sent Through Mail Found in Louisiana Home**

Washington, D.C. and Louisiana – It is “shockingly easy” for Americans to order a deadly amount of Fentanyl through the mail, according to a U.S. Senate report released in January 2018. Unfortunately, the news of the year proved the point. There have been many reports of massive quantities of fentanyl manufactured over seas and being mailed into the U.S., particularly from China.

The April case was the culmination of a five year conspiracy which included four Chinese nationals. The attorney general called it “an elaborate and sophisticated conspiracy” to sell fentanyl in 11 U.S. states. The Justice Department charged a total of 32 people in the case.

The July case was entirely domestic. A man claimed he started to receive cases of Fentanyl patches and pumps in the mail over a two year period. He kept the packages with hundreds of pumps and 11 patches in his home in Louisiana. He said that he thought it was odd to receive the items, but he did not know it was illegal.

The problem with Fentanyl is not just that it’s easy to obtain, but more that it is so incredibly toxic to human beings. 72,000 people died of drug overdose in 2017, and the 2018 number is expected to be higher than that. Fentanyl specifically plays a big part in that, as only .25 milligrams of pure fentanyl could be enough to kill someone. That is an incredibly small amount of powder which would be very easy to deliver to unsuspecting victims via a letter in the mail.
September
White Powder Delivered In Letters To Multiple Hartford Locations On The Same Day

Connecticut – Several locations in and around Hartford were targeted by white powder letters on the same day. The Department of Education building, a federal courthouse, a state building near the state courthouse, an office building in Hartford, and finally a bank building in Bristol were all victims of suspicious powders received in letters. Three of the cases resulted in full evacuations of the buildings, and one of the instances resulted in hospital visits for the exposed employees.

An employee of First Bristol Credit Union discovered white powder in a letter after she opened it, causing the Bristol fire and police departments to respond as well as the state Department of Energy and Environmental Protection. It’s unclear if this incident was related to the Hartford incidents, but it nevertheless prompted a Hazmat response from local and state authorities.

At the Hartford federal courthouse, the FBI, State Police, and Hartford PD Bomb Squad were called in as a response to the incident. White powder is a major source of disruption, especially when multiple incidents happen at the same time.
September

Mail Bomb Explodes At Home For The Elderly Causing Loss Of Three Fingers

Vancouver Island, BC – A mail bomb sent to Roger Nepper, a retiree in his 60’s, exploded at his home in a retirement community on Vancouver Island, Canada. He picked up a package at the local post office and brought it home. The explosion that resulted in amputation of three of his fingers and nails being embedded in his stomach.

The police soon arrested Roger’s 73-year-old brother, Leon Nepper. Leon died in custody of natural causes less than a month after his arrest. No motive has been confirmed for the bombing.

This event shows that you don’t have to be a celebrity or government figure to be targeted in a terrorist attack. Someone who seeks revenge feels entitled to cause harm onto someone else, and will go to any lengths to make themselves heard.

The event also shows that it’s easy to make a homemade bomb and it’s easy to mail it to a specific recipient. Many people assume that they are protected because they believe that packages sent through the mail are routinely screened using x-ray or other devices. However, that assumption is false.
October

14 Bombs Mailed To High Profile Targets Including CNN, Former Presidents, Major Political Figures, and Actor Robert De Niro

Plantation, FL – One of the most widely reported mailroom event of 2018 was the mailing of 14 bombs allegedly by 56 year-old Cesar Sayoc, an avowed Donald Trump supporter, to several prominent Democrats just weeks before the election. He reportedly built the bombs in his van.

The high-profile targets ranged from former president Barack Obama to actor Robert DeNiro, an outspoken supporter of the Democratic party.

CNN was live and on the air as their New York City offices were evacuated because the bomb also contained powder. The FBI later confirmed that it did not present a biological threat. However, it needed to be treated as real at the time causing substantial disruption to CNN, its personnel, and emergency response workers. While none of the explosives detonated, the FBI confirmed that they were not hoax devices.

The story is a stark reminder of just how volatile the political climate is currently. These devices were all mailed through the United States Postal Service. Some were intercepted in mail sorting facilities, and some were intercepted by employees of the recipients, such as the Secret Service members tasked with screening mail sent to the home of Hilary and Bill Clinton.

Given the high-profile nature of the targets, it’s not surprising that many of these people had employees and security personnel in place to screen mail and look for these types of threats. With that said, some of the packages still made it into the targeted facilities such as the CNN offices in New York, or George Soros’ mailbox at his home. The packages also looked extremely suspicious based on the USPS description of what a suspicious package might look like. Even with the seemingly obvious appearance, many of them made it through USPS before they were intercepted.
October

Ricin Sent In The Mail Shuts Down Entire Building Housing Senator Cruz’s Campaign Headquarters

Washington, DC – Even the most secure buildings in the world can be a target for a mail threat. Several envelopes containing Ricin were sent to the Pentagon as well as to the campaign headquarters of Senator Ted Cruz in Houston. The Pentagon letters were addressed to President Trump, the U.S. Defense Secretary at the time, James Mattis, and the Chief of Naval Operations Admiral John Richardson.

Ricin is a naturally produced toxin that can be extracted from castor beans and is extremely lethal. A dose the size of a grain of salt can kill someone if it is inhaled, injected, or ingested. This is one of the most worrisome events because it’s exactly the type of threat that can travel in an envelope and be delivered, even if some basic mail screening is conducted.

The Pentagon takes its mail screening very seriously and was able to identify the threats before anyone was hurt. They have a separate facility staffed by employees wearing white protective Hazmat suits. Each piece of mail is screened, and a sample is taken to a lab for further testing. This is a process that takes 24 hours for every piece of mail coming through the system.

Employees were exposed to powder and the entire building was shut down at Ted Cruz’ campaign headquarters. The package was opened in the lobby of the building. This is often what happens. Most organizations do not have such an extensive mail screening process, leading to shutdowns like the one at Senator Cruz’ campaign headquarters.
October

Package Shuts Down House of Parliament

London – The House of Parliament in the U.K. received a package containing white powder, prompting a brief shut down and a Hazmat response from local authorities. Three people complained of itchy eyes after they were exposed to the package and its contents, but they did not require further medical treatment. Authorities investigated the substance and determined that it was not harmful.

The package that was sent to the U.K. Houses of Parliament also contained wristbands, one of which read “Multiculturalism is genocide”. Politically motivated threats are fairly common. It’s an unfortunate reality of the times, and something to be aware of for anyone involved in an organization’s physical security.
November

Man Convicted Of Attempted Murder By Mailing Letter Bombs To London Based Bitcoin Firm “Cryptopay”

Sweden and U.K. – One of the more troubling examples of mail bombs came from Europe, where a man was convicted of attempted murder mailing explosive devices, similar to pipe bombs, from Sweden to a bitcoin firm in London. He was also convicted of sending threatening mail with a mysterious white powder to members of the government in Sweden.

The bomb that was delivered to the bitcoin firm in London did not explode, although the co-founder of the company did open the package. The white powder turned out to be harmless, but the Prime Minister’s office said that they received a note with the powder that said “you will soon be dead.”

The most troubling aspect of this case is the apparent motive for sending the bomb. The only connection that authorities have been able to make between the convicted man and the bitcoin firm is the fact that he had tried to change his password but was denied. If that was the only motive for this act, then it just goes to show how an insignificant detail can drive someone to commit an extreme act of terrorism.
December

Package Set To Explode The Moment It Was Opened

Near Oslo – A police station southeast of Oslo in Norway received a potentially devastating package that contained a very real explosive. It was primed to do serious damage the moment the package was opened, according to the police chief. There was no note or message of any kind in the package, so the motive for the mailed explosive is still unknown.

Employees working in the police station’s mail room were attentive enough to realize the package was suspicious as they were processing the mail. This allowed the bomb squad to confirm the device contained explosives, and safely neutralize the I.E.D. before anyone opened the package. Employees in the mailroom may not realize just how important they are to the security and safety of the organization, but they are the last line of defense against terrorist events.
2019: A LOOK AHEAD

Mailroom security will continue to be the weakest link in any physical security plan during 2019. As we saw in 2018, mail threats are easy to create and send. New powder and liquid threats are replacing explosive threats. Yet, few organizations have any preparations for mail threats. Even those that do, many are still using x-ray technology, which cannot detect the latest problems.

Targets beyond public figures

We have seen white powder attacks sent to bosses from disgruntled employees. Angry spouses have sent suspicious envelopes to the offices of their intended victims. Company mailrooms have received letters from upset shareholders due to a financial loss.

The security gap in mailroom security is noticeable when Eric Trump, on CNN, admits that every one of his family, including his father, the President of the United States, were the victims of mail terror. If anyone can hit the Presidential family, while this family is under U.S. government protective services, where does that leave all the rest of us?

Why is mailroom security such a weak spot? It is because mail attacks are perceived as relatively easy to set-up when compared to an armed attack. White powders and liquids are fairly easy to put into an envelope. The perpetrator does not even need to be in the same state or country as the intended targets.

Mailrooms need to prepare for newer threats

The vast majority of companies are vulnerable to powder and liquid threats. Many organizations have not trained personnel or implemented basic mail screening procedures for these threats. Some mailrooms use x-ray detection systems for explosive devices. These were put in place when so-called “letter bombs” and “package bombs” made the news. Unfortunately, x-rays are not entirely able to counter mailroom threats.
We at RaySecur expect that powder and liquid based threats will continue to be the primary mailroom security concerns. However, the nature of these threats will evolve. **Use of more potent powders, such as Fentanyl and Carfentanyl,** will increase. It is possible that they will be used in 2019 to deliver a mass terror attack on the homeland.

Lone wolf and homegrown organized terror groups will likely be the ones delivering these attacks on mailrooms. However, we suspect that an organized terror group such as ISIS could deliver a mass attack from thousands of miles away.

New technology designed specifically for mailrooms is rolling out for commercial use. This technology is based on **millimeter wave (mmWave)** and was usually reserved for governmental use at airports. However, this new technology will play a significant role in mailrooms because it is able to detect powder and liquids as well as explosive devices.

**New government fees**

Another trend that we expect to grow will be **government fees charged to companies and insurers** for responding to “unnecessary” emergency calls. Several localities already charge for these expensive events. We may see that **insurance companies will increase premiums** on those who do not take preventative measures.

As a last note, the economy will likely slow down at some point leading to an increase in the number of frustrated people. We expect that his will lead to an increase in mail-borne threats.

In summary, we believe that 2019 will see a year in which companies will need to take a more proactive stance in preventing new threats coming through the mailroom. Please send me any comments or anything that we should share with the mailroom security community.
2019: THREATS IN DEPTH

Types of threats

Liquids and powder based threats will continue to dominate mail room incidents, but explosives will still be a threat. Bomb-making blueprints are available on the web, and a terrorist or lone wolf will use them to deliver even more creative devices. Chemical threats such as Clorox, ammonia, bromine, and acetone, to name a few, are available at Home Depot or Walmart. Also readily available is black gunpowder which is the easiest substance to use in a pipe bomb device. It can also be used to make a flash incendiary device. Some of these devices have gone undetected by x-ray systems. I suspect that trigger mechanisms and switches will be printed from 3d printers and might not be detectable by x-ray systems.

Emerging powder threats

Many in mailroom security believe that a terrorist organization will use Fentanyl to deliver a mass mail attack with a high number of fatalities. The terrorist could place a small amount of Fentanyl in an envelope and mail it to people. The equivalent of 2% of a teaspoon could have a significant impact on people. Carfentanyl, which is a derivative of Fentanyl, is 100 times more dangerous and readily available.

In 2018, we saw more than 100 kilos of fentanyl seized by authorities. We believe that it is safe to assume that there is ten time or more than the amount in circulation. A major terror event can be launched from long distance, could cause multiple fatalities, and can be delivered for less than $10,000.

This terror attack could be performed by a homegrown terrorist or even ISIS or the Taliban from offshore. The mail is not scanned by USPS or Canada Post to protect the intended recipient. Individual mailrooms need to prepare their defense to counter any mail-borne threats incident.
Terror organizations delivering threats

Since 2013 there have been 161 homegrown jihadist cases in the U.S. In 84 of these cases, explosives were the weapon of choice. These 84 cases defused by law enforcement were in 30 different states and multiples Canadian provinces. There are now more states/provinces with homegrown terror group than ones without any terror group. Terrorism is present in all North America and specifically in more than 50% of the U.S. and Canadian territory. Moreover, this information is documented by the U.S. Department of Homeland Security.

Terror is not only coming from Al Qaeda, the Taliban, ISIS, Boko Haram, and Al-Shabaab. Lone-wolf terrorists are almost impossible to identify until the day they commit their crime. These individuals will claim their loyalty to a group often minutes before committing terror.

Since the United States Postal Service does not have the budget to address any of these security concerns, it is just a matter of time before some organize terror group chooses mail as the means of delivery for a terror attack. Fentanyl or Carfentanyl or similar new chemical will likely be the substance of choice.

Role of new technology in threat detection

Technologies often sold for mailroom security are looking for the threats of the past. Here are some examples:

- X-ray scanning equipment was developed for checkpoint inspection.
- Trace detection was developed for airport explosive and narcotic detection.
- Metal detection was invented to find metal pieces in food.

In addition to being ineffective for the new threats, these older systems tend to be large and need to be placed in a negative pressure room to have any chance of working. X-ray systems also require significant protection protocols for the operators.
In 2019 new technologies will offer full-motion 3D dynamic images which are ideal for detecting these newer threats. Millimeter wave (mmWave) technology designed specifically for commercial mailroom application appears to be the leading choice. Small desktop mmWave systems can confirm the presence of mail-borne threats in envelopes and packages. Millimeter waves are now the first line of defense for all checkpoint at international airports around the United States and Canada.

The economy will slow down

The likely downturn in the economy will increase the number of mailroom threats events. Based on experience, there is a correlation between the number of mailroom incidents and the way the economy is performing. Think of someone who sees a bank building a new retail branch while the same Bank is foreclosing on their home.

ISIS individuals acting in the West

In the past 3-4 years, millions of people have migrated to Europe and the U.S. Migration often comes with frustration either due to integration or economic inequalities. We forecast that increased frustration will lead to more attacks.

Bomb-making blueprints will allow more and more people to make their own explosive device and increase their ability to target specific individual in an organization. Powders are easy to get and easy for an individual to deploy.

New fees for First Responders and increasing insurance remiums

The trend has started. Sacramento, CA now charges for the time it takes the fire department to respond to a medical event. Greenville, NC is charging First Responder’s time to the insurance company of the location where the first responders are dispatched. In 2018, the city was able to recover more than 1-million in expenses. We predict that more communities will start charging for First Responder services. Estimates are that a suspicious powder event costs a locality around $380,000 for the police, fire depart-
ment, Hazmat team, and bomb squad. It is natural to expect that with increased costs, insurance companies will raise premiums for those companies who do not deploy the technology to prevent these events.