



Jade Alarm Co.
7636 Troost Avenue
Kansas City, Mo 64131
Phone #816-333-5233

RE: Security & Alarm Systems – a September 2020 conference

Dear Missouri Jewelers AssociationGroup:

Security & Alarm systems are methods employed to keep the thieves at bay. Without good security you would not be able to stay in business due to the determination of the underworld. Hence, having good security practices in place are paramount to your business's survival. Thieves wake up each morning and try to figure out if today is the day YOU are the target. Convince them otherwise!

Some of this is technical as security involves having an integrated, multi-layered, systems approach with many 'moving parts'. I will be more that happy to further explain if there is anything that requires further clarification – JUST ASK! I AM HERE TO SERVE!!

Many systems are required to be UL Mercantile rated when the insurance company determines the risk demands such a system.

I am a huge proponent for UL certificated systems to level the playing field for YOU – the Jewelry store business owner. Without that 3rd party verification that UL provides by inspection & testing, you have no way of KNOWING the system is installed, serviced, and monitored properly! Do not be a victim of a thief OR of a poorly installed, serviced, or monitored alarm you are depending upon to work when it has to.

Since the young age of 15, my passion has been the security & protection of people and their property. I know from personnel experience what can go horribly wrong if that protection is not there. OR, if a security & alarm provider does not do their job properly through ignorance or wanton negligence.

I have been called in by insurance investigators in situations such as:

- *Motion detectors that have been blocked.
- *Motion detectors that did not function due to being so dirty they could not view the valuable area.
- *Glass breakage detectors that have not operated.
- *Phone line cutting and then the locks being drilled.
- *Penetration of the back wall to disable the system through the hole in the wall.

AND THEN, I can relate the stories of:

- *Motion detectors triggering despite the intruder attempting to defeat it by crawling past it.
- *Phone lines being cut; radio transmission ensured the Police responded.
- *Smoke detectors triggering and saving the Jewelry store business with Fire Department response.
- *Detection of attempt camera defeat by employee moving camera so not to view the merchandise.
- *Detection of camera being blocked by boxes being raised too high to view the valuables.
- *Alarm cable being shorted in attempt to defeat the motion sensor – employee caught right in the act!
- *How Open & Close & their reports have saved many a business from disaster due to internal theft!

Here are some of the items I feel are involved in security and alarm systems:

PREVENTION:

CPTED – DEFINATION: Crime Prevention Through Environmental Design is an agenda for manipulating the built environment to create safer neighborhoods. The 3-D's are: **Deter, Detect, Delay.**

*Good perimeter physical security such as motion lighting, physical barriers, proper locks and keeping shrubbery properly manicured to avoid hiding any prowling thieves. Have multiple people leave at night. Have lights on timers to keep the thieves guessing when you are leaving for the day (many alarm systems can be setup to turn off the lights xx minutes after the system is armed).

SECURITY PROCEDURES CAN MAKE ALL THE DIFFERENCE:

Be SURE any service personnel coming into the store are REALLY who they are supposed to be! *If a 'Police Officer' showed up at your door right before opening demanding to come in, what SECURITY PROCEDURE will your personnel follow to ensure it is not someone in a rented uniform? At least once per month, you as the owner, should evaluate your own security as if you were looking for weaknesses in the premise's physical security from a thief's standpoint. Do your personnel KNOW the local Police Officers? Invite them in for 'coffee and donuts' and introduce them to all your people. You depend upon them – make them feel a part of your total security! Can they just 'show up' each morning or evening to be 'there' during those exposed times? A little coffee can be the cheapest form of security you can get! UL requires an annual inspection by a trained alarm technician. You can in the meantime inspect/test on your own. Any good alarm company will be happy to teach you how to take the few minutes to do so. NOTE: Be sure your alarm provider sets any non-entry door/device on INSTANT mode due to time delays. If you get a phone call to respond – ensure it IS the alarm company and not a 'setup' for an ambush.

LOCKS, MANTRAP, OTHER SECURITY MEASURES:

- A) Having good locks, for instance MEDECO BIAXIAL is a very good idea. The MEDECO cylinders are extremely difficult to pick and key duplication is restricted. Additionally, the locks themselves have special methods that make drilling the core next to impossible.
- B) Having a 'lock collar' installed to prevent thief with pipe wrench twisting lock out of door.
- C) Having a lock protector plate installed to prevent thief from 'spreading' the door with pry bar. Most steel doors have a thin skin on each side with a layer of CARDBOARD inside.
- D) Having a mantrap with an outer door lock before someone can enter the 2nd inner door is a strong deterrent to holdups.
- E) If you are able, utilize a remote door release with an integrated video-intercom. If possible, have the video system tied into a remote video recorder for later recovery if ever necessary.
PROCEDURE: Instruct your personnel to ask someone wanting to be 'buzzed in' to remove their PPE mask as they can't hear them – you are then getting a full frontal view for the camera and recorder instead of a masked face that is difficult to identify for the Police.
- F) Have the jewelry cases equipped with MEDECO locks – currently, there are few different key combinations, so, a 'sneak thief' can easily get into the case and cause havoc!
- G) Having 'bollards' in front of windows, doors, & walls to prevent a stolen vehicle being rammed into the building is a very good deterrent. There are 'window glazing' anti-attack films that can be added to slow down an attack. ACE Laminates is an excellent UL rated product.

**PREMISE SECURITY ALARM SYSTEM:
DETECTION:**

***Perimeter magnetic door sensors.** These devices sense the door being opening and causes the alarm panel to trigger. These devices are very reliable in operation. Jade Alarm follows UL standards by placing the end of line supervision devices (EOL) at the magnetic contacts to detect attempt defeat by shorting the cable. *NOTE: a new type of contact by *Magnasphere* is now on the market and appears to be able to prevent defeats by thieves using an outside magnet.

***Interior audio glass breakage detectors.** These devices sense the initial low frequency of the impact and then the high frequency(s) associated with the glass breaking. Unfortunately, these devices are not as reliable as we would like and the instruction manual even recommends backing up these sensors with interior motion detectors as they are about 85% reliable (fail to detect about 15% of the time – most embarrassing, but, it is a problem with this type of technology). Additionally, during storms these devices can false alarm in the event of nearby lightning.

***Glass Trap detectors.** These reliable devices are mounted on the glass itself. More expensive to install due to the labor involved, but, more reliable.

***Shock Detectors.** Will detect an attack on a wall or door frame. Must be properly installed & adjusted.

***Interior Motion Detection.** There are standard sensors & higher quality motion sensors. The higher quality ProSeries units offer:

1-step reliable detection (UL only requires 3-step detection).

Detection of attempted daytime compromise by thief spraying with clear hair spray or blocking.

Detection of thief even though they slowly ‘creep’ or crawl past the detector.

SAFES:WHO IS UL?

UL stands for Underwriters Laboratories, an independent organization dedicated to educating businesses and the public about safety and performance of products in a wide spectrum of industries. UL has been testing and rating products for more than 100 years and evaluates nearly 20,000 products annually. The UL rating is an indicator of product quality and certification of safety.

UL RATED SAFES:

Fire rate safes are NOT security safes and are easily compromised.

Security rated safes – note the following definitions of how safes are rated by UL:

*The insurance company may require TRTL 30X6 safe due to the value of the merchandise being stored in the safe, successful burglar attacks – cutting through roof, hanging upside down and cutting through top of safe with diamond/carbide tipped cutting saw. **NOTE:** Have a motion sensor mounted above the ceiling above the safe to slow the burglar down.

NOTE: Don’t install safe on wall next to another tenant or on outside wall. If you do, install shock sensors on the wall with plywood behind the vulnerable safe.

A **TL-15 safe means** that the device is tool resistant for up to fifteen minutes with common hand tools...
... **TL-30** (Common hand tools resistive up to **30** Minutes) These ratings mean that they are rated for an attack on the door ONLY! **TL 30X6** common hand Tool Resistive up to **30** Minutes on all sides. The TRTL30x6 (Torch and Common Hand tools, grinding and drilling Resistive up to **30** Minutes on all 6 sides of the safe)

TL Rating

TL rated safes are combination lock safes that offer protection against attack using common hand tools. Safes with a TL rating will resist abuse with common hand tools for a varying amount of time, depending on which classification tier they fall under, from picking tools to hand tools (but on the door ONLY). TR-rated safes can also withstand welding and cutting torch abuse. They are much more secure.

B-Rating

A B-rated safe's walls are less than 1/2" thick, and its doors are less than 1" inch thick. A B-rated safe earns its rating with the presence of a locking device. Typically, lock work and re-locks are examined when choosing a B-rated safe.

C-Rating

C Rate safes have steel walls that are at least 1/2" thick and doors that are at least 1" thick, as well as a lock.

Fire Rating

Fire ratings are evaluated by testing to see if safes withstand varying furnace heat for specific amounts of time. For example, the UL Class 350 1-hour fire rating means that the internal temperature of the safe will not exceed 350°F for at least 1 hour when exposed to external temperatures over 1700°F. A safe may have a 1-, 2-, or 3-hour time classification. Additionally, safes will be heated and then dropped from heights reaching 30 feet to test against explosions.

SAFE & VAULT ALARMS/SENSORS:

Balanced reed magnetic contacts are designed to detect an intruder attempting to substitute an outside magnet to defeat the safe door sensors. *Having contacts ONLY on the safe is a UL rating of PARTIAL.

EVD Electronic Vibration Detection devices on the safes. These devices (square boxes that house microphones) listen for someone attacking the safes with a hammer, torch, diamond saw, or burning bar (sophisticated attack utilizing special rods with pure oxygen fed into a pipe – it will reach temperatures that melt through concrete). *Having contacts + EVD on the safe is a UL rating of COMPLETE.

VSA: Vault Sound Alarm. These devices mounted within the vault & designed to detect attack by drilling, burning bar attack or blasting. UL rating is COMPLETE.

NOTE:

Jade Alarm Co., even though no longer required for UL Certification of the safes, has placed smoke detectors above the safes to detect a burning bar or torch attack. One side benefit is these sensors have actually detected fires within 2-jewelry stores and resulted in 'saves' – something we are very proud of!

ANNUNCIATION: THE LOCAL ALARM:

UL rated Mercantile alarms require a UL rated Bell-in-box. This bell is setup to sound the local alarm upon detection and has additional detection sensors on it to detect unscrewing of the front cover or drilling.

REPORTING/MONITORING:

I own and operate the only local, full-service UL Certified, Independent Central Station and Installation Company in the Kansas City Missouri area. We provide not only alarm signal monitoring by also open/closing supervision – enabling us to be sure the system is armed by a certain time and management alerted if someone comes in during non-normal times (even if they have the alarm code). The ability to get responding authorities to your premises gives thieves a limited amount of time to defeat the safe. A rapid response makes it impractical for thieves to get their ‘catch’ without being ‘caught’. To get the ‘loot’ the thieves will try the following methods (and others) to defeat the Central Station monitoring connection:

- A) Interruption of main AC power. Alarm systems should have a rechargeable battery backup in the event of this occurrence. While UL mandates a minimum of 4-hours, consider having at the very least 24-hours of standby power if not more. Knowledgeable thieves are taking advantage of ‘storms’ and disguising their interruption of the power as a ‘normal’ power outage. Upon responding to a power outage, be sure the Police Officers go in with you to avoid an ‘ambush’ situation.
- B) Cutting the phone line – in the ‘old days’ where there was a digital communicator/dialer, cutting the phone line would defeat the connection. Without the POTS (plain old-fashioned telephone service), the Central Station would not be aware of the break-in.
- C) Reverse polarity connection – this is where low voltage was run across a cable pair rented from the phone company. Upon the alarm being triggered, the voltage was reversed and the alarm detection equipment at the monitoring facility would sound. If the phone line was cut, the loss of voltage would cause a trouble buzzer. However, this type of equipment is easily defeated using a lantern battery. Typical monitoring of this equipment is done at a Police Headquarters.
- D) Internet monitoring – with the advent of the internet, the ability to monitor the alarm information became apparent. Jade Alarm Co. was the FIRST UL Central Station in the United States to try this new technology at a Jewelry Store in Lawrence Kansas. With the ability for the equipment to ‘poll’ the customer’s alarm system, there was an assurance the connection was intact and thus the ‘LINE SECURITY’ UL certificate could be issued. The issue is, due to the non-reliability of the internet, shop owners frequently get phone calls in the middle of the night when the internet goes down. You need to realize; the internet is designed to be used for *entertainment* purposes.
- E) As thieves become more knowledgeable, they attempt to defeat the line security internet monitoring. The alarm industry was up to the challenge and implemented **encryption** methods to defeat the attempt defeat. For higher risk accounts, the insurance underwriter will require encrypted alarm equipment to detect a sophisticated compromise attempt.
- F) Since the internet normally depends upon vulnerable phone lines, the manufacture DMP out of Springfield Missouri has brought out their **adaptive technology** system. This is where the alarm panel at your premise automatically switches to cell if the normal internet connection is disrupted. Upon return of the normal internet connection, it switches back to save the cost of cell usage time. As this type of a system meets UL’s standard for non-interruption of the polling sequence, looking ‘normal’ to the Central Station Monitoring facility and the owner does not get a phone call in the middle of the night.
- G) True Digital Radio. In 1983 Jade Alarm Co. installed its first radio tower to ensure our own radio system would enable reliable monitoring when other methods failed. To be sure our customers would receive the best of service, many times we include this service with other monitoring service for a multi-layered approach.

OTHER IMPORTANT CENTRAL STATION SERVICES:

Supervised Open & Closing: This indicates when the alarm is armed or disarmed back at the Central Station. This is both a management tool and an anti-holdup tool.

Management tool: You are kept apprised if someone goes in after hours. Possibly helping to keep 'shrinkage' to a minimum. Open/Closing reports can be sent to you daily, weekly, bi-weekly, monthly for you to review.

Anti-holdup tool: After the alarm is armed, if shortly thereafter disarmed, the Central Station should be calling to inquire WHY? *This could be an ambush scenario.

HOLDUP ALARM TRIGGERING:

- A) Silent, manually triggered alarms transmit a signal to the Central Station Monitoring facility where operators will notify the Police for response
- B) These devices can be either stationary or portable.
 - a. If portable, be sure to replace the batteries as recommended. Have them on a schedule otherwise, when you need them, they will be 'dead'.
 - b. Consider having the portable units programmed to alert at both the shop and your residence – carrying in the car with you or out in the yard is a very good idea! The alarm system at the shop or at the residence would 'know' where you are located.

VIDEO SURVEILLANCE:

- A) While video surveillance (aka, CCTV) systems have been around for decades, recently, with the advent of computerized systems, they have taken on extremely high-resolution clarity. These systems can even pickup small items (diamonds) on the floor. The new 'language' of the video systems includes megabytes (how much video storage), megapixel (how much detail the camera can see). You need to ask yourself the following questions: How much video storage do I want with the number of cameras I need and how 'clear' do I want the picture to be? This will determine the size of the disk drive (cost) and ability to see a better picture. We are now coming of age to not only being able to see your system from a remote smart phone or desktop and having remote storage of pictures so someone coming in and demanding the recorder will still be identified as the video is stored at a remote location as well as on site.
- B) Be SURE your system is checked daily! My personnel check each system once per 8-hour shift. This diligence has resulted in employees being 'caught' moving cameras away from the high-risk area as well as a camera or recorder going down. For, it is not IF the system will go down, it is just a matter of time – these are computers and they WILL BREAK!
 - C) Be SURE your system includes a surge suppressor (we recommend Tripp lite ISOBAR units – get the METAL units and not the cheap plastic ones!) and a UPS battery backup. Thieves will disconnect power and then proceed to holdup or burglarize. Unless your system has backup power – it is of no use during that time.

Please note the following video links that may be of interest to you:

Defeat of perimeter door sensors with a magnetic:

<https://magnasphere.com/intruders-entering-your-home-or-business/>

Defeat of safe alarm contacts with an exterior magnetic:

<https://www.youtube.com/watch?v=N9N7zrW-qPA>

Defeat of motion detectors and how the ProSeries motion detects this:

<https://www.bing.com/videos/search?q=youtube+bosch+proseries+motion&view=detail&mid=58FD4D803EF3D12E5B6D58FD4D803EF3D12E5B6D&FORM=VIRE>

Defeat of motion detectors by intruder crawling:

<https://www.bing.com/videos/search?q=youtube+bosch+proseries+motion&view=detail&mid=E3D729D477478D709C71E3D729D477478D709C71&&FORM=VRDGAR&ru=%2Fvideos%2Fsearch%3Fq%3Dyoutube%2Bbosch%2Bproseries%2Bmotion%26%26FORM%3DVVVXX>

Defeat of motion detectors by intruder trying to compromise:

<https://www.bing.com/videos/search?q=youtube+bosch+proseries+motion&ru=%2Fvideos%2Fsearch%3Fq%3Dyoutube%2Bbosch%2Bproseries%2Bmotion%26%26FORM%3DVVVXX&view=detail&mid=42C03B2A897023BE3DDC42C03B2A897023BE3DDC&rvmid=E3D729D477478D709C71E3D729D477478D709C71&FORM=VDQVAP>

Defeat of Central Station cell connection with cell jammer: (video out of Ireland)

<https://www.jadealarm.com/wireless>

Defeat of jewelry store's alarm and entry through roof:

https://www.youtube.com/watch?v=0a_oVMo1t2Y

Houston Gun Shop burglary – notice how organized the thieves are:



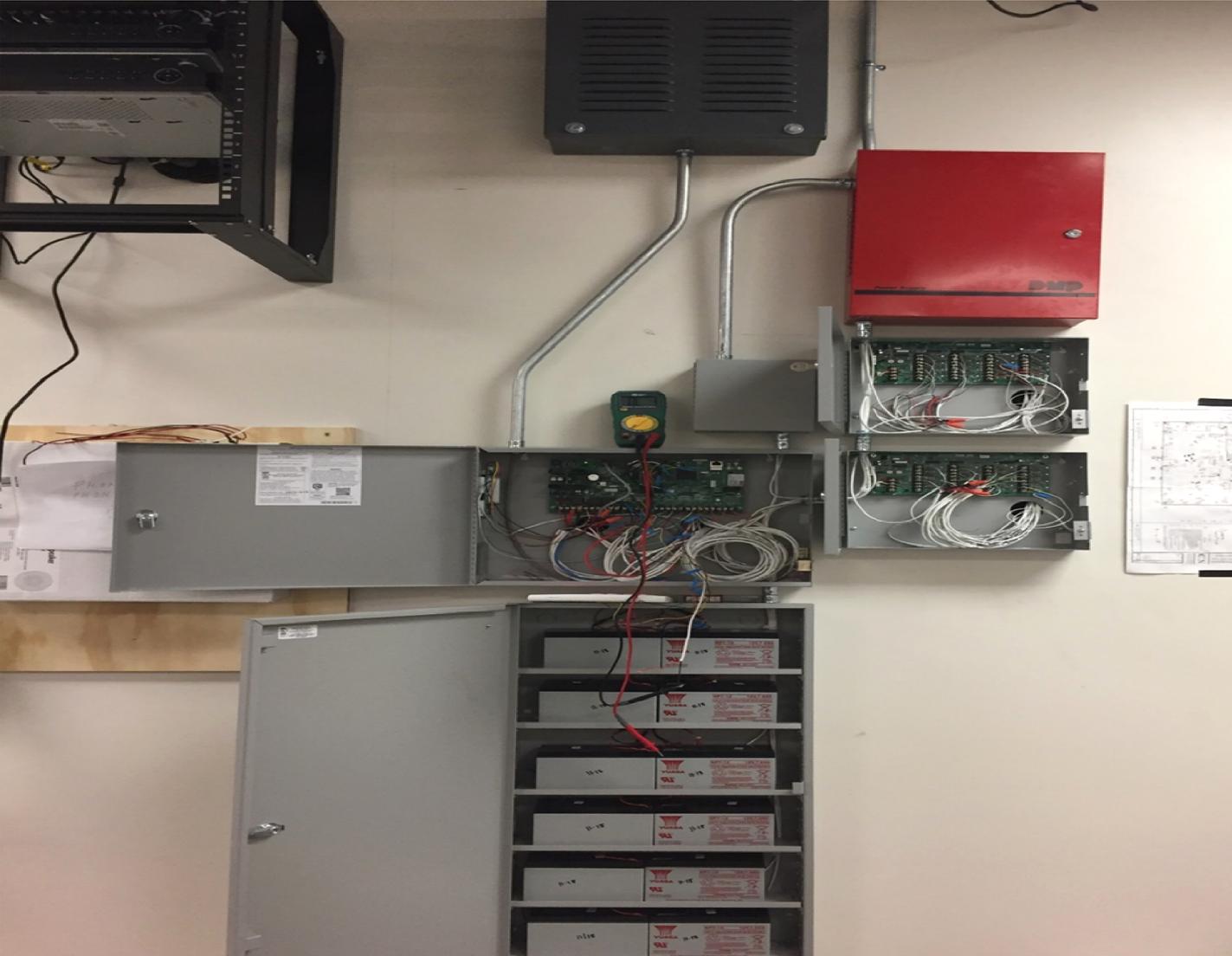
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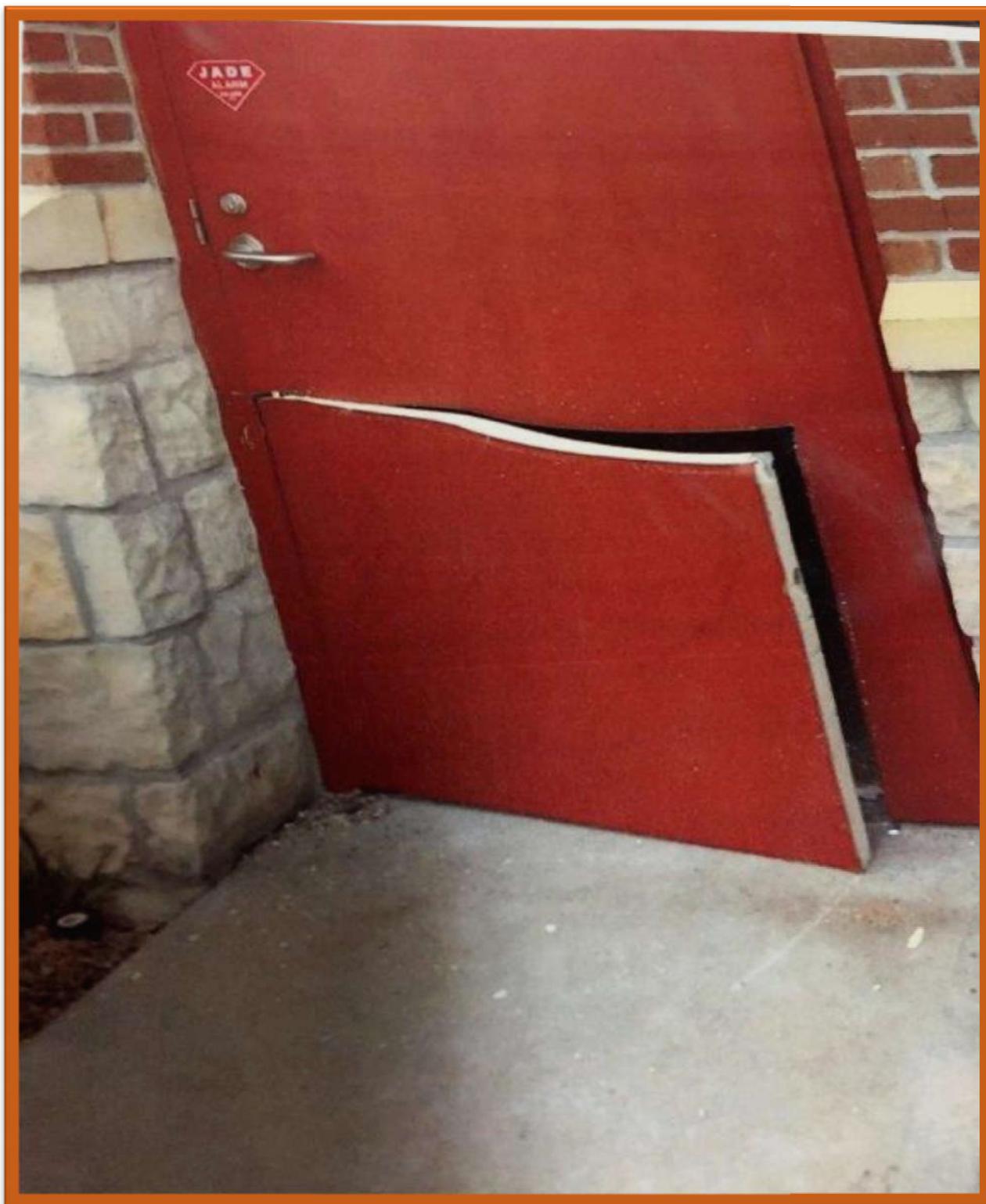
Thank you for your time in evaluating the above discussions and recommendation(s) – I truly hope this has been an informative ‘journey’ and will help to ensure the viability of your business!

Joseph Pfefer

Joseph (Joe) Pfefer
President & Founder
Jade Alarm Co.

If your power is out during an ice storm or if thieves cut your power lines during sever storm – will your system be able to continue to protect you? Consider getting a heavy duty extended battery cabinet!

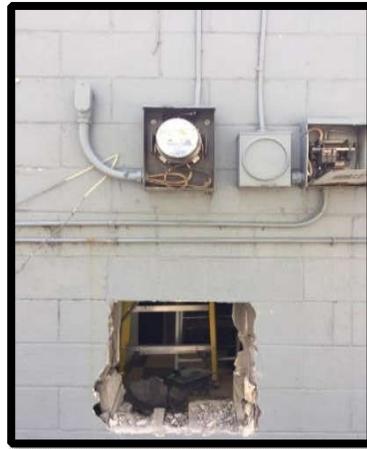
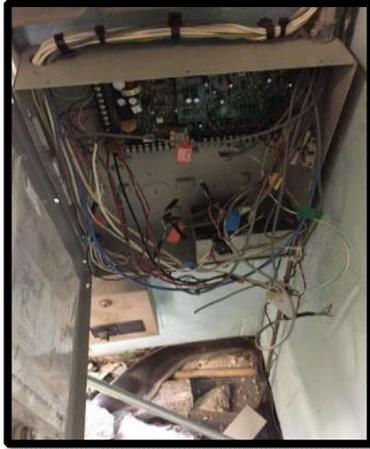




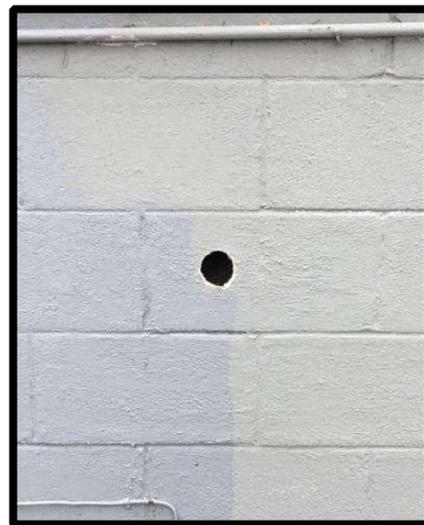
AT 02:17 HOURS JADE ALARM DISPATCHERS CONTACTED THE POLICE UPON RECEIVING ALARM SIGNALS FROM OUR SECURENET RADIO NETWORK FROM A BACK ROOM MOTION ALARM SIGNAL FOLLOWED BY A TAMPER ALARM SIGNAL. BURGLARS HAD CUT THE PHONE AND INTERNET LINES – BURGLARS FLED!



**BEFORE JADE'S RADIO AND WALL SHOCK SENSORS INSTALLED.
PHONE LINES WERE CUT, ALARM SYSTEM DEFEATED
NO DETECTION OR POLICE RESPONSE!**



**BURGLARS RETURNED A YEAR LATER AT 05:57 HOURS NEW YEARS
MORNING!
PHONE LINES WERE CUT, BURGLARS BEGAN THEIR ATTACK.
RADIO ALARM SIGNAL WAS TRANSMITTED!
SUCCESSFUL DETECTION & POLICE RESPONSE!!**



***HAVE PEACE OF MIND WITH JADE ALARM'S SECURENET TRUE DIGITAL RADIO
NETWORK!***