FIRE AS A WEAPON

GUIDANCE ON THE MITIGATION OF THE RISKS ASSOCIATED WITH TERRORIST USE OF FIRE

CPNI
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This document has been developed in collaboration with the Home Office, National Counter Terrorism Security Office(NaCTSO) and the National Fire Chiefs Council (NFCC).

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EXECUTIVE SUMMARY

GUIDANCE IN RELATION TO THE RISKS AND MITIGATIONS SECURITY MANAGERS SHOULD CONSIDER IN PROTECTING SITES FROM THE TERRORIST USE OF FIRE AS A WEAPON.

This document provides guidance in relation to the mitigation of the risks posed by terrorists conducting Marauding Terrorist Attacks (MTA) that combine the use of fire with other attack methods, known as a Fire As a Weapon (FAW) attack. It has been developed in collaboration with the Home Office, National Counter Terrorism Security Office (NaCTSO) and National Fire Chiefs Council (NFCC).

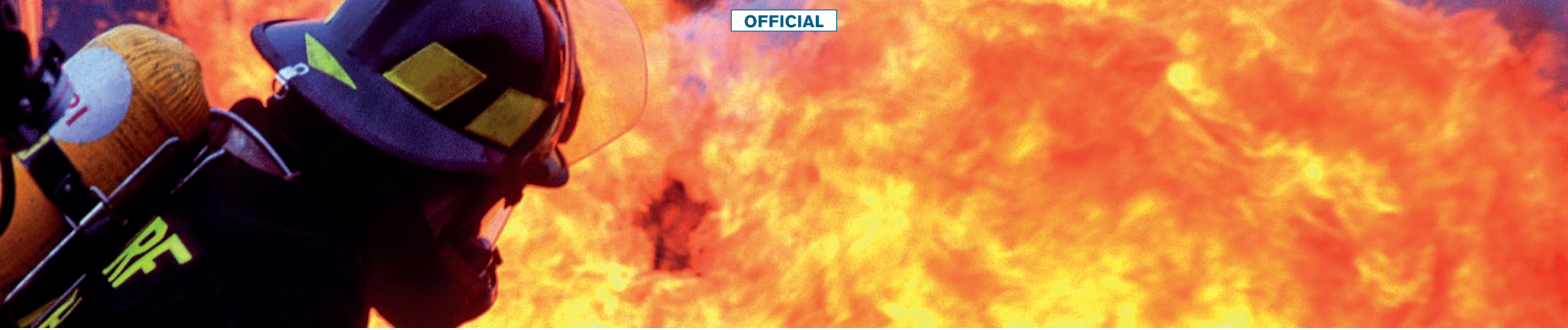
The scope of this guidance is limited to FAW attacks. Therefore, it does not include attacks which do NOT involve marauding terrorists and only involve the use of fire and would usually be described as arson.

FAW attacks are intended to cause harm. Fire and smoke alone can provide a toxic mix, when combined with other terrorist attack methods as part of a MTA, this can create an extremely challenging and complex situation. Starting fires, during such attacks can be relatively easy and may require limited planning and preparation. However, a successful attack is likely to require detailed planning and involve capable attackers. Coordinating a response can be very difficult for both site teams and the emergency services.

A number of points have been identified for site security managers to consider as they decide how to mitigate the risks associated with FAW attacks:

ENGAGE	Have all the right stakeholders been identified?
ASSESS	Has the risk of a FAW attack been assessed?
PLAN	What planning needs to take place to identify and mitigate the risk?
PROTECT	What protective security and fire safety measures can be introduced?
RESPOND	How can the response be developed and improved?
REVIEW	Are all aspects of the plan regularly reviewed?

Planning must ensure that the key internal and external stakeholders are included to make certain that security and fire safety plans are effectively integrated and that if necessary, plans between neighbouring sites have been deconflicted.



INTRODUCTION

INTENDED AUDIENCE

The purpose of this document is to provide guidance about the mitigation of the risks posed by terrorists combining the use of fire with other attack methods as part of a MTA. Such attacks are known as a FAW attacks. This guidance forms part of the series of MTA guidance documents released under title *Marauding Terrorist Attacks – Making your organisation* ready. It is relevant to those responsible for the protection of Critical National Infrastructure (CNI) sites, sensitive sites and crowded places.

It is most useful for:

- Building managers
- Physical Security Managers
- Security Control Room (SCR) Managers
- The 'responsible person' for fire safety
- Security Risk Assessors.

SCOPE

This document provides guidance that:

- Provides an understanding of the FAW threat
- Provides examples of where this threat type has taken place
- Details the key hazards created by FAW attacks
- Identifies how current fire-related regulations address the issues
- Sets out steps to be considered when looking to reduce the risk from such a threat.

OUT OF SCOPE

The following are considered out of the scope of this guidance:

- Attacks which do **not** involve marauding terrorists and only involve the use of fire and would usually be described as arson. This includes the deployment of incendiary devices which have historically been used on their own as an attack methodology to start fires
- Use of gas canisters as crude explosive devices. It is not uncommon for gas canisters to explode when introduced into a fire situation. However, the intent in these cases is to use the gas cannister as an explosive device
- The setting of wild-fires, despite this being recently promoted as an option by ISIL.

The guidance within this document has been developed from the analysis of previous terrorist incidents and live simulations of FAW attacks as part of CPNI MTA trials (also known as ASCEND) and CPNI FAW trials.

DEFINITIONS

MARAUDING TERRORIST ATTACKS (MTA)

The definition of MTA is a fast-moving, violent attack where assailants move through a location aiming to find and kill as many people as possible. Most deaths occur within the first few minutes, before police are able to respond.

MTAs can take many forms and include a combination of the following:

- A lone attacker, multiple attackers or multiple groups of attackers
- Arrival at a location on foot, in a vehicle or an attack perpetrated by insiders
- Entering without using force or forcing entry using an explosive device, a vehicle, coercion of someone with access or a combination thereof
- Attackers armed with bladed weapons, firearms, pipe bombs, petrol bombs, an accelerant to cause a fire, suicide vests or multiple weapons.

FIRE AS A WEAPON (FAW)

The definition of FAW is the deliberate use of fire within an MTA, with the intent to cause harm. This may include causing harm to people, premeditated damage to property, or a combination of both.

FAW is likely to be deployed in one or more of the following ways:

- **Used as a distraction** tactic which will draw the attention or response of security officers, which may allow other vulnerabilities to be exploited, e.g. attackers may enter a building while security officers are focused on the fire
- **Augment other attack method(s)** (bladed weapons, firearms etc.) and so cause injury or damage to property, through the use of accelerants, e.g. petrol bombs (aka Molotov cocktails) or other incendiary methods
- **Trigger a fire evacuation** which might cause people to become vulnerable to an attack
- **Causing disruption or delay** with the intent of preventing or restricting emergency responders confronting the attackers, carrying out lifesaving operations and extinguishing the fire.

FAW – GENERAL ATTACK FEATURES

A well planned and executed FAW attack is likely to have a devastating effect. Carrying and lighting petrol bombs or setting fire to furnishings may not be straight forward. How fire is used in the attack, and the success of the attackers will vary. Understanding how to use fire and careful target selection are key to success.

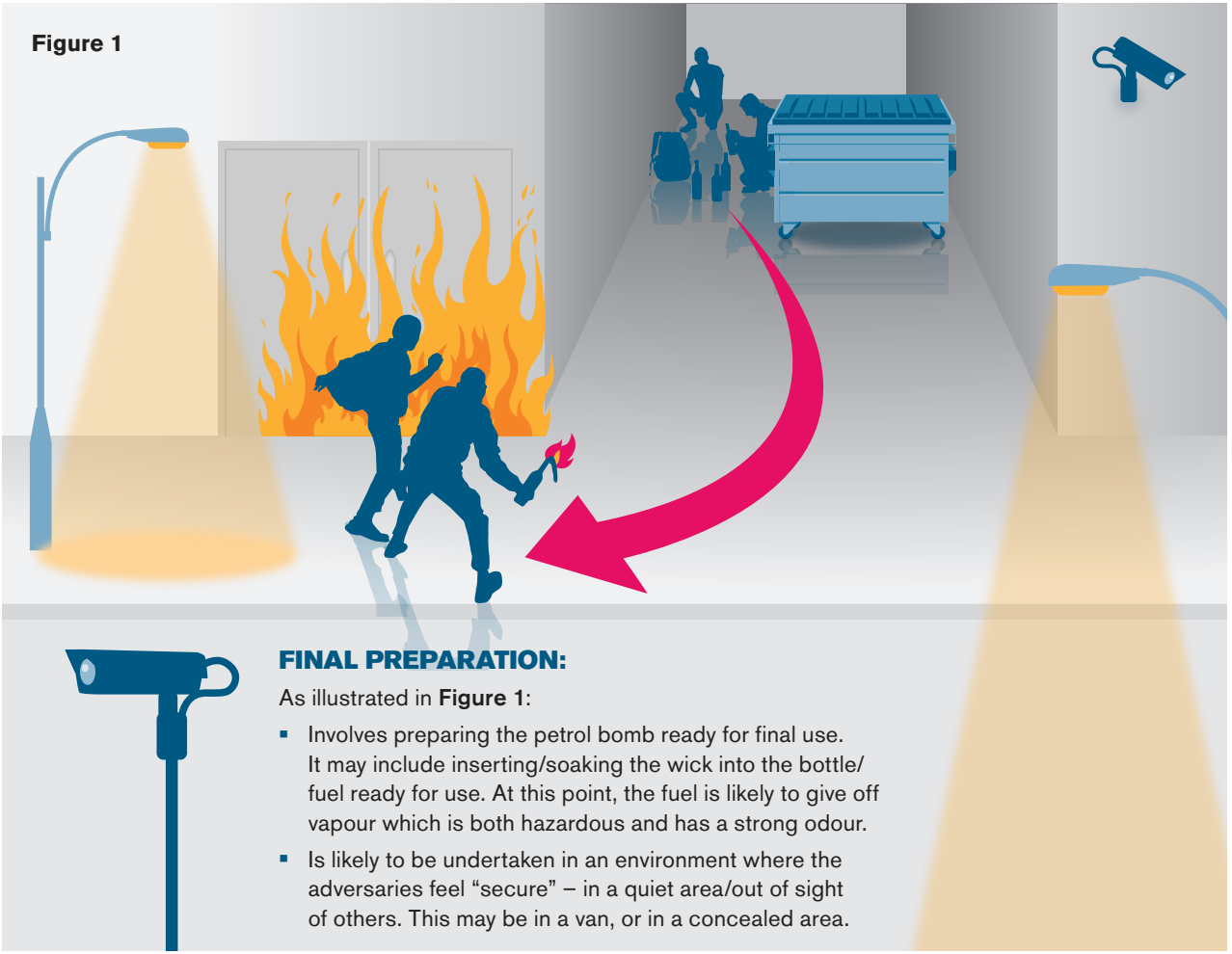
Success is likely to be influenced by:

- The level of sophistication of the attackers
- The amount of time they have taken for planning and preparation
- How capable they are at using fire as part of the attack
- The level of planning and preparation that has been taken at the site to prevent such attacks
- The sites adherence to sound Health and Safety and Fire safety practices.

- **FAW attacks are generally divided into:**
  - Petrol Bombs (PBs) thrown
  - Flammable liquid poured and then ignited
  - Grenades or other device thrown that start a fire.
- While attackers may have formed an intention to use FAW during an attack, they may not always have identified a specific target during the planning phase or as they commence their attack
- An accelerant will likely be used, and petrol is the most commonly used accelerant
- For logistical reasons, it is more likely for a FAW attack to involve more than one person
- Starting a fire(s) requires little, or no training and materials are readily available (e.g. Petrol). As a minimum, a lighter or matches are needed. Petrol bombs are easy to produce
- Fire and smoke can, in certain situations, penetrate defences with alarming lethality and speed. This is compounded if materials, such as plastics, vegetation, clothing and furniture, are readily available at the attack site and can be used as accelerants
- Plots have very occasionally involved the disabling of fire safety systems or interfering with evacuation routes
- Images of fire attacks are likely to increase media coverage, capturing world attention and creating fear
- When combined with other terrorist attack methods as part of an MTA, this becomes a challenging and complex situation to respond to
- Coordinating the response to a fire that has been deliberately started as part of a multifaceted attack is likely to be very difficult for both site staff and emergency services. Planning and preparing for such a situation can significantly reduce the risks
- The cause of a fire can on occasion be hard to attribute. However, when used as part of a terrorist attack, it is likely to be more blatant, and the attackers may also claim responsibility to promote their cause.

FAW - PETROL BOMB SPECIFIC ATTACK FEATURES

- Petrol bombs are more likely to be thrown from close range – typically only metres away
- It is more likely for a FAW attack to involve more than one attacker, due to the practical issues associated with deployment of the weapons
- Preparation and lighting are likely to take place in separate places. Preparation may take place in a quiet area close to the target. Lighting is likely to take place adjacent to the target
- Small bottles can be very effective and are easy to disguise and carry
- Attackers may carry several prepared PBs to an attack site in a backpack or other bag without them being seen
- Trials have indicated that attackers are likely to throw a PB within about 40 seconds of lighting the wick.



THE HAZARDS

The hazards created by a FAW can be described as follows:

FIRE – makes the response more difficult. People targeted may evacuate into danger or become trapped. Both fire and smoke will create a collapsing timeframe for emergency responders to save lives. Emergency services may need to fight the fire and rescue victims at the same time as responding to the attackers.

SMOKE – poses a very significant risk to people. Fire produces gases that can cause rapid asphyxiation as well as chemical or thermal irritation. These can very quickly cause a number of effects, which can include disorientation, sickness, difficulty in breathing and death. Smoke can also obscure vision, hampering evacuation and causing confusion.

SPEED AND SPREAD – fire and smoke can spread very rapidly and across a wide area and so considerably increasing the size of the area to be contained. Fire and smoke are likely to spread even faster when an accelerant is used in an attack.

CONFUSION – any terrorist attack is likely to cause a degree of confusion to victims, security staff and emergency service responders. Adding a FAW attack is likely to significantly complicate the command, control and coordination of the response. Fire alarms sounding continuously during an attack may well add to that confusion and could automatically unlock doors, effectively breaching any imposed lockdown. Fire alarms may also be unintentionally disregarded as SCR operators and building occupants attempt to react to multiple threats.

COMPROMISE ESCAPE – attackers may attempt to hinder the escape of building occupants by blocking egress route(s).

MULTIPLE THREATS – as part of an MTA, fire may be utilised simultaneously with other attack methods, such as a person with a firearm or bladed weapon, hunting victims. Consequently, there are likely to be multiple threats manifested in different locations that will need to be prioritised and managed. SCR operators will find it difficult to deal with more than one threat at any one time.

EMERGENCY SERVICE RESPONSE – Emergency service vehicles may be targeted with petrol bombs whilst responding to a FAW attack.

EXAMPLES OF ATTACKS WHERE FAW HAS BEEN UTILISED OR INTENDED

The use of FAW has been seen in recent attacks from those involved in both Islamist Terrorism and Right-Wing Terrorism. The FAW methodology is being actively promoted within terrorist literature.

VENUE	DATE	METHOD	TYPE OF ATTACK
Christchurch, NZ	**March 2019**	A lone and heavily armed terrorist with automatic firearms attacked those attending two mosques. The terrorist travelled between sites in a car, which was subsequently found to contain two 5 litre petrol cans, **intending to use them to augment the firearms attack**.	Petrol in cans to pour at attack site.
Nairobi, Kenya	**Jan 2019**	A group of terrorists targeting a hotel complex threw grenades which ignited cars parked at the main entrance to the hotel, causing chaos and confusion **and distracting the responders**.	Grenades thrown and set fire to vehicles
London, UK	**June 2017**	Three terrorists carrying out a vehicle as a weapon and knife attack were equipped with petrol bombs, which were not used in the attack **(intention not known)**.	Petrol bombs prepared for throwing.
Benghazi, Libya	**Sept 2012**	A group of terrorists attacked US diplomatic premises, failed to access a safe haven, so started a fire **to trigger an evacuation**. The ambassador and a member of staff were trapped and died of asphyxiation.	Pour petrol under locked door.
Mumbai, India	**Nov 2008**	Terrorists armed with grenades and firearms attacked multiple sites. At one site hostages were taken. During the subsequent four day siege the attackers started multiple fires on different floors with the intention of **augmenting their attack, triggering an evacuation and also disrupting and delaying responders**.	Grenades thrown and caused fires in the hotel.
Watford, UK	**2006**	A terrorist took a job at a hotel with the intention of undertaking research to enable him to defeat and disable the hotel security and fire detection systems. The attack was disrupted and during a police search, plans and diagrams of the systems were discovered. **This attack methodology illustrates the complex planning that terrorists may undertake to augment their attack and disrupt and delay the response.**	Fire safety equipment tampered with.

FIRE SAFETY REGULATIONS AND THE RISK OF A FAW ATTACK

Fire safety laws and regulations within Great Britain and Northern Ireland are all based on the principles that:

- The building is designed to support escape and firefighter access. Risk is assessed on the basis that any potential increased risk of a fire starting is mitigated with additional control measures
- The requirements are based on a single fire which is likely to spread
- The building designers and the 'responsible person' **are not required to** consider multiple fires being started deliberately and simultaneously
- There is no requirement to consider:
  - Additional threats to life developing simultaneously (such as a person(s) attacking building occupants or responders with weapons), which will complicate the actions to be taken
  - Any attempt to intentionally hinder escape or the evacuation of the building
  - Fires starting simultaneously in multiple locations
  - An attempt by third parties to intentionally compromise fire protection measures.

There are variations in fire safety legislation and regulation as a result of devolved powers across the United Kingdom. Those responsible for a site must ensure that their site complies with the laws and regulations that are applicable to their site.

In England and Wales, every business or other non-domestic premises are required to complete a Fire Safety Risk Assessment. There is a requirement for a 'responsible person' to ensure it is completed and the necessary mitigations are introduced. They may either undertake the risk assessment themselves or seek the support of a Fire Risk Assessor. Detailed additional information is available from the Home Office in relation to all aspects of fire safety in the workplace[1].

It must be understood that whilst the Fire Safety Risk Assessment is looking to assess fire safety risks that could reasonably occur at any time, the security risk assessment may identify the need for additional consideration of the risk of a FAW attack.

If the security risk assessment has already identified that additional measures need to be taken to reduce the risk of an MTA, then consideration should also be given to the FAW risk and the need for additional mitigations.

[1] https://www.gov.uk/workplace-fire-safety-your-responsibilities

If it is established that the level of risk of a FAW attack requires additional mitigations to be introduced, then detailed consideration should be given as to what these might be. The assessment process and future planning must include the involvement of the appropriate stakeholders. It is essential that those involved in both fire safety and security planning work together. This will mean that:

- There is a collective understanding of the risk and the need for additional mitigations
- The effect of the existing fire safety and security measures are understood
- That the additional mitigations that need to be introduced acknowledge, and do not compromise, the fire safety measures
- Any variations to the Fire Safety Risk Assessment and Plan should only be considered when fully understood and agreed by all the stakeholders. This will allow the stakeholders to agree the priorities for the response plan in advance of a FAW attack taking place.

Annex A sets out a high-level process that identifies if additional measures are required.

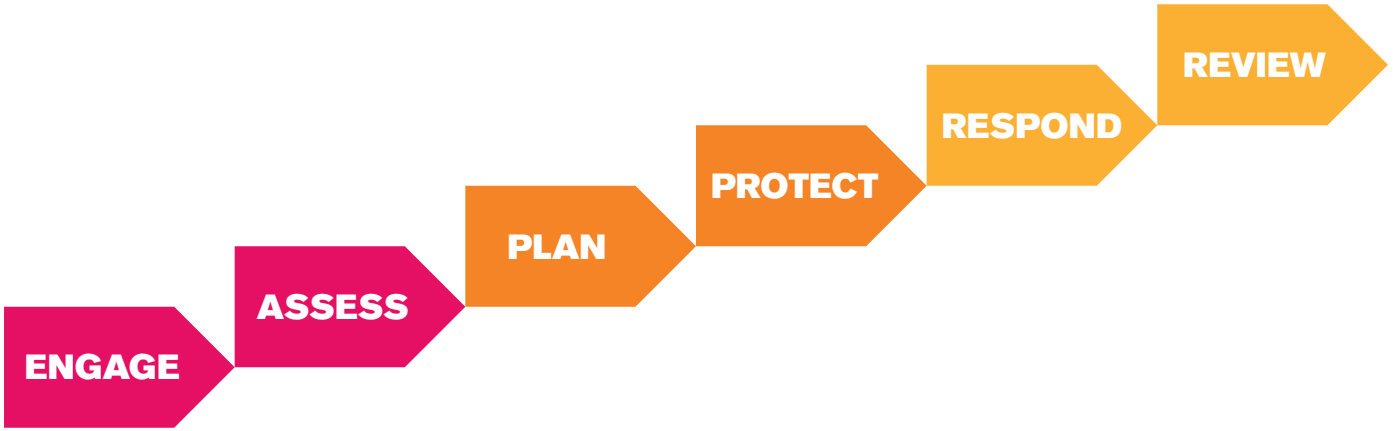
KEY CONSIDERATIONS

The starting point for every site is to assess if and how the threat and risk of a FAW attack are likely to be manifested and then identify the mitigations appropriate to each site. CPNI Guidance on MTA provides useful information that should be considered when identifying the mitigations that may need to be introduced to protect a site against an MTA attack. These mitigations will remain relevant when planning to reduce the risk of a FAW attack. The steps detailed in this document are specific to the mitigation of the FAW related risks.

Through analysis of previous MTAs involving the use of FAW and live simulations of such attacks as part of CPNI MTA trials (also known as ASCEND), CPNI has been able to identify a series of points that should be considered as part of the site safety and security planning.

Six steps have been identified, under which a series of questions are posed that should be considered when deciding how a site's plans could be adapted. The measures that are taken at each site will be different and not every point will be applicable to each site.

These steps are summarised below and set out in more detail in the following pages.



STEP 1: ENGAGE

- Have all the right stakeholders been identified and involved? Involve the right internal and external stakeholders in the assessment and development of mitigations.
- Who is responsible for both planning and operational decision making? Who should be involved in the planning to ensure an effective and integrated response?

ENGAGE

INTERNAL STAKEHOLDERS

As those responsible for site security planning consider the threat to their site of a FAW attack they should bring together 'the responsible person', the person completing the Fire Safety Risk Assessment and those responsible for site operations, security and health and safety functions to support this work.

They will need to work together to identify the most likely threat scenarios for the site and the appropriate mitigation measures. Together, they must ensure that the mitigations integrate into a single plan that is intended to prevent, protect and improve the response to an attack in which FAW is used.

This must include making certain stakeholders work together to deconflict the mitigations identified as a consequence of the Fire Safety Risk Assessment and those identified through the FAW risk assessment. However, if it is necessary to introduce FAW related mitigation measures that do conflict with the fire safety mitigations, detailed discussions must be held to ensure that the reason for the conflict is understood and an agreement reached as to why this may need to happen.

EXTERNAL STAKEHOLDERS

Consideration must also be given to how the plans that an individual site develops are integrated with those of their neighbours. This is important for both sites of multi-occupancy and sites where attack locations, evacuation routes and assembly points may impact the space common to adjacent sites (also known as grey space).

Detailed guidance is provided about security planning in the grey space and for sites of multi-occupancy in the CPNI guidance document titled **Responding To Terrorist Incidents – Developing Effective Command and Control**.

EMERGENCY SERVICES ENGAGEMENT

As part of the planning for a FAW attack, consideration should be given to seeking additional guidance from the local Fire and Rescue Service's (FRS) National Inter-Agency Liaison Officer (NILO) and the local Police Force's Counter Terrorism Security Adviser (CTSA). They should be able to support the assessment of the risk to a site, advising on the measures that can be implemented and providing information into how the emergency services will work together to respond to a FAW incident.

The NILO is a senior fire officer specially trained to coordinate the fire service response to a multi-agency response to terrorist and other incidents. They are trained to provide advice in both the planning and incident response phases. They understand the fire safety issues and how the fire service will work with the other emergency services to respond to an incident. Where necessary the NILO may draw upon detailed guidance from the local FRS Fire Safety Inspection Officers.

The role of the CTSA is to provide help, advice and guidance on all aspects of counter-terrorism protective security to specified industry sectors. They are also responsible for the provision of protective security advice to crowded places. Working together will enable them to bring their combined knowledge and experience together to balance the fire safety and security related issues to support the site develop their plan. The ownership of the fire safety and security plans and the corresponding risk assessments will remain with the site.

STEP 2: ASSESS THE RISK

- What level of risk does the site attract in relation to an MTA attack?
- Has the FAW risk been identified?
- Is the MTA risk unacceptable? If yes, consider FAW as an additional MTA risk type.
- What level of risk is identified by the Fire Safety Risk Assessment and what mitigations have been developed in response?

ASSESS

The purpose of this step is to identify those sites where there is an unacceptable risk of a FAW attack and where additional measures are deemed necessary. Not every site will need to take further action.

FIRE SAFETY ASSESSMENT

When considering a FAW attack, it is important to understand how the risk of fire has already been assessed and the steps taken to mitigate it. Every business or other non-domestic premises are required to complete a Fire Safety Risk Assessment. This will identify the measures needed to reduce the risk of a fire caused by the everyday risks of fire. A Fire Safety Risk Assessment requires the completion of several steps:

- The identification of the fire hazards that are present at the site
- The identification of the people at risk who are present at those premises
- The need to evaluate the risk and decide what mitigation is required.

SECURITY RISK ASSESSMENT

As part of a security risk assessment sites should have identified the level of risk of an MTA and the need to mitigate that risk. If the MTA risk has been identified as unacceptable and additional measures should be taken to reduce this risk, then an assessment should also be made of the risk of a FAW threat being manifested and the additional measures that should be taken to mitigate this risk.

FAW may be delivered in several different ways, and an assessment should be made as to the most likely and high risk FAW attack method to be used at a site. As identified in the threats section, the following are examples of the FAW threats that may need to be assessed:

- Attackers arrive at the site armed with knives and petrol bombs. To **cause a distraction**, they throw a petrol bomb at a vehicle parked immediately outside and run into the reception area and attack those in their way
- Attackers armed with firearms enter a venue and pour petrol into the reception area and light it to trigger a fire alarm, which in turn will **cause the building occupants to evacuate** from the building through other escape routes where they will be attacked
- Attackers enter the site armed with knives and petrol bombs. They attack people in the reception area and move into the building. As they move through the building, they throw petrol bombs into several areas to augment their attack **and to disrupt or delay the response**.

CPNI assess it more likely that for lower sophistication attacks, the use of petrol bombs is more likely to occur at the towards the beginning of an attack rather than later in the attack.

These threats should be tailored to each site and be scored through the site security risk assessment. During this process, the mitigations offered by the Fire Safety Risk Assessment should be considered.

The risks identified as being unacceptable should now be taken into step 3, the planning process.

For sites where the risk of an MTA is seen as unlikely and no additional measures have been taken then it can reasonably be assumed that the risk of a FAW is also unlikely and the steps taken to reduce the risk of a fire identified in the Fire Safety Risk Assessment and security measures already in place should be sufficient.

STEP 3: PLAN

- What planning process should a site go through to ensure they have identified the mitigations that are now required?
- How can sites ensure they have effectively adapted their security plans to ensure that the plans are fully integrated with the site's fire and other safety plans?
- What is the training and briefing requirement to increase knowledge of the threat and response? What products are required to deliver this?

PLAN

THE PROCESS

The identification and development of the mitigations of the FAW risks will require a detailed planning process. This process must be recorded so that if necessary, an audit of the decisions made and actions taken can be produced. It should provide the justification and details of the consultation that took place.

The key difference with the planning process to reduce the risk of a FAW attack, is the need to expand stakeholders involved in the planning process to include those responsible for fire safety within the site and, as highlighted above, to also include a representative from the local FRS within the planning process.

The ownership of the FAW risk may not be straightforward, due to different individuals being responsible for security and fire-related risks. If this is the case, it is important to ensure that both are included as the planning develops. The accountability for the planning and the risk ownership must be clear.

IDENTIFY FINAL PREPARATION POINTS (FPP)

At an early stage time should be spent identifying and mitigating the use of Final Preparation Points and the most likely locations for attack commencement.

It is very important to prevent a FAW attack getting inside a building or other such confined areas where people are likely to be. The security plan should therefore:

- Identify likely FPPs in the general vicinity of the building and make these difficult for adversaries to exploit through the use of visible security, surveillance, deterrence communications etc. Prepping of petrol bomb takes time and an attacker is likely to feel very exposed during this period
- Identify likely locations where FAW attacks are likely commence (i.e. the location where the petrol bomb is likely to be lit). Adversaries are unlikely to travel far with a lit petrol bomb, because once lit it is highly visible and the perpetrators are vulnerable. It is likely that the "ignition" location will be:
  - Very close to the target (within metres, not hundreds of metres)
  - In a setting where the lighting of the wick can be concealed from others – this may be a quiet spot or if more than one attacker, in a huddle
  - Have a plan to implement measures to prevent the petrol bomb(s) from entering the building upon initial detection – through for example implementation of lockdown.

STEP 3: PLAN

EVACUATION PLANNING

Any evacuation plan will need to consider that there are two simultaneous hazards: fire(s) and a roaming attack(s). The evacuation plan should:

- Ensure occupants are aware of the hazard locations/ compromised exits
- Be informed by an assessment of the implications of mass movement of people, to reduce the risk of crowd related issues/hazards/injuries
- Make sure people are familiar with the escape routes, not just the closest/most convenient to their normal area of work.

Discussions should be held with neighbouring sites to make certain that plans are integrated and do not create safety issues due too many people being evacuated along the same routes or routes crossing each other.

ASSEMBLY POINTS

Evacuation planning should also review how evacuation assembly points are used. During an MTA, assembly points that are easily identifiable and only a short distance from the evacuated building may create an additional risk. They may create a focal point for a secondary attack. For an MTA it is recommended that people do not meet at an assembly point and instead they should disperse away from the site. This could still be to a predetermined point that is some distance from the site. Multiple points can be used so that only small groups of people gather well away from the attack site.

TRAINING AND BRIEFING

A training and briefing plan will be required to make certain that the site occupants are familiar with the response plan that has been developed and that the necessary training is provided to:

- Fire safety officers
- Fire marshals
- Security officers
- Front of house staff
- Control room staff.

Security and other front line personnel should be trained to recognise the threat, as this will assist in making timely interventions and responses. Such training should include the action to take:

- If you smell a strong odour like petrol about a person
- If you see someone who is acting suspiciously and also carrying items that could be associated with FAW – such as a wine/beer bottle with a rag, a petrol can, a daysack with a strong odour of petrol etc
- If you see someone with a lit petrol bomb approaching
- Once a petrol bomb has been thrown
- If a burning petrol container is left abandoned (e.g. a burning 5L fuel can).

STEP 3: PLAN

TRAINING AND BRIEFING CONT...

Training should include making certain that those staff who may be first to respond understand how they may be able to tackle a fire and if possible, put it out, and deal with a person who is on fire. They must also understand the limitations of their ability to deal with a fire, and when for their own safety, they should leave the fire and evacuate. This should include training on:

- The use of fire extinguishers, including the most appropriate type of extinguisher for the circumstances. Incorrectly using or selecting the wrong type of extinguisher on a fire where an accelerant has been used, may have a detrimental outcome[2]
- Using fire blankets
- How a person should respond through smoke, i.e. keep low and cover their mouth with a cloth or towel
- A person on fire should if possible lie down and roll on the ground. Assistance may be required if the person is incapacitated. **Stop-drop-roll**
- If someone is injured seek help. **Cool and Call.**

The emergency services should always be called when a fire is discovered.

Further guidance may be obtained from your local fire and rescue service in relation to the above points.

Personnel need to understand how fast fire and smoke may travel in a normal fire and how with a FAW where it is likely that an accelerant has been used and multiple fires may be started simultaneously, the fire and smoke will spread faster.

Briefings should be used to inform the broader occupants of the site of the procedures. This should be included in the fire safety briefings that should be provided to all new staff. Careful planning will be necessary for sites where there is a high turn-over of staff to make certain that all new arrivals have the relevant briefing.

[2] https://www.ukfrs.com/guidance/search/portable-fire-extinguishers

FIRE SAFETY CHECKS

A plan should already be in place to conduct Fire Safety Checks. These may need to be conducted either hourly, daily or on a weekly basis. Consideration should be given as to how checks can be augmented in the event of an increased threat is identified to reduce the risk of a FAW attack. This could include additional checks to ensure that combustible materials are kept to a minimum at the entrance to buildings and exit routes kept clear. Consider how displays and decorations may create an additional target.

RESPONSE PLAN

A response plan should be developed to ensure that the site is prepared for and ready to react to a FAW attack. As the planning is taking place, the proposed response plans should be tested through tabletop exercises and then occasionally tested through the use of a live exercise. This could involve using the regular fire evacuation exercise to test an evacuation in a FAW scenario where a number of normal exit routes have been compromised. Any learning taken from the tabletop or live exercising should be taken, assessed and, if appropriate, changes made to the plan.

STEP 4: PROTECT

- Could additional protective security or fire safety measures be taken?
- Have the risks associated with evacuation routes and assembly points been mitigated?

PROTECT

Fire safety and security measures will already be in place. It is necessary to identify how these measures can be augmented or additional measures introduced to provide further protection.

FIRE PROTECTION

There are detailed and specific requirements that must be acknowledged in the design and build of all buildings in England. These are laid out in the Building Regulations 2010 and are specified in Approved Document B Fire Safety – Volume 2: Buildings Other than Dwellings. This document has recently been revised in response to the Hackett Review into the Grenfell Tower tragedy.

It is important to understand the level of fire protection that has been designed and built into the construction of a building to protect:

- The building as a whole
- Specifically protected assets
- Refuge points
- Means of escape.

A protected asset may be the security control room. A refuge is a protected area that is a safe place for a disabled person to wait in until an evacuation lift or assistance to leave via the stairs is provided. It is important to understand how long the doors and walls in these areas can protect against fire. A means of escape should also be available to enable evacuation away from the protected space should it become compromised.

Additional measures may have been added which could include:

- Fire detection systems
- Fire alarms
- Sprinklers
- Firefighting equipment such as fire extinguishers and fire blankets
- Fire Engineered solutions.

Having understood the fire safety measures in place, it is critical to make certain that these are not compromised as additional measures are considered to protect a site.

STORAGE OF COMBUSTIBLE MATERIALS

The location, storage and use of combustible items within the site should be considered. They should generally be stored in a safe and secure area, if this is not possible, then additional steps should be taken to have them removed or protected.

LIFTS AND ESCALATORS

If a site has lifts and escalators, consideration should be given to how their use may need to change during an evacuation. If attackers are in a site armed with petrol bombs, the consequence of one being thrown into a closing lift carrying people is likely to be catastrophic.

STEP 4: PROTECT

PROTECT

DESIGN CONSIDERATIONS

Consideration should be given as to whether any barriers that have been introduced as part of the protective security solution, which may include walls, glazing or doors, could offer an appropriate fire protection level. Conversely, it may be necessary that some locations with fire protection may require an additional level of security protection to make certain that not only are they protected from fire but also prevent entry.

DOORS

It is very important to understand how formal entry and exit points may be impacted by a fire alarm activation. Stakeholders should identify if a risk is created when an alarm is activated and doors that are normally locked are automatically opened. An insecure door will subsequently impact any plan to implement a site lockdown and could potentially allow attackers on to access a site. Sites need to consider balancing security with fire safety obligations. Any consideration to override fire safety protocols however must be agreed in advance with the key stakeholders and the decision recorded.

During the planning stage a review should be completed of the doors to make sure they can't easily be secured by use of a chain, padlock or other item or their use precluded in any way by an attacker. How easy is it to lock adjacent door handles together so a door cannot then be opened or block the doors in other ways?

During operation of the site proactive monitoring should take place of fire escape routes, particularly external doors (include escape only) need to be monitored for suspicious activity and action quickly taken to resolve any issue. This should include looking for suspicious persons and objects. Any breaches or other inappropriate use of such doors should be dealt with.

CPNI trials have shown that fire rated doors do not normally prevent burning liquid fuel from passing beneath a door, thus potentially compromising the effected room. This can come about either because the liquid can pass:

- Between the floor surface and the bottom of the door
- Or in the case of raised floors, within the void beneath the surface of the raised floor.

Wherever possible, you should try to prevent the flow of fluid passing under the door.

The following mitigations should be considered for situations where the fuel could pass between the floor and the underside of the door:

- Prevent the flow of fluid by fitting a seal or threshold plate
- Remove combustible materials (e.g. waste bins) from being adjacent to the door/within the spread of the fuel
- Fitting a seal or threshold plate. Ensuring they do not compromise the fire rating or the operation of the door
- Reduce the horizontal spread of the fuel by using for example, floor coverings/mats that inhibit spread and are also flame retardant. Whilst the flame retardant material will not fully counteract the full effect of a fire, it will initially slow the rate of spread of the fire. The fire, however, will still need to be extinguished
- Having the appropriate type of fire extinguisher on hand
- Design the space to have a secondary means of escape.

In situations involving raised floors, in addition to the above factors consideration should be given to selecting a floor system that will prevent a liquid from passing into the void beneath. Further consideration should be given to limiting combustible materials within the highest risk area – either the floor itself or items located within the void.

It is important to understand the fire ratings of doors and how intumescent strips have been fitted to them. The strips are designed to expand under extreme heat and close off the gap between the door and the frame to prevent the passage of fire and smoke. However, they are typically only installed on the vertical edges of the door and across the top of the door, not along the bottom.

WINDOWS

Premises with large windows that front onto areas that can be easily accessed by the public may be vulnerable to having petrol bombs thrown through the windows. The risk is likely to be higher if only basic float or annealed glass is used and the

STEP 4: PROTECT

window area is large enough to provide an easy target.

Trials showed that glazing of 8mm plus is likely to be resistant to a breach by an incendiary device formed of a glass bottle being thrown against it. In addition, glazing units formed of a pair of 6mm panes (i.e. double glazed) of annealed or toughened glass are likely to be resistant to a single attempt to breach the glass using similar devices. In addition, glazing units formed of a pair of 6mm panes (i.e. double glazed) of annealed or toughened glass are likely to be resistant to a single attempt to breach the glass using similar devices.

CPNI do not recommend the use of single panes of 4mm or 6mm annealed or toughened glass. Where this is unavoidable the use of 175 micron anti-shatter film fitted on the inside face can give good resistance against a single strike from a bottle.

The best level of resistance is achieved by using laminated glass or polycarbonate sheeting. This has the potential to withstand multiple strikes.

FLOOR COVERINGS

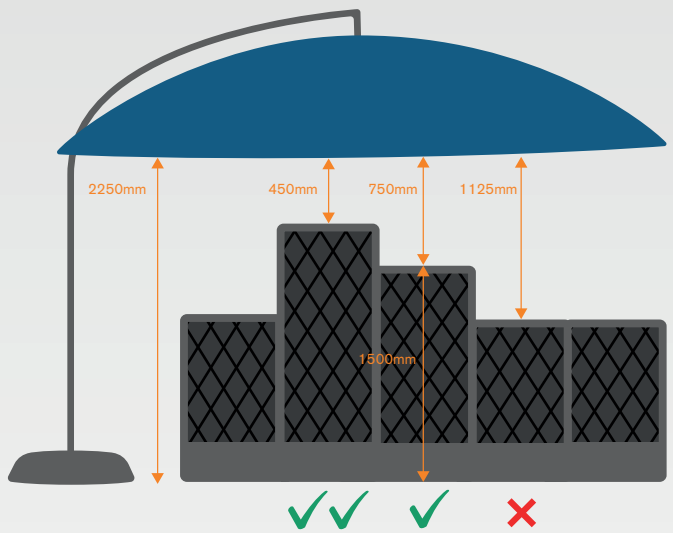
Trials involving various floor types have shown that fuel will spread more quickly and widely across smooth non-absorbent floors, such as tiles, vinyl, or laminated floors, than across more absorbent floors such as carpet. In addition, trials indicated that fire retardant carpet tiles offered a better level of resistance to the flame spreading across the floor.

OUTSIDE SEATING AND GATHERING AREAS

Crowded areas outside hospitality and entertainment venues may be attractive targets if security measures prevent easy access into the premises. The target could be a seating area outside a bar or café or the queue into the venue. Careful consideration should be given to the design of these types of areas. A vertical screen around the outside is likely to offer some protection against a PB thrown over it.

It is recommended that the minimum height of a screen to prevent an accurately aimed projectile being thrown at a person is about 1500 mm high. In addition, the smaller the gap between the screening and the ceiling or roof covering, the more difficult it will be for an attacker to accurately target a person the other side of the screen. This is illustrated in **Figure 2**, which shows that the higher the barrier and the smaller the gap, the greater the protection offered.

Figure 2



PROTECT

STEP 4: PROTECT

A canopy, parasol or other covering over a seating or standing area will also protect it, as it will make it more difficult for an attacker to throw a PB at a specific target. Greater protection will be generated when a screen is placed around a gathering area, and a covering is placed over where people are gathered.

CLOTHING

Clothing made from acrylics, nylons etc are highly hazardous to the wearer in the event of catching fire. Any flame coming into contact with clothing made from these materials will very rapidly cause the clothing to burn and is likely to lead to severe difficulties for the wearer. This could be caused by splashes of burning fuel. Therefore, the use of materials that are more resistant to flames should be considered.

INCREASE AWARENESS

The awareness of all staff should be raised in relation to the FAW risk. This could include briefing them to report any sign of suspicious activity. This may include:

- The smell of petrol or other accelerants where they are not expected
- Firefighting equipment being moved
- Emergency exit routes being blocked or tampered with
- Bottles left in an unusual place.

PROTECTION OF FIRE SAFETY SYSTEMS

Consideration should be given as to the vulnerability of fire safety systems being tampered with. This could include understanding how fire alarm (and other equipment) panels can be accessed and how the positioning of firefighting equipment and detection systems may increase their vulnerability to interference, or disablement.

STEP 5: RESPOND

- Have response plans and standard operating procedures been adapted?
- How do operational decision-makers improve their situational awareness in order to make effective and appropriate decisions?
- Have safety and security response plans been deconflicted?

RESPOND

It is important that when any incident is being responded to, those responding have an open mind as to what the cause of the incident may be. The cause of the incident may not always be immediately apparent and may not be as it first seems. Vehicle As a Weapon (VAW) attacks have initially been mistaken for straightforward vehicle collisions. Similarly, a fire alarm sounding should not immediately be assumed to be just a fire. A rapid assessment should be made of what else is known to be taking place in the building. Information from the fire panel, CCTV coverage and reports from security officers and staff are likely to inform this assessment.

Any terrorist attack that results in a fire being started, deliberately or recklessly, will add considerable complexity to the response. It is more complicated for those at the site to establish what is taking place and then prioritise their actions. The emergency services have protocols for responding to MTAs. The response to a FAW will follow the same principles but is complicated by having to deal with the terrorists and fighting the fire simultaneously.

EXERCISES

The response to the attack must be carefully tested and exercised, initially, through the use of tabletop exercises and eventually through the use of a live play exercise.

The objectives of any exercise should be equally focused across the phases. Understanding how the internal security team works with the fire safety team before the emergency services arrive. Then how both teams can support the emergency services deliver their response. Depending on the site's location, consideration may also need to be given as to how the site security team works with their immediate neighbours.

A tabletop exercise should include testing how the site would respond to a scenario in which a fire detection head is activated whilst they are already dealing with an MTA.

ALARM MANAGEMENT

If an alarm is activated, the SCR operators must understand the protocols for managing that alarm. The "responsible person" for the site can explain the local protocols as to how alarms will be responded to. An example of such a protocol may be as follows:

- If the alarm is monitored remotely, the monitoring centre will likely call the site back. Providing the call is answered immediately; they will not automatically pass the call to the relevant FRS. The control room may also have an opportunity to respond to and investigate the alarm before the FRS is called
- The site risk assessment may determine if an alert is received from a highly reliable indication of fire, such as sprinkler activation, co-incidence detection or call point activation. In these cases it may be considered appropriate to request the attendance of the FRS immediately
- For certain premises, the protocol may require the immediate call of the FRS without any checks as to the validity of the alert.

MAKING ANNOUNCEMENTS

When a fire alarm is activated, and the SCR are able to use a Public Address – Voice Alarm (PA-VA) system, they should silence the alarm before any announcements are made. This will increase the chance that the site occupants can hear the announcement, rather than it being lost in the noise of an audible alarm.

If a voice alarm is activated when an evacuation is triggered, the SCR must take care that the alarm does not override more specific announcements that the SCR make using the PA-VA. However, if an evacuation is called, it must be made very clear to the building occupants that this is the case.

STEP 5: RESPOND

LOCKDOWN

It has been established through the CPNI ASCEND trials that if an MTA is taking place and a fire has been started, the SCR must consider carefully how they should respond and use announcements or if it is feasible to lockdown the site.

If a fire has been detected in a building, with or without an attack taking place, it is unlikely that a lockdown should be triggered or if lockdown is in place before the fire is triggered that it remains appropriate to hold it in place. It is more likely that the most viable option is for the building occupants to be told to escape from the building rather than risk becoming trapped inside a burning building. They should however be informed of the location of the attackers and the type of weapons they are using.

If a building is burning and an attack taking place, it may not be viable to direct people as to where they should go. It is better to tell them where the threats were last known to be located. Telling people ***"Fire in……"*** and ***"Armed attackers in ……, evacuate"***. This will allow the occupants to consider the information against their own circumstance and decide on the most appropriate course of action.

EVACUATION OF THE SCR

It is important to have a contingency plan available that sets out the Standard Operating Procedure (SOP) to evacuate the SCR. It may be necessary to evacuate the SCR if a fire has taken hold and is now creating a significant danger to the lives of the SCR operators. If an evacuation of the building is called and it becomes necessary to evacuate the SCR, the operators must know exactly what they should do and have practised the plan. The plan should cover the following:

- If technically feasible the control of the SCR equipment should be handed over to the fallback SCR site
- The equipment in the SCR should be secured or disabled as operators leave
- The emergency services should be informed of the evacuation
- An announcement should be made to tell those in the building that this is the last announcement, doing this in a way that does not alert the attacker to them as they escape
- The announcement should only say that this is the last announcement right at the end
- The operators need to consider how they:
  - Get ready to leave, if possible, waiting for the attackers to move away from their floorplate
  - Identify a route which is currently free from attackers and fire
  - Make the final announcement and leave immediately.
- If the SCR have eyes on the attackers, they should say: ***"There are attackers currently in……, and there is still a fire in…… This is the last announcement. Repeat. There will be no further announcements."***
- If the SCR don't know where the attackers are, they should say: ***"Last known location of attackers is…… and there is still a fire in…This is the last announcement." Repeat. "There will be no further announcements."***
- If available a pre-recorded message should be left playing repeating the fire evacuation message.

STEP 5: RESPOND

CALLING THE EMERGENCY SERVICES

A FAW attack will be complicated for the emergency services to coordinate and respond to. The information supplied by the SCR to the emergency services will provide a critical understanding of the threat, allowing them to formulate an initial plan and coordinate the response. It is only necessary for the SCR to contact one emergency service. The service they initially contact will take responsibility for relaying information to the other emergency services.

To support the response, the CPNI guidance document titled **Responding To Terrorist Incidents -Developing Effective Command and Control**, sets out the information that should be passed to the emergency services 999 call handler as a priority.

FIREFIGHTING PLANS

An Operational Response Plan, a Site Specific Information Pack (SSIP) or Premises Information Box (PIB) may be available at certain sites considered of higher risk to fire. The local FRS will complete them with the help of the site representatives. They will provide the FRS Incident Commander arriving at the scene with a readymade information pack that will provide key information to them about the site and the identified fire risks. They must be held in a location that is immediately accessible but unlikely to be directly impacted by the most likely FAW threat scenarios.

PLACEMENT OF FIREFIGHTING EQUIPMENT

Consideration should be given to the selection and positioning of fire extinguishers, fire blankets, and other firefighting equipment, to support the response to the likely FAW threat scenarios that have been identified. The following are amongst a wide range of factors that should be considered:

- Foam and water based extinguishers work well against a wide variety of fires
- Foam, dry powder or CO2 extinguishers are considered most suitable for use against flammable liquids such as petrol(type B fires)
- The use of dry powder in confined spaces should be avoided as they may create breathing problems and so should only be used inside if there is no alternative
- A CO2 extinguisher will not be effective if there is free flowing liquid
- The use of a water based extinguisher on a liquid fire may cause the fire to spread as the fuel will float on the water
- Small extinguishers have a limited capacity and may have limited impact on dealing with a person on fire.

For each scenario consideration should be given to the type and proximity of firefighting media in relation to the risk. Asking, is the right type of extinguisher available to deal with the anticipated fire?

Further guidance may be obtained from your local fire and rescue service.

STEP 6: REVIEW

- Is there a plan in place to ensure that:
  - All the mitigations work effectively
  - That staff have had the necessary training and briefing
  - All measures are regularly practised and exercised.
- That the risk of a FAW attack is regularly reviewed.

REVIEW

The review activities are divided into three clear areas. These are:

- Making certain that all the necessary planning tasks have been completed
- Undertaking regular readiness checks
- Undertaking a regular review of the risk of a FAW attack.

COMPLETING THE TASKS

A considerable number of tasks have been identified that a site should consider as they are deciding what additional measures, they should take to protect their site from a FAW attack.

Annex B provides a useful checklist that should be used to confirm that all the tasks identified have been considered and where necessary completed.

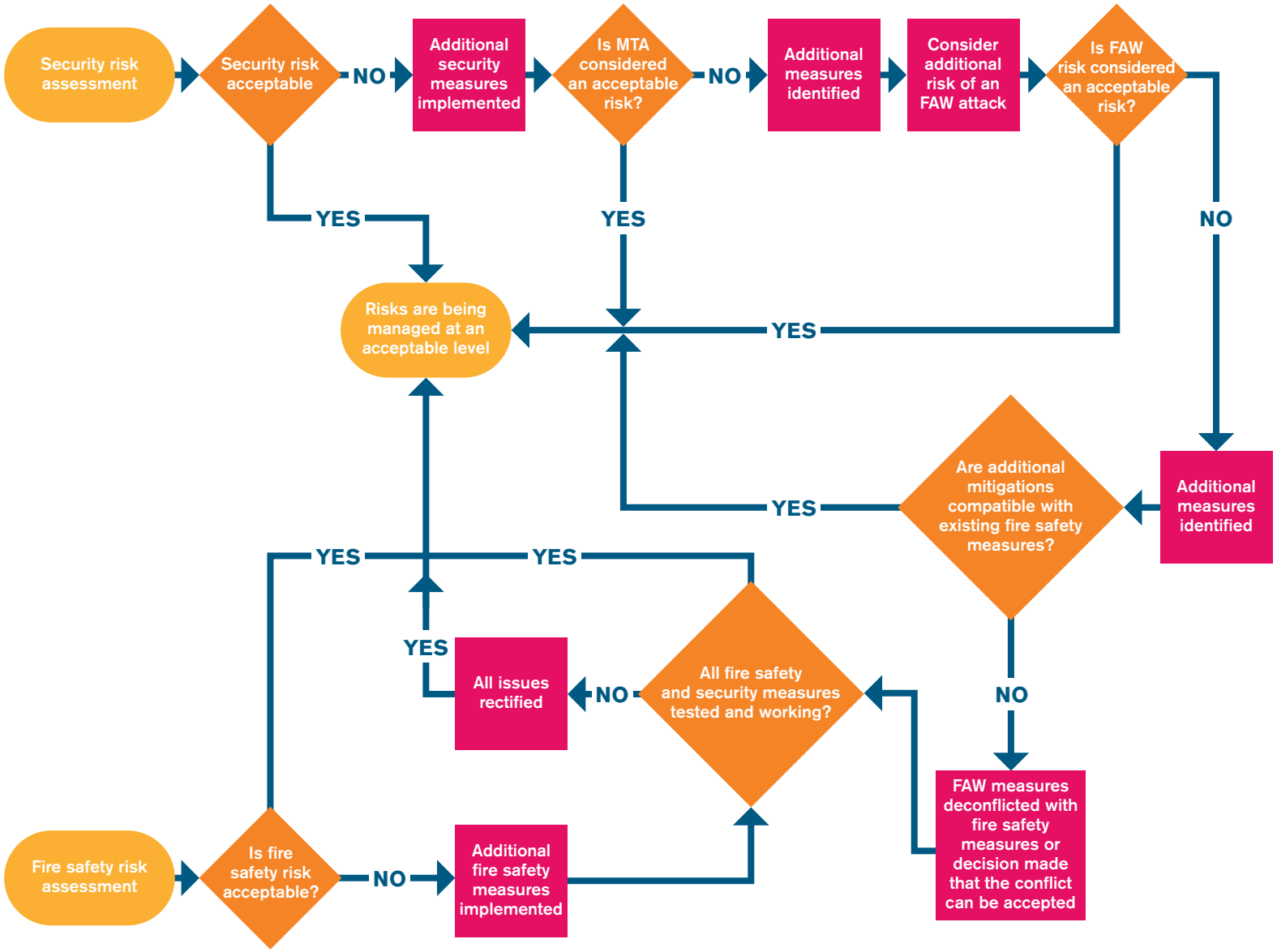
READINESS CHECKS

Checklists should already be in place that will be used to confirm that elements of both the security and fire safety planning remain in place.

REVIEW THE RISK

As with every security risk, a regular review should take place to determine that the likely threat scenarios remain the same and that the risk of them being manifested remains the same. This should be undertaken at regular intervals and also in response to any use of FAW as an attack methodology both nationally and internationally.

ANNEX A


Security risk assessment
Security risk acceptable
NO
Additional security measures implemented
Is MTA considered an acceptable risk?
NO
Additional measures identified
Consider additional risk of an FAW attack
Is FAW risk considered an acceptable risk?
YES
YES
NO
Risks are being managed at an acceptable level
YES
YES
Are additional mitigations compatible with existing fire safety measures?
Additional measures identified
YES
YES
YES
All issues rectified
NO
All fire safety and security measures tested and working?
NO
FAW measures deconflicted with fire safety measures or decision made that the conflict can be accepted
Fire safety risk assessment
Is fire safety risk acceptable?
NO
Additional fire safety measures implemented

ANNEX B

Preparing your organisation's response to a **Fire As A Weapon** attack should follow the five steps.

STEP 1: ENGAGE

- [ ] Identify and engage with internal and external stakeholders.
- [ ] Ensure security and fire safety leads and practitioners work closely together.
- [ ] Use the subject matter experts within your local police and fire and rescue services to provide advice.

STEP 2: ASSESS THE RISK

- [ ] Use combined knowledge to assess the risk and identify mitigations.
- [ ] Work with others to identify and address conflicts between security measures and fire safety procedures and life safety measures.

STEP 3: PLAN

- [ ] Ensure the planning process is bought into fully by all those involved.
- [ ] Identify likely FAW attack locations/scenarios, FPP and Ignition Points and use these to inform planning.
- [ ] Develop the security plan around likely FPPs and Ignition points.
- [ ] Consider the need for changes to the evacuation plan and how this may impact on neighbouring sites.
- [ ] Consider the need to change the location and use of assembly points.
- [ ] Provide appropriate level of training and briefing to all internal staff.
- [ ] Review the frequency of fire safety checks.

STEP 4: PROTECT

- [ ] Check the location and type of fire extinguishers and that they are also suitable for FAW scenarios .
- [ ] Make certain that the SCR operators understand the level of protection to a FAW attack that the design and construction of the control room offers.
- [ ] Make certain that combustible materials are safely and securely stored.
- [ ] Decide how lifts and escalators should be used during an evacuation triggered in response to an MTA.
- [ ] Identify how both protective security and fire safety barriers provide an appropriate level of resistance to fire and attack.
- [ ] All external doors and other vulnerable points should be treated as vulnerable locations and proactively monitored. Take action against those that breach or undermine security.
- [ ] Ensure that security staff wear appropriate clothing.
- [ ] Improve all staff's understanding of the FAW risk and the response they may need to make.
- [ ] Confirm that all fire safety systems and firefighting equipment are appropriately protected.

STEP 5: RESPOND

- [ ] Ensure there is a testing and exercising plan in place that ensures that all site occupants are prepared and that the plans work.
- [ ] Review the protocols for managing any fire alarms and the associated command and control arrangements.
- [ ] Ensure that the SCR have considered the content of announcements they may need to make.
- [ ] Review how lockdown could be used during a FAW attack.
- [ ] Make certain the SCR plan is effective and is understood by staff.
- [ ] The emergency services need reliable and accurate passed to them.
- [ ] Some sites may have a firefighting plan left in place by their local FRS. They must be accessible but secure.
- [ ] Review where and what firefighting equipment is available.

STEP 6: REVIEW

- [ ] Confirm all planning tasks are completed.
- [ ] Develop an assurance plan that ensures measures remain effective.
- [ ] Regularly review the risk.