Risktopics

ZURICH

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Arson Prevention

Introduction

Arson or willful fire-raising is the largest single cause of fire loss in premises across the United Kingdom. The Arson Prevention Bureau advises that there are over 2,000 arson attacks in the United Kingdom each week, resulting in an average of 360 businesses and public buildings being destroyed.

Arson, from whatever quarter or motive, can be prevented or at least its effects controlled, if thought is given in advance to the potential threats and implementation of suitable risk controls.

Good practices and security against the threat of arson, which in many cases can be achieved at little or no cost, could potentially save millions of pounds.

A plan against arson should form part of a fully integrated management system that covers all aspects of risk. Such plans should be arrived at by carrying out a risk assessment - with the objective of ensuring that business operations, and profitability, should be maintained whatever the threat.

Risk Assessment

The arson risk assessment should investigate the company's exposure to arson. Some types of business may be more prone to arson damage because of the type of business that they are involved in or because of the location of the premises. Arson fires are also sometimes started by disgruntled staff that may have been disciplined or made redundant.

Once an assessment of the exposure has been undertaken, the assessment can focus on the risk controls that are in place. Arson risk controls will include: the perimeter security of the site as well as the level of security attached to buildings. Building security will not only include physical security (such as locks, bolt and window bars) but also electronic security, such as: intruder alarms and CCTV systems. Risk controls should also assess ease of access onto the site and should include: access control systems, manned guarding arrangements and visitor controls. Finally, the assessment should also take note of external storage areas, where combustible materials may be present which could be set alight. All of these features are discussed more fully in this Risktopic.

By assessing your exposure to arson and by taking account of existing control measures, an overall arson assessment can be made. Zurich classifies arson risks as high, medium or low and the separate Risk Solutions Document, entitled: Arson Risk Assessment Form could help you to classify the arson risk for your business. If the outcome of this assessment shows a high or medium arson risk, you should consider initiating additional risk controls to improve the assessment to a low risk.

Exposure

This section will look at the various elements of arson risk exposure more fully, exploring issues with each potential feature. Given the types of features included within this exposure heading, it is difficult to change the level of exposure but the outcome of your exposure assessment should have a bearing on what level of risk controls are required to limit the arson risk.

Type of Business/Occupation

Some types of business or building may be more prone to arson attack because the nature of their business or occupation may be controversial. For example, animal rights groups have been known to target the following types of business:

- Research laboratories
- Drug manufacturers
- Abattoirs
- Meat wholesalers and retailers
- Furriers
- Cosmetic manufacturers
- Carriers or transporters of live animals
- Livestock markets

Other campaign groups may also have their own targets. For example, environmental groups have been known to attack:

- Construction sites
- Natural resource sites
- Company property of organisations involved in construction or resource development.

It is not always easy to identify those businesses that may be at risk. For example, businesses dealing in life sciences, which may involve experiments on animals, have long been a target for animal rights campaigners and clearly the arson risk for this type of business would be high. However, animal rights campaigners have also targeted other companies that have any association with these types of business. For example, your company may supply contract cleaning or catering services or you may provide a particular product which, if the supply of the product was interrupted, would cause upset to the life science business.

One other important feature to consider is if a building becomes unoccupied. Empty buildings are an attractive target for arsonists, especially if they contain combustible building elements or combustible materials left within the building. Any unoccupied building should be considered as having a high arson exposure.

Location of Premises

The location of the premises plays a major part in the overall arson assessment. For example, properties in rural areas are more likely to be in low crime areas than those in inner city areas. You may know of particular crime hotspots within your local area or may even know of previous incidents of arson locally. If your premises is located close to a sports ground or other area where large crowds could gather, the arson risk may be adversely impacted.

It is not only the surrounding area that should be taken into account. The location of your own premises should be assessed. Are your buildings hidden from view by closed fencing or high vegetation? This could allow an arsonist the necessary screen to start a fire without being detected. If your premises are situated in an isolated location out of normal working hours, this could also afford an arsonist a better opportunity to start a fire that would go undetected until the fire was able to spread and grow to a disastrous level.

By taking all of these features into account, you can start to build up a picture of the local area and how vulnerable your premises may be to an arson attack.

Relationships

Staff relationships are an important feature of an arson risk assessment. Disgruntled staff may be inclined to cause damage to the premises and may have the ability to access areas that other arsonists would not. Reasons for staff being upset may include:

- Making staff redundant
- Disciplining staff, including termination of employment
- Changes in working hours or conditions
- Issues with migrant, contract and/or temporary/agency workers

In assessing staff relationships, an honest and frank appraisal of your employee's attitudes towards the management should be undertaken. Has there, for example, been a history of tension between workers and managers, a history of disputes or industrial action?

It is not only staff relationships that should be considered. Disgruntled neighbours may also have an adverse effect on the business. Consider whether any of the following may give rise to action being taken by neighbours:

- Planned or recent building works taking place, either erecting new buildings or extending existing structures. Have neighbours tried to prevent planning approval or voiced concerns directly to you?
- Have neighbours complained about noise issues? Noise can often prove difficult for neighbours, especially where industrial buildings are located within residential areas.
- Any pollution issues may also cause anger amongst local neighbours.
- Are there access control issues to your site or parking issues in the local area?

Risk Controls

Risk controls are measures that can be put in place to minimise the risk of a catastrophic arson attack against your premises. This section looks, in more detail, at the types of measures that can be used. Very often, simple, cost effective measures can be introduced which will significantly lower the arson risk.

Perimeter Security

The arson risk assessment should take into account existing risk controls. With regards to perimeter security you should assess how easy it is to gain access to buildings. If access is open and unprotected, it will clearly be easier to access any externally stored materials and to attack the building.

The physical security of the site starts at the perimeter. Where possible, the perimeter of the site should be afforded security fencing protection to keep intruders off the site.

Security fencing comes in various forms but, as a rule, should be at least 2.4 metres high and any gates should be of equivalent quality. Zurich recommends that either steel palisade or weldmesh fencing is used as these types of fencing are more secure than timber and wire mesh fencing.

For areas where there is a high risk of arson attack, the fencing may also need to have anti-climb protection fitted to the top of fencing.

Further information about fencing is available in a separate Zurich Risktopic, entitled: A Guide to Security Fencing.

Zurich appreciates that it may not be possible to secure the perimeter of your site, especially for retailers who operate within high street locations. Where it is not possible to provide fenced protection, consideration should still be given to protecting the perimeter of the building. For example, any access to flat roofs can be prevented by installing anti-climb products to the edges of roofs and drainpipes. If there is external access to first floor self-contained flats consideration can also be given to providing extra security to external staircases, preventing unauthorised access to communal access routes.

Building Security

Every building will have access doors and most buildings will have window openings and letterboxes. All of these potential openings should be well secured against attack. In order to assess the current level of physical security, the following features should be considered:

- All access doors to buildings are fitted with suitable locking devices which are secured in place out of working hours.
- Door frames are securely attached to the surrounding brickwork or steel frame
- Accessible windows are fitted with key operated window locks which are secured out of business hours.
- All louvre window panes are securely glued or otherwise attached to their frames, making it impossible to remove individual panes of glass.
- Any additional window security, such as grilles, bars or shutters are in good condition and secured in place out of business hours.
- Letterboxes open onto non-combustible surfaces and mail is not allowed to build up inside letterboxes.
- Any outbuildings or external storage containers are suitably secured out of business hours

The level of physical building security should be dependent upon the level of arson exposure. For example, a building considered to be at high risk of arson attack should have a much higher level of physical security than premises at low risk of attack. Risk controls for a building at high risk of attack may necessitate roller shutters being installed to protect door and window openings.

Letterbox openings are a popular way of starting a fire within buildings as arsonists do not have to bother breaking into the building to start a fire. For this reason it is important that letterboxes are not situated in a part of the premises where unwanted post may be allowed to build up and would ideally open onto a non-combustible floor. However low the arson risk, Zurich considers that the installation of an anti-arson letterbox is a sensible precaution against lit materials or flammable liquids being passed through the letterbox opening. These products typically attach to the inside of the door and are designed, not only to contain post but also to contain any lit materials and flammable liquids preventing them from coming into contact with combustible

materials that may be inside the building. Some of these anti-arson letterbox products also contain an extinguishment feature that may help to put a fire out.

Electronic Security

Building and site security can be enhanced through the installation of electronic security systems. Intruder alarm systems should be linked to an alarm monitoring centre in order to allow an automatic response by Police and keyholders to any alarm activation. In most cases, it is also possible to link a fire alarm system to the alarm monitoring centre, ensuring a prompt response from the Fire Brigade to any fire alarm activations outside of normal working hours.

For unoccupied properties, it is possible to hire a temporary intruder alarm system which uses GSM (mobile telephone network) technology to transmit alarm activations to a security company. Smoke detectors can usually be wired into these systems, allowing an early response to any fires.

CCTV can act as a visual deterrent to arsonists, especially where cameras are placed at high level on external parts of the building. For CCTV cameras to be effective, external areas should be well lit, which provides an additional deterrent. Ideally, CCTV images would be remotely monitored (either by a manned guard or at a remote monitoring centre) as any suspicious activity would be picked up even before a fire could be started. If it is not possible to have the CCTV cameras remotely monitored, images should be recorded to a hard drive as CCTV pictures could help to prosecute any intruders.

Access Control

The control of visitors to your site is another important consideration of the arson assessment. If access to your premises is uncontrolled, unauthorised visitors may be able to access parts of the premises unseen and unchecked, allowing them to start fires in quieter parts of the premises, such as stock room areas. Visitor access to the premises should be via a single entrance with access control measures installed to prevent people being able to wander, unchecked, through buildings. Larger companies may have a manned security gatehouse or reception area but even where these features are not present, suitable access controls can still be put in place. Entrance doors can open into a foyer area with access control locks on all inner doors. Even if unmanned, a telephone or bell can be installed for visitors to alert members of staff to their presence. In wholesale, retail and other environments where the general public access the buildings, back room areas such as: offices, staffrooms and storerooms can be locked with suitable access control devices.

There are various ways of achieving visitor access control, as follows:

- Combination coded door locks – these are easy to fit and offer a good low cost solution for access control.

- Electronic coded door locks – offering a similar level of security to combination coded locks.

- Door entry systems – these can be audio only or can include video monitoring and can include an electronic lock on the front door, allowing access to be provided to the building without the need for a member of staff to travel to the entrance door.

Visitors can also be provided with badges that clearly identify them when walking around the premises and staff should be encouraged to politely challenge any visitors that are not wearing badges.

If access control is also required for staff, consideration could be given to electronic swipe card systems. These can be run from a PC and allow management to restrict employee access to certain areas such as server rooms and plant rooms. Biometric identification is one other method of providing access control, using units that are designed to scan employee's fingerprints or irises.

If access control systems are installed, all staff should be made aware of the potential for 'tail-gating' through access controlled doors. This is a common method used to gain unauthorised entry to secure areas.

External Combustible Materials

Perhaps the most important of all risk controls concerns external storage areas, especially where it is not possible to provide perimeter security fencing around the site or the storage yard. Many arsonists will take the opportunity to start a fire by setting light to combustible materials stored outside the building. Once the fire has been started there is a real risk of it spreading into the building.

This picture shows a typical example of combustible materials being stored in close proximity to a building. If the timber pallets were to be set alight, the resulting fire could spread into the building through the windows or via the lightweight metal cladding. In most cases, this type of risk can easily be minimised by storing any combustible materials away from buildings. Zurich recommends that a clearance of at least 10 metres is maintained around buildings. Where it is not possible to provide a 10 metre clearance, consideration should be given to either:-

- Storing the combustible materials inside the premises when the premises are closed for business.
- Building a secure storage compound for the external storage of combustible materials and waste.
- Using a secure container (such as a shipping container) to store combustible items, such as pallets, externally.

Waste skips and bins also present an opportunity for fire to spread to buildings. The following risk control measures should be considered:

- Storing static waste skips and bins at least 10 metres from the building but 2 metres inside any perimeter fencing.
- Replacing any open topped skips with metal lidded receptacles. The metal lids should be locked shut out of business hours.

- Wheelie skips and other transportable bins can either be; wheeled into the premises when closed for business or be replaced with metal receptacles, having metal lids that are locked shut out of business hours. In addition, transportable bins should be secured by locking the bin to a metal stand as far from the premises as possible. This will help to prevent the bins being moved into a position close to the building before being set alight.

Consideration should also be given to clearing any overgrown weeds and other vegetation in close proximity to buildings. Overgrown vegetation provides two additional arson risks:

- In hot dry weather the vegetation could be set alight.
- The overgrown vegetation could provide a screen for arsonists to work out of sight of passers by. Ideally, vegetation should be no more than 1 metre high.

Any vegetation should be regularly cut back and weed growth controlled with weed killer, although it is important to note that weed killers containing sodium chlorate or other similar chemicals should be avoided as these could also pose a fire risk.

Temporary buildings, such as portakabins, should be kept as far from the main buildings as possible (preferably at a distance of at least 10 metres), especially if the temporary buildings are constructed with combustible materials. A fire started within a temporary building could otherwise spread. Any voids underneath the floor of the temporary building should be securely boarded over to prevent an accumulation of combustible waste underneath the building.

General Precautions

The following general precautions can also be undertaken to limit the risk of an arson attack:

- The effectiveness of security lighting should be assessed and upgraded as necessary.
- At the end of the working period ensure that all combustible waste is removed to a safe storage area and that the premises are tidy.
- All flammable liquids should be locked away at the end of each working day.
- No unauthorised persons should be able to remain on the premises at the close of business. Consider checking toilets and other backroom or quiet areas before closing up.
- Ensure that all doors and windows are properly secured and any alarms are set.
- Arson prevention can be embedded in the company's safety culture by including arson awareness as part of employee's induction and ongoing safety training. All staff should be encouraged to report any suspicious activity.

Fire Protection Equipment

Irrespective of the arson risk, management have a duty to provide adequate fire detection and fire fighting equipment but additional factors should be taken into account to counter the possibility of malicious fire raising.

Arsonists will often start a number of small fires in different areas of the premises and, although automatic fire detection equipment will quickly identify a fire, by the time the fire brigade arrive the fire could have grown to an uncontrollable level. All fire doors should therefore be closed at all times. Staff should be informed that these doors are not to be wedged open and the doors should be regularly maintained, ensuring that intumescent strips remain in place.

Fire detection, and fire fighting systems, will be vulnerable to sabotage by potential arsonists. Access to control equipment, especially valves and pumps on sprinkler systems, should be restricted. It is possible to fit electronic switches on critical valves to monitor their condition. It should be remembered that sprinkler systems have an excellent track record in controlling fires caused by incendiary devices and it is vital that they are kept in full working order.

Summary

According to the Arson Prevention Bureau, arson damage costs the English and Welsh economy £53.8m each week. By undertaking an arson assessment and determining the level of risk applicable to your premises, suitable risk controls can be put in place to minimise the risk of an arson attack causing catastrophic damage to your business.

Zurich's Risk Solution - entitled: Arson Assessment, can help to categorise the arson risk for your premises to low, medium or high. The use of this Risk Solution can act as a starting point for controlling the risk of arson attacks. Minimising the risk of arson does not have to be expensive. Very often, the arson risk can be controlled through the vigilance of staff and management and through good housekeeping and security arrangements.

Useful References

1. www.arsonpreventionbureau.org.uk/

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