

West Lothian Council

## **Fire Awareness (Preventative measures) – Guidance**

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<b>Contents</b>	<b>Page</b>
AIM	2
FIRE	2
The fire triangle	2
RESPONSIBILITIES	3
The Responsible Person (RP)	3
Fire Wardens (FW)	3
Employees	3
PREVENTATIVE MEASURES	4
Building design	4
Fire Safety Risk Assessment (FSRA)	4
High risk areas	5
Fire control measures	5
Alarms	6
Unwanted fire alarm signals (UFAS)	6
INFORMATION	6
TRAINING	7
MAINTENANCE, TESTING AND RECORDING	7
FIREFIGHTING EQUIPMENT (FFE)	8

## AIM

01. The purpose of this document is to provide guidance on preventative fire measures to West Lothian Council (WLC) Managers, Head Teachers and employees to fulfil their responsibilities and duties that may be required under Scottish fire law. The responsibilities of WLC personnel are outlined within the WLC Fire Safety Policy. Evacuation is covered within a separate guidance document in order to amalgamate other evacuation procedures into one simplistic format.

## FIRE

02. Fire has been responsible for many deaths, injuries and damage to property due to poor control. Most deaths in a fire are caused by smoke inhalation or toxic fumes and not the fire itself. Fire safety is an extremely important part of any risk management system and can be caused by a number of reasons, some are below;

**Poor control of ignition sources i.e. smoking areas.**

**The inappropriate or improper use of equipment i.e. unattended Bunsen burners**

**The lack of maintenance or improper use of electrical equipment i.e. not PAT tested.**

**Arson (the intentional ignition of a fire).**

**The build-up of combustible materials i.e. unemptied waste paper bins**

03. Fire spreads in three ways. Understanding how fires spread can assist in prevention.

**Convection – heat from a fire rises and takes smoke and toxic fumes with it. Keeping fire doors closed helps prevent the spread of smoke.**

**Conduction – heat can transfer through material i.e. a waste paper bin next to a radiator will become hot and can potentially catch fire.**

**Radiation – heat can also travel through the air so combustible materials near a heat source must be controlled.**

### The fire triangle

04. Fire is a chemical reaction and requires three things to be in place in order to happen; oxygen heat and fuel. These three elements are referred to as the fire triangle. Equally, to extinguish a fire one or more of these elements must be removed. The priority is always to put time and effort into preventing a fire from happening before considering reactive measures. A good fire prevention strategy is to keep these three 'elements' separate where possible. Identifying where these three elements are present in the risk assessment and adequately controlling them will greatly assist in fire prevention.



## **RESPONSIBILITIES**

### **Responsible Person**

05. The Responsible Person (RP) is the person within each council building that has been nominated to take responsibility for fire safety measures. The RP's responsibilities include;

**Ensuring the production of an Emergency (Fire) Action Plan, and implementing other relevant measures to ensure statutory or WLC compliance.**

**Making sure every person entering the site is aware of fire procedures or controlled to prevent injury from fire. This includes members of the public, lets and contractors.**

**Ensuring competent people i.e. fire wardens and deputies have been appointed and understand their duties.**

**Suitable housekeeping arrangements have been made to prevent the build-up of combustible materials or the poor control of flammable and oxidising substances.**

**To provide training and information for anyone that could be affected by fire.**

**To co-operate and communicate with other tenants and occupiers.**

### **Fire Wardens (Marshals)**

06. Fire wardens are an important appointment and can assist with both the prevention of a fire and the evacuation if one occurs. They should be given an area of responsibility and made fully aware of what is expected from them. Their duties can consist of;

**Helping to prevent risk in their area by ensuring combustible materials are controlled.**

**Maintaining fire safety standards in the building and providing information to the emergency service on their area of responsibility when requested.**

**Ensuring firefighting and first aid equipment is collected in an evacuation in accordance with the buildings evacuation plan.**

**To instigate the evacuation on alarm by encouraging others to evacuate via identified safe routes and restricting unauthorised re-entry to the building by staff or visitors**

### **Employees**

07. Employees must comply with the fire safety arrangements created by the Responsible Person. Failure to do so may be dealt with in accordance with appropriate disciplinary procedures. Employees should;

**Not interfere or misuse any equipment provided in connection with the Council's fire management procedures i.e. extinguishers, fire panels or break glass call points.**

**Be aware of their responsibilities regarding fire i.e. emptying waste paper bins to reduce combustible materials, and complying with the smoking policy.**

**Report any potential fire hazards or issues to their line management i.e. blocked fire escape routes or missing firefighting equipment.**

## **Building design**

08. Most fire safety is achieved at the design stage. Older buildings can be retrospectively fitted in relation to the risk. Construction Services have a responsibility to provide all council buildings with adequate services to prevent, detect, alarm and extinguish fire. Design features can include;

**Compartmentalisation – when a building is separated into smaller ‘compartments’ i.e. rooms and corridors to prevent the spread of smoke and fire.**

**The installation, positioning and maintenance of fire detection, firefighting equipment and alarm systems to warn of fire.**

**Fire doors are installed with various lengths of protection and with intumescent strips which swell up to prevent the spread of smoke throughout the building.**

**Travelling distance to the nearest points of escape are considered. Numbers and abilities of people are also taken into account.**

**Considering the location of higher risk areas to reduce the risk of injury or damage should an incident occur.**

## **Fire Safety Risk Assessment (FSRA)**

09. Fire Risk Assessments are carried out by Construction Services in a scheduled 5 year cycle. The FSRA will be amended if there are any changes to the structure i.e. an extension is built or if there is a reason to believe that the current control measures need to be updated i.e. a fire breaks out. The responsible person must also ensure that an annual review is carried out and recorded. The FSRA should;

**Identify the hazards. This means that potential areas with ignition sources and a build-up of combustible materials are identified i.e. a science lab (gas), the use of portable heaters (electricity) or the storage of oxidising substances.**

**Identify the people who may be at risk. This will include the number and type of people i.e. young children, sleeping, lone working, disabled or old people.**

**Evaluate the risk. For hazards with a higher consequence and likelihood more control measures will be needed. Evaluating the hazards will allow you to prioritise your risk.**

**If there are issues identified that require further control measures, then these should be implemented i.e. a build-up of combustible material or unassessed ignition sources.**

**Temporary events must also be assessed. Control of access, provision of information, consideration of numbers and means of escape must be considered.**

**The findings of the FSRA must be recorded. These should be held within the property compliance book.**

**The FSRA for each building must be reviewed annually or five yearly by Construction and Design. It will also be reviewed if a fire occurs.**

## Higher risk areas

10. Higher risk areas and work processes should be identified within the risk assessment. These areas are generally where the three elements of the fire triangle are present or there could be a chemical reaction to create a fire or toxic fumes. These areas include;

**Boiler rooms.** These areas generally create heat and contain flammable substances. Combustible materials should not be stored in these areas.

**Chemical storage.** These storage areas can contain chemicals that, if not controlled properly, can create a fire or toxic release. Items should be stored securely and marked as per their instructions.

**Gas storage (Butane and Propane).** These areas are high risk due to the presence of a flammable substance. Segregation, ventilation and control must be applied.

**Work processes** can also create a fire hazard. Work such as welding must be controlled to reduce the possibility of fire through permit to works and observation periods.

**A build-up of organic material** i.e. saw dust and laundry room lint should be prevented from accumulating.

## Fire control measures

11. As stated earlier, preventative measures are an important aspect of fire risk management. Some preventative measure that should be applied are listed below.

**Consideration of fire prevention issues at the procurement stage** i.e. appropriate CE marked electrical equipment and furnishings or a suitable fire risk assessment for construction projects.

**Areas such as corridors, stairways, fire exits and escape routes** should be kept free from all obstacles at all times.

**Combustible materials** should not be left lying about i.e. paper bins should be emptied regularly and notice boards cleared of older material.

**Storage of combustible material and ignition sources** i.e. paper and heaters should be kept separate (remember the fire triangle).

**Flammable substances** i.e. gas cylinders and aerosols must be controlled and stored in an appropriate, marked container as per manufacturer's instructions.

**Electrical equipment** should be tested by a competent person, recorded and visually inspected prior to use. Extension leads should be fully unwound prior to use.

**Skips containing waste materials** must be kept away from buildings and preferably locked (10 meters is the minimum distance for any skip from a building).

**All smoking areas** must be controlled and supervised. This will be one area where all three elements of the fire triangle are unavoidably present.

12. Fire alarms can be activated by breaking the glass at the activation point or if a detector signals the presence of smoke and / or heat. Persons within the building such as visitors and contractors should be made aware of alarms. Any actions other than immediate evacuation i.e. swimmers in a pool, must be documented with the reasons on the FSRA and be explained to and understood by everyone that could potentially be involved.

13. Alarms should be tested weekly. These tests should be carried out at the same pre-arranged time to reduce confusion.

### **Unwanted Fire Alarm Signals**

14. Unwanted Fire Alarm Signals (UFAS) otherwise known as 'false alarms' must be prevented where possible. Confidence in the system is slowly eroded when alarm activations turn out not to be genuine resulting in individuals not reacting to alarms with the urgency they should. Every UFAS must be investigated and reported on RIVO with measures put in place for prevention. Reporting on RIVO can be achieved via the reporting button on the intranet (as with accident reporting). Select the fire option and provide a description of events including any remedial actions taken. Picture evidence and witness statements can also be uploaded.

### **INFORMATION**

15. Information on fire safety measures should be made available, including;

**Fire Action Notices situated above call points should provide information on what to do on finding a fire and contacting emergency services.**

**Informational signs at fire extinguisher points should highlight what extinguisher can be used on which fire.**

**Chemical store rooms and electrical cupboards must be marked to indicate their contents. This can assist the emergency services if they have to enter the building.**

**Fire doors should be marked with blue and white 'keep closed' signs unless they are held open by automatic release mechanisms.**

**Final exit points should be marked 'Fire Exit' and keep clear signs should be posted on the outside to prevent inadvertent blocking.**

**Safe condition signs (running man signs) should be present to identify safe routes of escape.**

**Assembly points should be suitably signed so people unfamiliar with the area can easily identify them.**

**External fire hydrants must be located and marked to allow easy access.**

**A fire alarm zone plan should be available at the fire alarm indicator panel, highlighting the fire alarm zones.**

## **TRAINING**

16. Fire awareness training should be carried out on induction, annually and recorded. This training should be relevant to the building. The level and detail of the training will be proportionate to the risk involved but should;

**The significant findings from the FSRA and any fire safety policies.**

**Location and type of all firefighting equipment including how and when to use it.**

**The location of break glass call points and any other way of raising the alarm.**

**The actions to be carried out on discovering a fire and activation of the fire alarm.**

**Emergency evacuation procedures including escape routes, assembly points and the procedure for assisting members of the public.**

**Understanding the importance of fire doors, keeping them closed and not wedged open to prevent the spread of smoke and heat and keeping escape routes unobstructed.**

**The policy on smoking including the importance of extinguishing cigarettes correctly.**

**Procedures such as the isolation of electrical power, gas cut offs, fire suppression systems and the operation of the fire panel.**

## **MAINTENANCE, TESTING AND RECORDING**

17. Fire detection and alarm systems, installed in West Lothian Council buildings, must be regularly checked and maintained. These inspections can be carried out 'in house' or with approved contractors but in either case all inspection and testing (including UFAS) should be recorded in the compliance register. The premises management handbook can also be used for guidance. The following maintenance should be carried out;

**The fire panel and fire routes must be checked daily to ensure they are clear.**

**Fire alarms and detectors – these should be tested weekly from alternative points. Bells and sounders should also be alternatively checked to ensure that they can be heard.**

**Automatic closing doors should be checked weekly during the testing of the fire alarm.**

**Fire extinguishers should be visually checked weekly and serviced annually.**

**Emergency lighting should be tested monthly and recorded.**

**Fire evacuation exercises should be carried out every six months.**

**PAT testing should be carried out periodically in relation to risk from the equipment and fixed wire testing every 5 years.**

**Fires, fire safety breaches (i.e. deliberately activating an alarm or obstructing an escape route) and UFAS must be recorded on RIVO.**

## **FIREFIGHTING EQUIPMENT**

18. Firefighting equipment includes items such as fire blankets and fire extinguishers. They must be kept in a serviceable state in the location they have been placed in by the FSRA. Information on the type and use of the fire extinguisher must be provided at the location and it should be lifted from the floor by either brackets or a plastic spill tray.

19. The use of a fire extinguisher should only be by carried out if;

**A dynamic risk assessment has been carried out, the fire is at a very early stage posing limited danger to safety or health and to leave it may create a greater risk to others.**

**and;**

**You are competent and confident in the use of portable firefighting equipment for each particular type of fire as the wrong type of extinguisher can create a greater hazard.**

20. If an extinguisher is to be used in the event of a fire, the PASS method is to be used.

**P - Pull the pin. It is there to prevent accidental discharge.**

**A - Aim low at the base of the fire. This is the where the fuel source is.**

**S - Squeeze the lever to activate and release to stop the flow. (Some extinguishers have a button instead of a lever).**

**S - Sweep from side to side. Move toward the fire, aiming low at its base. Sweep until all flames are extinguished and watch for re-igniting. The Scottish Fire and Rescue Service must confirm that every fire has been extinguished.**

21. Fires are separated into different classes according to their fuel source. Electrical fires are slightly different in that electricity is the heat source and not the type of fuel that burns.

**Class A – Solid organic materials such as plastic, wood, paper, textiles and furniture.**

**Class B – Flammable liquids (e.g. petrol, oils, paints).**












**Class C – Flammable gases (e.g. propane, butane or methane).**

**Class D – Metals (e.g. titanium, aluminium or magnesium).**

**Class F - Cooking oils and fats i.e. chip pan fires.**



22. Fire extinguishers are red and are colour coded by a bar on the extinguisher identifying their type and use.

	Class A	Class B	Class C	Class D	Class F	Electrical
						
	✓	✗	✗	✗	✗	✗
<b>Water</b>						
	✓	✓	✗	✗	✗	✗
<b>Foam</b>						
	✓	✓	✓	✗	✓	✗
<b>Dry Powder</b>						
	✗	✓	✗	✗	✗	✓
<b>CO2</b>						
	✓	✗	✗	✗	✗	✓
<b>Wet Chemical</b>						