

Society for the Protection  
of Ancient Buildings  
and the  
Fire Protection Association

# Fire safety in historic buildings

Part 1—Fire dangers and fire precautions

Technical Pamphlet 6

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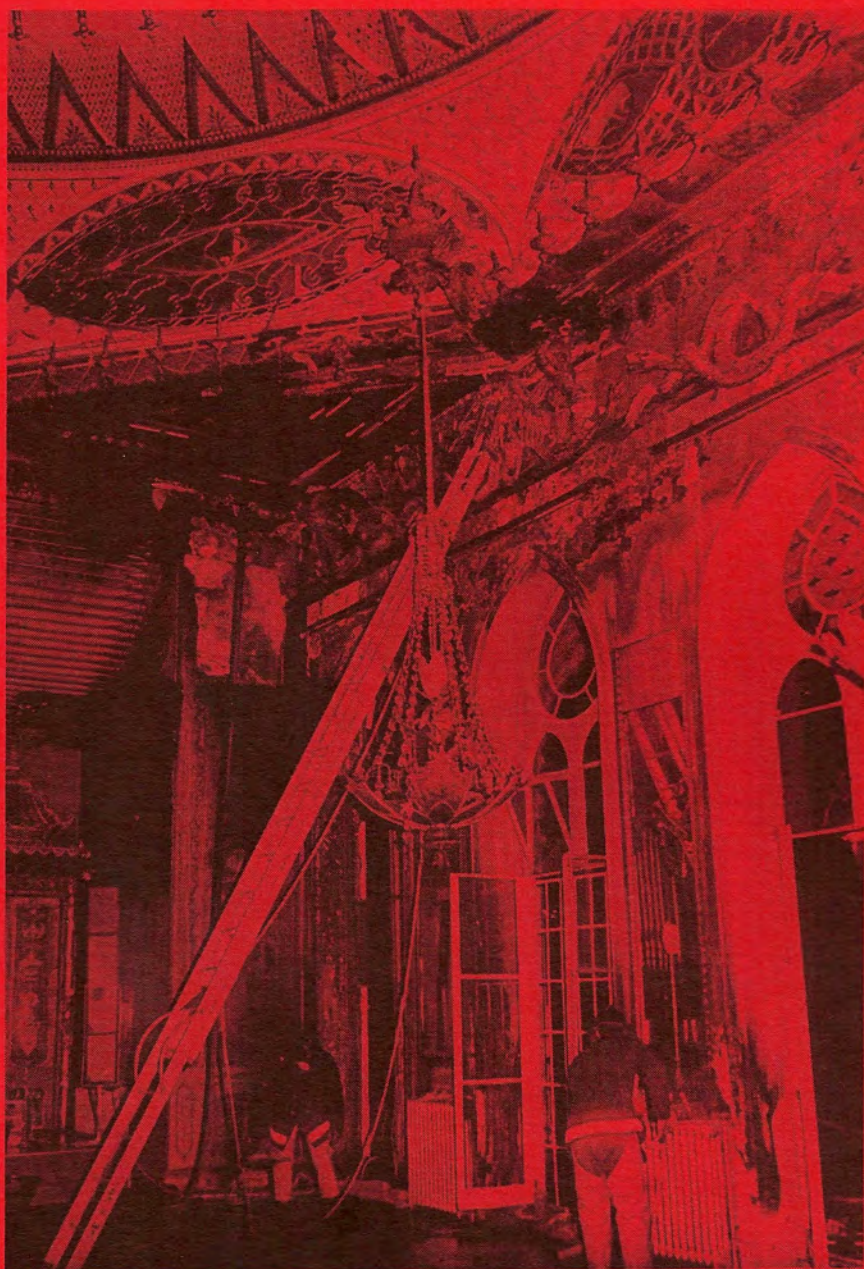
To own or to live in an historic building naturally engenders a sense of pride as well as responsibility as a custodian of our national heritage, and damage or loss by fire can be one of the speediest and most ruthless threats to this heritage. There is little doubt that when the building was first occupied, the users were very familiar with the risks of fire; no doubt their methods of cooking, heating and lighting, which all involved the use of a naked flame, were a constant visual and tactile reminder. With the present standards of comfort and convenience we, in fact, expect far more of our buildings and can, so conveniently, supply these needs with concealed mechanical and electrical services that we are left virtually unaware of their fire potential. The annual statistics of fire losses continually demonstrate that cooking, electrical appliances and services account for 40% of the causes of ignition, while smokers' materials and matches add another 11%.



The changing use of historic buildings can also increase the risks. For instance, the conversion of a row of town houses into an hotel may appear to present few problems as they are similar uses, both having living and sleeping accommodation with the vulnerability of sleeping residents at night—but, in fact, the differences are many.

The residents of an hotel will be unfamiliar with their surroundings and the methods of escape in the event of an emergency; there will be considerably more risks from the ancillary accommodation, e.g. kitchens, laundry rooms, TV rooms and conference/exhibition areas, etc. From the owner's point of view possibly the biggest difference is that the premises will be certifiable under the Fire Precautions Act. This will involve legislative requirements possibly affecting structural protection, surface finishes, equipment and regular training of staff, etc. none of which would be considered necessary for a private residence.

The purpose of this pamphlet therefore is to highlight the risks of fire in historic buildings; to give advice on fire precautions and the need for regular maintenance and fire drill procedures, also to provide sample check lists for housekeeping and routine maintenance.



Front Cover  
*Bedford School, Bedford*

*Brighton Pavilion, Sussex: It is vital for the fire services to fight and contain a blaze even if there is no risk to life. In this case, much of the fabric and detail remains and can be repaired or used as a model for replacement*

# 1 Reducing the risk of fire

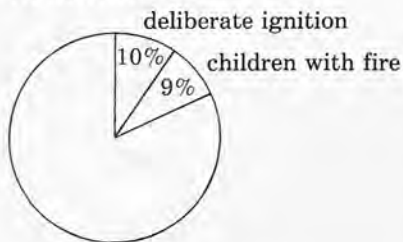
Buildings do not, of themselves, 'catch fire' and the causes of ignition and fire spread can usually be directly attributed to a human failing—through ignorance, negligence or, regrettably, direct abuse.

A reminder of how fires in historic buildings have started and developed is, therefore, a salutary and useful basis of understanding the principles of avoidance.

The case histories clearly demonstrate the need for constant awareness on the part of the occupants to ensure that the highest standards of good housekeeping and regular maintenance inspections are routine matters in the running of the establishment.

## Malicious fire raising

### CAUSES OF FIRES IN BUILDINGS



In the last ten years this has grown rapidly to become one of the most serious causes of fires, especially of large fires. Indeed this cause is responsible for 50% of the cost of large fires. Historic buildings are suffering from this trend as badly as any other buildings. These two case histories clearly demonstrate the potential for damage.

Brighton Pavilion, used as a museum and art gallery, was severely damaged by a fire when, during the night, an art student threw petrol through the windows of the Music Room. The fire grew rapidly in old lacquered timbers, curtains and drapes spreading into inaccessible false ceilings and ornamental doors. An automatic heat detection system summoned the fire brigade at 1 a.m. and they were able to save the main structure. Nevertheless, the estimated damage was £350,000.

Bedford School, founded in the fifteenth century, sustained fire damage estimated at £1,400,000 when its Great Hall was severely



*Lowesby Hall, Leicestershire: Fire damage resulting from a workman stripping paint with a blow lamp*

damaged by a fire caused by arson following a break-in and burglary. Development of the fire was assisted by oak panelling and open galleries.

Management awareness with constant vigilance can reduce the risk, the aim being to minimise the opportunities for fire raising by controlling access and making frequent inspections. As a precaution against malicious ignition there should always be some discreet supervision of visitors. (See Check List at the end of this leaflet).

## Workmen carrying out maintenance or alterations to the building

Lowesby Hall, Leicestershire. This fire started when a workman was using a blow lamp to burn paint off a wooden window frame. From the ground storey dining room it spread to the upper storeys, largely assisted in its development by timber panelling. In all twenty-six rooms were affected and half the roof was severely damaged in the loss which was estimated at £285,000.

A great many fires in old buildings start when contractors are at work, particularly when blowlamps ignite material behind timber panelling or rubbish is burnt in old defective fireplaces. Work specifications should include all possible safeguards:

- no smoking allowed in roof spaces and other danger areas;
- flame or heat producing equipment

used in situ only when there is no alternative method, such as a non-flammable solvent type stripper;

—all waste, birds' nests, etc. removed from the vicinity before blowlamps or other naked flame equipment is used;

—at least two suitable fire extinguishers close at hand during these operations;

—where appropriate, insulating shields used to protect combustible materials;

—thorough checks made for smouldering fires after the men have finished each day and after any flame or heat producing equipment is used and the area should not be left unattended for at least one hour during which time thorough checks should be made for smouldering fires;

—waste materials not burned in fireplaces but outdoors in an incinerator or on a bonfire well clear of buildings;

—the location of telephones, alarm points and fire extinguishing equipment made known to workmen.

Many industrial and commercial firms operate a 'Permit to work' system when dangerous jobs have to be carried out on their premises and those responsible for historic buildings could usefully follow a similar procedure. It involves the use of a printed 'Hot work permit' which the person authorising the work signs and gives to the contractors, having

checked beforehand that the dangerous operation is necessary and essential precautions have been taken before the operation starts.

A sample 'Hot Work Permit' (obtainable from the Fire Protection Association) is shown overleaf.

After the operation has been completed and the area has been checked for smouldering fires the permit is then signed by the contractor and returned to the person who authorised the work.

### Heating installations-including open fires

Castle, Hay-on-Wye, Powys. In the early hours of the morning fire severely damaged nearly all the first and second storeys and roof causing damage estimated at £225,000. The room of origin was determined to be the first storey lounge where the owner had left a log fire burning in an open grate when he went to bed. There was a delay in calling the fire brigade because the telephone at the castle was not working and the nearest public call box was also inoperative. Fire was able to spread quickly to the top storey behind oak panelling in the lounge.

Ideleigh Court, Meopham, Kent. When a log from a banked-up unguarded fire fell on to and ignited a Persian carpet, it started a fire which damaged fourteen rooms, part of the roof and a collection of antiques and Persian carpets. The estimated damage was £137,000. There was deep snow at the time and after the owner's wife discovered the fire at 3.45 a.m., the owner had to travel 100 metres to telephone the fire brigade.

The first appliance was unable to reach the scene until after 5 a.m. because of bad weather conditions.

Old fireplaces and flues intended for burning coal and logs may have become hazardous with time, particularly when used for modern heaters or stoves, as old dry timber built into them may be ignited or worn sections of a chimney allow heat to pass into the roof space. Many fires have been caused by, for example, timber under hearths and timber in flues. An architect, builder or heating engineer should be consulted on the safety of existing heating arrangements and on the condition of fireplaces, hearth, chimneys and flues. They should also be consulted when considering the installation of new heating plant.

Chimneys should be swept at least once a year, more often if log fires are customary. Logs of the green wood type can leave a hard deposit in a chimney which is difficult to remove, so it is best to use well seasoned logs. All combustible materials should be kept well away from the fireplace. Sparkguards should be fitted to comply with BS 3248: 1960: *Sparkguards for solid fuel fires*. If the building is centrally heated by solid fuel make sure that kindling materials are kept away from the boiler room. All boilers and furnaces should be operated according to the manufacturers' instructions and serviced regularly. If oil-fired, only the correct grade of oil should be used.

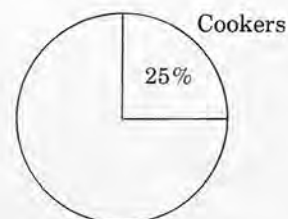
Recently many people have installed wood burning stoves which are kept burning slowly all the time. It is essential that a proper flue liner is provided. Whatever type of wood is burnt this slow combustion causes

tarry deposits to be left in the flue. If the stove doors or dampers are opened up to make the fire burn quickly, these deposits will burn and if there is a thick layer of tar a dangerous chimney fire can be the result. This can be avoided by allowing the stove to burn quickly for a short period (15-30 minutes maximum) every day. The thin layer of tar deposited in the twenty-four hours of slow burning will be burnt off safely by this means. Regular sweeping of the flue will still, of course, be necessary.

Portable space heaters should always have guards and be placed so that they cannot be accidentally overturned. Convector heaters are generally safer than radiants but their temperatures may be dangerously increased if they are covered. All heaters should be well away from any combustible materials and never drape anything over a heater to air. If paraffin heaters or oil lamps are used, where possible, the fuel should be kept in an outbuilding in safe metal containers and these appliances should be refilled there. Heaters and lamps should be kept clean and well maintained. A heater should never be carried or filled whilst it is alight.

### Cooking

#### CAUSES OF FIRE IN BUILDINGS



Public house and restaurant, Bolney, Sussex. An unattended charcoal grill in the kitchen ignited fat deposits in the fume extraction duct. What was thought to be a small fire was extinguished by staff using extinguishers but the staff did not realise that the fire was still burning higher up the duct. Nineteen minutes after the first fire a second fire in the duct was discovered after it had ignited floor boards and spread into the roof space. The result was a fire which damaged four rooms as well as the roof and cost an estimated £100,000.

Most cooking fires occur during frying processes as the result of fat and cooking oil catching fire. There is invariably an element of carelessness—the pan is left unattended or it boils

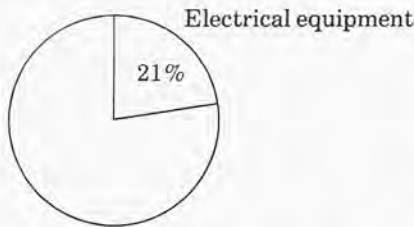


Hay Castle, Herefordshire: Workmen repairing the roof after the Castle was gutted by fire

over on to the flames or element. Boiling over can be caused by putting wet food (such as insufficiently dried chips) into the hot fat or oil. Oil and fatty deposits should be removed regularly from fume extract hoods, ducts and surrounds because they can help to turn a small fire into a disaster. Filters in hoods, washed frequently, help to reduce deposit.

## Electrical equipment

### CAUSES OF FIRE IN BUILDINGS



*Clarendon School, Abergele, Clwyd: An example of the extensive spread of fire in a roof that was undivided internally*

Clarendon School, Abergele, Clwyd. A fire which cost an estimated £627,000 in this 15th century school was caused by an electric hot plate placed under and setting fire to a divan bed. It was either left on or accidentally switched on by a cleaner plugging a vacuum cleaner into the neighbouring wall socket. The fire spread in flue-like passages in hollow partitions which communicated with ceiling voids and roof spaces. Because of openings for pipes, ducts

and maintenance purposes the whole roof was undivided. Half of the roof and second storey and part of the first storey were destroyed and the world famous girls' school had to move to new premises for the spring term.

Electrical faults are a common cause of fire. If any part of an electrical installation is more than twenty-five years old there is a good chance that it is a fire hazard. Danger signals

include obsolete or damaged plugs, sockets, switches and fuse boxes; rubber insulated lead covered wiring which is more affected by age than modern wirings; worn flex; taped connections and timber channels for wiring. There may be faulty connections hidden behind panelling. Electrical installations should be inspected and tested every five years by qualified electricians. Repairs or rewiring should not be carried out by amateurs.

## HOT WORK PERMIT\*

Date .....

Permission is granted to .....

to use ..... in the ..... (exact location)

between ..... a.m. and ..... a.m.

..... p.m. .... p.m.

The above location has been examined.

There are no combustible liquids, vapours, gases or dusts.

All combustible material has either been removed or suitably protected against heat and sparks.

Signature of person issuing permit and position held .....

*For at least one hour after the period of work a continuous check was made of the area and adequate areas for signs of smouldering fires*

Signature of person responsible for the work .....  
(After signing return permit to the person who issued it.)

A man will be standing by with an extinguisher/hose reel while the operation is in progress.

He and the operatives have had the nearest fire alarm/telephone pointed out to them and have been told what to do in the event of a fire.

\* Applicable to all operations involving flame, hot air or arc welding and cutting equipment, brazing and soldering equipment, blowlamps, bitumen boilers and other equipment producing heat or having naked flames.

Sections of some buildings are often left unused, (e.g. wings of country houses and floors above shop premises) and it is advisable to have the installation planned so that the supply to the unoccupied sections can be cut off without affecting occupied areas.

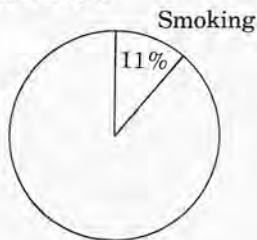
There should be sufficient sockets provided so that not more than one appliance is connected to each of them and to obviate the need for long flexes. When a fuse has to be replaced make sure that the replacement is of the correct rating.

## Electricity generators

Electricity generating sets should be located in an outhouse at least six metres from any other buildings and the fuel on which it is run—petrol or oil—should be stored either outdoors or in a separate well ventilated room. Storage batteries should also be in a separate room, separated from the generating sets and fuel storage. They also require good ventilation to remove dangerous gases. Access to all fuel stores and generator rooms should be from the outside of the building only. No smoking or naked lights should be allowed in any of these rooms.

## Smoking

### CAUSES OF FIRE IN BUILDINGS



Moynes Park Mansion, Birchbrook, Essex. Fire was discovered in the window frame of the nanny's room. Later she remembered throwing a cigarette out of the window. It apparently set fire to dry rotten wood on the corner of the window sill and spread to the interior of the wall and into the roof void. Damage estimated at £100,000 was done.

Mansion, Fingringhoe, Essex. The elderly cook companion lost her life and the building was severely damaged in a fire caused by an accidentally dropped cigarette igniting the upholstery of the settee in a TV room. From the TV room the fire travelled to the entrance hall and up the unenclosed timber stairs to the second storey. The estimated damage was £275,000.

There are two recurring ways in which fires are started by people smoking. The carelessly discarded cigarette or match thrown into a waste bin without being fully extinguished may start a fire immediately or it may smoulder unobserved before developing, possibly hours later in the evening, when the area is unobserved. In these circumstances serious damage can be done before the fire is discovered and if the fire is well established it will be much more difficult for the Fire Brigade to control.



*Fingringhoe Hall, Essex: The front elevation showing the destructive results of fire, but sufficient remains to rebuild*

The other 'scenario' is of the smoker who falls asleep, in bed or in an easy chair, dropping a cigarette which ignites bed clothes, furniture or clothing. Serious injury is very likely and as these fires often happen at night there is a serious threat to any other people sleeping in the building. Sometimes, a cigarette lodging in a crevice of an armchair will start a smouldering fire which, an hour or two later, may suddenly develop into a fast burning fire. To counter this, to some extent, regulations have recently been made to control furniture covering materials so that they will, in future, not be readily ignited by a cigarette.

If the building is open to the public, either 'NO SMOKING' signs should be put up and this rule enforced or adequate receptacles should be provided as ashtrays, apart from ordinary rubbish bins. Always check for smouldering fires after visitors have departed.

## Combustible materials

Country House, Northiam, Sussex. When, just after midnight, the fire brigade arrived at this fire a timber barn was well alight and the fire had already spread to the thatched roof of the house which was only 6 m away. Shortly after a central heating oil tank in the barn ruptured and further intensified the fire which severely damaged the house and barn causing an estimated £100,000 damage.

**Rubbish:** Every effort should be made to prevent the accumulation of rubbish; many fires have been caused by the ignition of combustible waste materials consigned to empty rooms, boiler rooms, cellars and roof spaces. All rubbish should be placed in covered metal bins, preferably outdoors and, if it is to be burnt, bonfires or incinerators should be well away from buildings. Ashes and clinker from boilers should be damped down in metal containers and removed each day to be deposited in a safe place. Eaves, roof voids and chimneys should be cleared of birds' nests.

**Thatch:** Thatched roofs are easily ignited by sparks from chimneys and bonfires, or by faulty electric wiring, etc. and fire spread tends to be rapid especially on the underside. Flame retardant treatments are available, but being water soluble they can leach out in under a year of rainfall and have to be renewed regularly if they are to stay effective. Worthwhile precautions include:

- increasing chimney height to at least two metres above roof level (if allowed by local authority).
- fitting spark arrestors of the correct grade to the chimney pots.
- underdrawing the roof with plaster-board or other non-combustible material (This is the best way to stop a fire spreading on the underside but careful design is necessary to avoid problems of damp).
- having a perforated pipe system installed along the roof ridge to supply water direct to the thatch in an emergency. This should be checked and flushed out at regular intervals.
- using quick release wire netting on thatch. On newly-thatched roof this can be achieved by attaching the netting under the eaves in such a way that it can be quickly released and rolled up in an emergency.

**Wood treatments:** A specialist should be called in to carry out this work under agreed fire safety conditions. Preservative and insecticidal treatments are usually flammable and during and after application the timber can be ignited by a small heat source and a fire will develop rapidly. Up to one week is usually required before the treatment dries out and thorough ventilation should be maintained during application and until drying is completed. Before the treatment is applied all sources of ignition such as smoking materials and heaters and any dust or combustible materials should be removed. If the treatment is sprayed on, electric fittings, junction boxes and light bulbs should be avoided. The treated area should not be covered with plastic sheeting to avoid a build-up of flammable vapours. Fibrous insulating materials such as glass fibre should be removed and not replaced until the treatment is completely dry.

### Bad housekeeping

Manor House, Staplefield. In this house it was a longstanding practice to store ashes from the fire in a cupboard under a staircase. On several occasions servants had smelled smoke, found the bucket hot and doused the contents with water. The contents of the cupboard included animal food, waste and salvage paper in a timber tea chest. On the morning of the fire an open grate had been cleared and the ashes

and partially burned wood placed in a plastic bucket in the cupboard at about 9.45 a.m. A policeman saw the smoke of the fire at 12.47 p.m. Fire, heat and smoke damaged 35 rooms and three staircases and the estimated damage was £100,000.

The standard of day-to-day management of an historic building is a decisive factor in its overall fire safety. There should be procedures for the safe handling of potential fire hazards such as the storage of flammable materials, the tending of fires or the emptying of ashtrays. Maintenance routines should be established so that the building and its equipment are kept in a safe condition with protection systems in working order. The local Fire Prevention Branch of the Fire Brigade will provide advice and help analyse the problems in a particular building. The insurers can also be helpful in this respect.

It is up to senior management to ensure that these matters are being attended to. The responsibilities of individuals should be agreed and clearly assigned. Even with all these measures the constant vigilance of senior management is essential to prevent complacency and to motivate all concerned to maintain high standards.

## 2 Be prepared for a fire

Some of the equipment and services referred to below are provided to satisfy requirements under legislation.

### Means of escape

The safety of the occupants in the event of a fire depends on there being safe escape routes for them. Advice should be obtained from the Chief Fire Officer or Firemaster but if it appears that physical alterations are advisable, the services of an architect with experience of historic buildings, should be obtained. Some old houses have numerous stairways which with minor alterations can be turned into safe escape routes. Such measures will also go a long way towards preventing or restricting the spread of fire. The escape routes should be kept free of obstruction and so there should be no movable furniture, or any furniture that critically reduces their width, on these routes. When a building is open to the public it is par-

ticularly important to ensure that emergency escape routes are not locked or obstructed. Fire exit doors should be clearly marked and additional direction signs should be provided where necessary. Escape routes should be low fire risk areas. This can not be assured if they contain combustible materials such as hanging tapestries and so the siting of such things may have to be reconsidered. Modern building regulations do not allow the type of timber panelling so often found in historic buildings to be used in circulation areas of new buildings, and it is likely that the Fire Officer will advise that such panelling should be treated to reduce the 'flame spread' tendency of its surface. There are many different materials on the market and professional advice should be taken when making a choice.

### Fire alarm systems

A large building should be equipped with means of giving a fire warning which, depending on circumstances, may consist of a telephone system connected to a central point from which a fire warning can be sounded, or, it may be an electrical fire alarm system with break glass call points, so that if fire is discovered all occupants can be alerted quickly.

The installation of an automatic heat or smoke detection and alarm system should also be considered. These systems should be installed in accordance with British Standard 5839 *Fire Detection and Alarm Systems in Buildings: Part 1: Installation and Servicing*. The requirements of insurers should also be ascertained. Work can be carried out in such a manner as to cause the minimum of inconvenience and installation can be achieved without unsightly effects on ceilings or walls.

### Fire extinguishing equipment

Many old buildings are ill-equipped with portable fire extinguishing appliances. The advice of the insurers and the Fire Brigade should be sought.

For general protection purposes nine litre water extinguishers should be provided near doorways and staircase landings, so that there is one for every 210m<sup>2</sup> of floor space and a minimum of two to every floor. Alternatively, if there is a suitable water supply, hose reels can be installed. These have the advantage of a continuous water delivery and, therefore,

can be used to deal with larger fires. All hose reels and some but not all extinguishers are controllable so that they can be turned off when the fire is out, to reduce water damage. Fire buckets may also be used.

For special risks, where there is a risk of flammable liquid or major electrical equipment fires:

- Foam extinguishers are suitable for flammable liquid fires, e.g. in kitchens and oil fired boiler rooms, but not for fires in electrical equipment.
- Dry powder extinguishers are suitable for dealing with both flammable liquid and fires in electrical equipment and are probably the most useful extinguishers for oil fired boiler rooms and generator plant rooms.
- Carbon dioxide extinguishers are very effective on fires in electrical equipment, and can also be used on small fires in flammable liquids.
- Halon extinguishers are also suitable for small fires in electrical equipment and flammable liquids but they too should not be used in confined spaces.
- Fire blankets. These should be provided for kitchens.

## Access

Easy access for Fire Brigade appliances is important. Ensure that all gates and approach roads can be negotiated without difficulty by large vehicles and that access is possible right up to the house and to the water supplies. This subject too is one on which the Fire Brigade is best able to advise.

## Water supplies

A major problem for the Fire Brigade when tackling fires in remote areas can be the water supply. Where there are no mains of adequate size with hydrants, there should be an alternative source close to the house. Generally, at least 25-50,000 litres of water should be readily available for fire-fighting and the Fire Brigade should be consulted on the adequacy of existing facilities or on means of improving them. Swimming pools, ornamental ponds, lakes, streams and rivers may be suitable for the purpose if they are sufficiently near, able to provide a large enough supply and accessible for use. It is preferable to

make use of storage tanks; many old houses have underground rainwater tanks, the existence of which may be forgotten, which can be renovated and put to use again. If there is a roof tank, it should be kept full and fittings replaced if obsolete. Ideally, a building should be provided with its own hydrants, located on firm ground from which pumps may operate.

## 3 If fire should break out

Ensure that all occupants of the building are not only aware of the fire risks inherent in old buildings, but are able to react correctly should fire break out.

At the slightest sign of fire:

- raise the alarm
- evacuate the building
- call the Fire Brigade immediately (they may have a considerable distance to come and, as fire spread can be very rapid, it is important that no time is lost)

After evacuation of the premises:

- close all doors to help isolate the fire and reduce draughts
- the fire should be tackled with the equipment available but only so long as there is no personal risk involved
- remove valuables, again only so long as it is safe to do so
- a responsible person should check

that all occupants of the buildings are accounted for, as soon as possible, and should help the Fire Brigade with any information they need when they arrive.

## In preparing for fire emergencies, management should:

- establish a system of checking, using prepared lists, to prevent fires
- determine the reasonable routes of escape
- determine the nature of the construction of the building—  
the routes of services  
the cavities and voids
- prepare fire instructions covering actions to be taken in the event of fire
- locate the isolating switches and valves for the essential services
- check, say, daily, the emergency systems for communication
- check, say, daily, all installed portable or fixed systems of fire fighting
- carry out regular fire drills at random
- check awareness of staff on fire risks, procedures, etc.
- carry out regular demonstrations of any installed equipment for emergency operations at which occupants have the opportunity to handle the equipment.



*Piles of rubbish not only form a fire hazard but can block access to a fire wasting valuable time and causing further destruction*



attics and basements

plant rooms

staircases and under stairs

bottoms of lift shafts

Waste awaiting collection stored safely

Rubbish burning carefully supervised

### Means of escape

Means of escape unlocked and unobstructed when people are in buildings

'Fire exits' clearly marked and sign posted

### Fire alarms

Fire warning systems tested regularly

Call points and detectors unobstructed

Systems regularly maintained

### Fire extinguishing equipment

Extinguishers, hose reels and buckets in position and unobstructed

Equipment in good working order

### Fire brigade facilities

Routes for appliances to buildings and water supplies unobstructed

Static water supplies maintained

### If fire should break out

Instructions prepared detailing the action to be taken by staff on discovering a fire and when warning of fire is given

Staff know these instructions and taught:

how to raise the alarm

how to call the fire brigade

how to use the first-aid fire equipment

how to evacuate the premises

Fire drills held regularly

### Last thing at night/ at close down

In historic buildings most large fires occur at night, after people have gone home or gone to bed. The following checks should be made:

Open fires are safe (with spark guards in position) and space heaters, stoves, lamps, etc., turned off

Storage or other convector heaters do not have anything draped over them to impede circulation of air

TV sets and other electrical appliances not required to be 'on' are switched 'off' and plugs removed from sockets

No cigarettes are left smouldering

All doors are closed

The building is secured against intruders

## 5 References

### Fire Precautions Act

Guide to the Fire Precautions Act—

- No. 1: Hotels and Boarding Houses
- No. 2: Factories
- No. 3: Offices, Shops & Railway Premises
- (all available from H.M.S.O.)

### Fuel storage

Fuel supplies for heating installations and generators should be stored under safe conditions and in accordance with the following standards:

- Oil —B.S. 5410 Code of Practice for Oil Firing  
—Fire Offices' Committee and Fire Offices' Committee of Ireland Recommendations for Oil Fired Installations
- Butane and Propane —B.S. 5482 Domestic butane—and propane gas-burning installations: Part 1: Installations in permanent dwellings  
—Home Office Code of Practice: Storage of liquid petroleum at fixed installations
- Petrol —Statutory Rules and Orders 1929, No. 952 The Petroleum Spirit (Motor Vehicle, etc.) Regulations 1929  
—Petroleum (Consolidation) Act 1928—for licensed storage

### FPA publications

- The publications listed below may be purchased from the Fire Prevention Information and Publications Centre, Aldermay House, Queen Street, London EC4N 1TJ:
- Fire safety data sheets:
- PE4 —Fire protection equipment: Portable fire extinguishers
- PE5 —First aid fire fighting training
- FS 6004 —Fixed fire extinguishing equipment: The choice of a system
- PE1 —Automatic fire detection and alarm systems
- FS 6006 —Fixed fire extinguishing equipment: Hose reels
- FS 6007 —Fixed fire extinguishing equipment: Hydrant systems
- GP 1 —Guide to fire precautions with outside contractors
- GP 4 —Blowlamps

## The Society for the Protection of Ancient Buildings

Advises on all problems affecting old buildings, giving technical advice on their treatment and repair. Buildings ecclesiastical and secular, large and small, including mills, barns, dovecotes and bridges, come within the scope of the Society.

Investigates cases of buildings suffering from neglect or threatened by damaging treatment or with destruction.

Prepares surveys and reports on the historic areas of cities, towns and villages and is willing to advise planning authorities and others on the designation of conservation areas. Keep records of past repair work and cases.

Holds annual courses on the repair of ancient buildings for architects, surveyors and builders.

Administers scholarships, which enable architectural students to study old buildings and their repair.

Arranges public lectures on specific subjects dealing with old buildings.

Provides speakers on all aspects of the Society's work, and exhibitions.

Organises conferences from time to time to highlight current problems in the field of preservation.

Sponsors public appeals for funds for the preservation of important buildings.

Publishes information on the history and care of old buildings, their features and fittings. A list of these publications may be obtained on application.

Maintains an index of houses threatened with demolition and provides possible purchasers with information.

### The Fire Protection Association

FPA is the central advisory organisation, largely financed by insurance companies and Lloyd's, providing technical and general advice on all aspects of fire, its prevention and control.

### The Headley Trust

Publications of this pamphlet on Fire Safety has been made possible by a Headley Trust donation to the Society for the Protection of Ancient Buildings.

### Acknowledgements

Photographs by courtesy of Bedford County Press, Capps and Capps Ltd, East Sussex Fire Brigade, Essex Fire Brigade, Fire Protection Association, Leicester Mercury and the North Wales Press Agency.

### Technical Pamphlets Published

Technical pamphlet 1  
Outward leaning walls  
by John E M Macgregor OBE, FSA, FRIBA.

Technical pamphlet 2  
Strengthening timber floors  
by John E M Macgregor OBE, FSA, FRIBA.

Technical pamphlet 3  
Chimneys in old buildings  
by G B A Williams FRIBA.

Technical pamphlet 4  
Cleaning stone and brick  
by John Ashurst Dip Arch, ARIBA.

Technical pamphlet 5  
Pointing stone and brick walling  
by Gilbert Williams FRIBA.

### Technical Pamphlets To Be Published

Fire safety in historic buildings  
Part II  
by Alan Parnell FRIBA, FSAID, FIFE, Dip TP.

A companion pamphlet, Part 2, Conversions, Alterations and Repairs, will

1. define the principles of good practice when considering any change of use, alterations or extensions to the property;

2. provide advice to owners and their professional advisers on the statutory requirements for fire safety (explaining where these are mandatory and explaining the difference between requirements and recommendations made on a goodwill basis); and,

3. supply some information and examples of common problems and acceptable solutions.

Treatment of damp in old buildings  
by Andrew Thomas AA Dipl, RIBA.

### SPAB Membership

The Society welcomes new members. Details of activities are available from:

The Secretary  
The Society for the Protection of Ancient Buildings  
55 Great Ormond Street  
London WC1N 3JA

Tel: 01-405 2646/4541  
Annual subscription: £8.00  
Life membership: £100.00  
Associate membership: £3.00  
Corporate membership: £15.00  
Joint membership: £12.00

