

RC54

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Risk Control

Fire safety at recycling centres



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➤ SCOPE

These recommendations apply to local authority and privately managed sites where small quantities of a wide spectrum of waste materials are brought by residents and small business operators for recycling. Most sites are concerned primarily with sorting and stockpiling the items prior to being sent to specialist processing centres. Sites to which the bulk quantities of paper, tyres, electrical goods and other materials are subsequently transported by local authorities, recycling companies or directly from large industrial and commercial organisations for more vigorous recovery or reforming processes are outside the scope of this document.

The advice in these recommendations does not apply to hazardous waste disposal facilities operated by licensed contractors or to sewage and waste water treatment plants.

➤ SYNOPSIS

These recommendations outline the principal hazards and the general fire precautions that should be considered for local recycling centres. The recommendations are applicable to both open air and enclosed sites and outline advice for the safe storage of a wide spectrum of unwanted materials.

➤ DEFINITIONS

Ro-ro

An open metal roll-on, roll-off container with a capacity of up to 40 cubic yards used in conjunction with purpose-built tractor units for heavy road haulage.

Igloo

A substantially enclosed container with small holes to allow materials for recycling to be introduced. Such containers may be manufactured from metal or plastic and are used in small recycling centres for the collection of coloured glass and cans.

➤ INTRODUCTION

The growing awareness of environmental matters has in recent years resulted in the problems associated with landfill being appreciated. While environmental legislation calls for the cessation of co-disposal of hazardous and non-hazardous wastes, even finding suitable landfill sites for materials that cannot be recycled is becoming an increasing problem.

At the present time over 50% of household waste is routinely collected or taken to local recycling centres for sorting, storing and onward transmission to reprocessing plant where the economies of scale make the handling of bulk quantities of sorted waste materials financially viable. In future, the proportion of waste that is recycled will be even higher.

The increasing awareness of the problems of pollution and the need to conserve vital resources has also led to techniques to recover and re-use a wide range of materials provided that can be collected discretely. Recycling facilities are now available in most areas for receiving waste materials, many of which are combustible, from households and small businesses.

At the majority of sites, there are few potential sources of ignition and thus fire prevention should be aimed at:

- identifying incompatible materials and keeping them separated;

- preventing unauthorised hazardous materials from being brought to the site;
- isolating potential hazards, such as gas cylinders, and handling them safely;
- ensuring that, should a fire occur, it does not spread in an uncontrolled manner;
- prohibiting smoking on site; and
- protecting against deliberate fire raising.

Local recycling centres do not, in general, accept waste from the manufacturing industry or large organisations. These businesses tend to be subject to a growing volume of legislation concerning the recycling of packaging and other waste materials, with the onus being increasingly put on the shoulders of industry and commerce for the recovery of the materials in which their products are sold.

➤ RECOMMENDATIONS

1. General considerations

- 1.1 Adequate parking and turning room should be provided for the maximum number of vehicles expected to be on site. There should be barriers or other means for controlling access to the site during busy periods.
- 1.2 The exhaust pipes of site vehicles should be enclosed to prevent blown paper and similar materials from lodging and igniting on the hot exhaust pipe.
- 1.3 The servicing and maintenance of site vehicles should be undertaken away from the recycling centre.
- 1.4 To prevent slips, trips and problems with lifting heavy items, ramped access for vehicles or pedestrians to access containers is preferable to a level surface with steps.
- 1.5 Staff should be on hand to provide advice and direction on the disposal of items in the correct locations.

Temporary buildings

- 1.6 Where temporary buildings are employed, they should be separated from the waste materials and permanent buildings to provide a fire break, which should be as great as reasonably possible.
- 1.7 Where the fire break is less than 6m, temporary building(s) must be constructed with materials that do not significantly contribute to the growth of a fire or the propagation of smoke and corrosive or toxic fumes. The temporary building should be designed and constructed to meet the following criteria:
 - 1.7.1 Class 1 surface spread of flame performance in BS 476-7: **Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products** (ref. 1) to all internal wall and ceiling surfaces and to external surfaces of walls. External surface of roof to meet Class AA in BS 476-3: **Fire tests on building materials and structures. Classification and method of test for external fire exposure to roofs** (ref. 2);
 - 1.7.2 Walls and roof to achieve 30-minutes' fire resistance (integrity and insulation) to BS 476-20: **Fire tests on building materials and structures. Method for determination of the fire resistance of elements of**

construction (general principles) (ref. 3) and BS 476-22: **Fire tests on building materials and structures. Methods for determination of the fire resistance of non-loadbearing elements of construction** (ref. 4); roof to be tested from below;

- 1.7.3 Doors and windows to achieve 30-minutes' fire resistance (integrity) to BS 476-20 (ref. 3) and BS 476-22 (ref. 4) and be securely closed when the area is unoccupied;
- 1.7.4 Where temporary building(s) are vertically stacked, the roof/floor assembly, and members supporting it should achieve at least 30-minutes' fire resistance (integrity, insulation and load-bearing capacity) to BS 476-20 (ref. 3) and BS 476-21: **Fire tests on building materials and structures. Methods for determination of the fire resistance of loadbearing elements of construction** (ref. 5) and comply with appropriate Building Regulations requirements.
- Alternatively, temporary building(s) should comply with the test specifications or procedures of an independent, third-party testing organisation. Examples of minimum requirements are LPS 1195, **Specification for testing of temporary buildings for use on construction sites** (ref. 6) or the test procedure for determining the fire properties of temporary buildings carried out by Warrington Fire Research Centre.
- 1.8 Where floors of temporary building(s) are raised above ground level, the space beneath must be enclosed to prevent accumulation of rubbish, whilst still allowing under-floor ventilation. No combustible materials should be stored under any temporary building(s).
- 1.9 Heaters for use in temporary buildings must be fixed, preferably above floor level, fitted with securely fixed metal guards and maintained in a sound condition.
- 1.10 Carelessly drying clothes causes fires. Coat stands and drying racks must be firmly positioned at a safe distance from heaters, which should be thermostatically controlled and have enclosed elements.
- 1.11 All heaters and cooking appliances must be properly installed and adequate ventilation provided. Where possible, microwave ovens should be used to cook or heat food – otherwise, electrical or gas cookers are preferable to gas rings for cooking.
- 1.12 Temporary building(s) should not contain more than the minimum of furniture and fittings of a combustible nature.

Site layout

- 1.13 The site should be clearly signed to indicate fire exits as well as the location of the storage areas for the various materials. Hazard warning signs should be displayed prominently where required, such as on gas cylinder cages for identification by the fire and rescue service on their arrival. A plan of the site should be available for fire service use showing the locations of the various hazardous materials.
- 1.14 The site should be set out to reflect the nature of the materials stored and the containers which are used. At small recycling centres where wheelie bins, igloos and skips are in use, the separation distances set out in Table 1 should be observed. Where these cannot be achieved, advice should be sought from insurers.

- 1.15 At larger centres, proprietary bottle banks or igloos are provided together with similar provisions for other small recyclable items. For electrical items, enclosed shipping containers are often used, with Ro-ro containers available for general paper, card, household waste, scrap metal, garden waste, timber, hardcore and soil.
- 1.16 Containers should not be overfilled. Arrangements should be made for the containers to be replaced as necessary.
- 1.17 Parking should be provided for staff away from the recycled materials as determined by a risk assessment.
- 1.18 Wheelie bins should be secured in position a safe distance from buildings and other structures to prevent them from being moved.
- 1.19 The separation distances for Ro-ro containers intended for non-combustible materials is not critical, but those used for combustible materials should be sited at least 10m from buildings and temporary buildings.
- 1.20 Loose combustible materials should be compacted by suitable plant or by use of a front loader or similar vehicle to reduce the volume of the collected material and make it harder to ignite.
- 1.21 To prevent the spread of a fire it is important that there is good housekeeping with recycling centres being maintained without loose papers and similar combustible materials on the ground or blowing in the wind.
- 1.22 At the end of each working day, a fire check must be undertaken with care being taken to look for signs of smouldering in combustible materials.
- 1.23 Fires must not be lit at waste recycling centres, even if they are controlled by the use of proprietary incinerators.

Form of storage	Minimum distance from buildings and plant (wherever practical)	Minimum distance from boundary fence (wherever practical)
Enclosed skip	10m	1m
Open skip	10m	2m
Metal wheelie bin with metal lid	10m	1m
Plastic wheelie bin	10m	2m
Piled combustible waste (including waste timber)	10m or twice the height of the stack, whichever is greater	2m

Table 1: Separation distances for solid combustible materials

2. Fire safety management

- 2.1 The fire safety management strategy for the site should consider practical passive, active and managerial control measures as part of the fire risk assessment for the premises undertaken in compliance with the Regulatory Reform (Fire Safety) Order 2005 (or equivalent legislation in Scotland and Northern Ireland) (refs. 7-10).
- 2.2 These measures should include:
- development of an emergency action plan to protect life and property and ensure the continuing functioning of the site in the case of fire;

- staff training in the actions to take in the event of fire, including the safe shut down of any processes being carried out (such as compacting) and evacuation of the site;
 - staff awareness of the need for tidiness and good housekeeping, especially in relation to loose paper and other combustible materials; and
 - the establishment of a fire check regime at the end of each work period.
- 2.3 An assessment in compliance with the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) (ref. 11) should be undertaken where hazardous materials, such as gas cylinders or flammable liquids or oils, are brought to the site.
- 2.4 Serious consideration should be given to the potential for deliberate fire setting when the fire risk assessment is undertaken. Although the materials stored on site may have been discarded as rubbish, a deliberately started fire will still have a significant impact on the operation of the site as well as inconvenience to the local community.
- 2.4.1 The most effective way of deterring trespassers, and hence also to prevent malicious fire raising, is to ensure that the site is secure against unauthorised entry, particularly out of normal opening hours. All parts of the site should therefore be enclosed by a permanent palisade or welded mesh fence.
- 2.4.2 Illumination of the site is an additional deterrent to unauthorised access and is recommended.
- 2.4.3 All staff should be vigilant for fires started accidentally or deliberately by visitors to the site.
- 2.5 Where a new site is being selected, studies should be made of the local landscape, surface drainage and ecology of the site. Unless unavoidable, recycling centres should not be located adjacent to standing crops or large areas of dry grassland.
- 2.6 When designing the site, the maximum quantities of the various materials to be stored on site should be identified and measures taken to remove the sorted waste for further processing on a regular basis before these limits are exceeded. Factors that will affect the quantities of materials to be stored will include:
- their volume;
 - the ease of ignition;
 - the amount of heat produced when they burn;
 - the amount of smoke and toxic gases produced when burning; and
 - the adequacy of the available water supplies for firefighting purposes.
- Business continuity**
- 2.7 Even a small fire can have a disproportionate effect on a business and, in the case of a recycling centre, can have a significant impact on the local community. It is therefore important that all organisations responsible for recycling centres take steps to make a suitable emergency plan. Guidance to assist in this is set out in **Business resilience: A guide to protecting your business and its people** (ref. 12). The emergency plan should address the implications of a fire, flood or other perceived disaster on all facets of the operation of the site. It should indicate the lines of communication that should be followed and the contact details for environmental specialists, providers of alternative accommodation and suppliers of suitable vehicles and plant.
- 2.8 When complete, the emergency plan should be tested by means of a table top exercise, with the results being assessed and amendments made to the plan as necessary.

Figure 1: Temporary buildings at a recycling centre



- 2.9 Consideration may be given to applying commercially available computer programs, such as **Robust** software (**Resilient Business Software Toolkit**), which is available free of charge (ref. 13), or other appropriate product, to develop and check the adequacy of the plan.

Hot work

- 2.10 A policy should be in place to eliminate the need for hot work wherever possible.
- 2.11 Any necessary hot work should be carried out off site. When this is not practicable and hot work on site is unavoidable (for example, to repair damaged Ro-ro containers) it must not be carried out at a time when members of the public or other visitors are on site.
- 2.12 Where the hot work is being carried out inside a building or in the vicinity of combustible waste materials, it should be subject to a hot work permit system as outlined in RC7: **Hot work** (ref. 14).
- 2.13 Following completion of the work, the area where it was undertaken should be damped down, if possible.
- 2.14 Hot work should not be undertaken within an hour of staff leaving the site.

Smoking

- 2.15 Smoking by members of public should be prohibited on site.
- 2.16 A designated area, well away from the stored materials, should be identified as a smoking area for staff. Further guidance on the control of smoking at work can be found in RC51: **Recommendations regarding smoking at work** (ref. 15).

3. Fire protection

- 3.1 Suitable means of raising the alarm in case of fire should be provided and staff trained in its use. On open sites a rotary gong or similar manually operated device may be all that is necessary. A loudspeaker system for evacuation of the site may also be advantageous.
- 3.2 The installation of suitable automatic fire detection systems and intruder alarms in temporary buildings is strongly encouraged.
- 3.2.1 Automatic fire detection systems must be installed in temporary buildings used for cooking or the drying of clothes. The nature of the installation should be determined by risk assessment and should comply with a recognised Category of system as set out in BS 5839-1: **Fire detection and fire alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance** (ref. 16). Consideration should be given to the installation of automatic sprinkler systems and intruder alarms.
- 3.3 Adequate water supplies for firefighting should be available and should be tested periodically.
- 3.4 All hydrants on site must be clear of obstruction and suitably marked.
- 3.5 An adequate number of appropriate portable fire extinguishers, approved and certificated by an independent, third-party certification body, should be provided, in accordance with the requirements of

BS 5306-8: **Fire extinguishing installations and equipment on premises. Selection and installation of portable fire extinguishers. Code of practice** (ref. 17) and be maintained in accordance with BS 5306-3: **Fire extinguishing installations and equipment on premises. Commissioning and maintenance of portable fire extinguishers. Code of practice** (ref. 18).

- 3.6 To protect the electrical distribution panels on compactors and similar equipment, appropriate extinguishers (such as those containing carbon dioxide) should be provided close to the equipment concerned.
- 3.7 All firefighting equipment which is not designed to come into use automatically must be easily accessible.
- 3.8 Extinguishers must be located in conspicuous positions. In the open they should be situated in red boxes raised 500mm above ground level with a sign 'FIRE POINT' at a height readily seen above intervening waste containers.
- 3.9 Personnel must be sufficiently instructed to be able to use the portable firefighting equipment provided on site.
- 3.10 All portable firefighting equipment must be serviced annually in accordance with BS 5306-3 (ref. 18) by a qualified person and the maintenance service date recorded, including marking on the appliances.
- 3.11 Mechanically-propelled site plant should carry an appropriate fire extinguisher where reasonably practicable.

Enclosed recycling facilities

- 3.12 Where recycling facilities are enclosed, an adequate number of suitable escape routes out of the building should be provided. Where necessary, routes should be hatched prominently and be kept clear of obstructions at all times. Pedestrian escape routes should be separate from vehicle roadways.
- 3.13 The structure should be protected by an automatic fire detection and alarm system designed, installed and maintained in accordance with BS 5839-1 (ref. 16) by an engineer with accreditation by an independent UKAS-accredited third party certification body and to at least an L2 category installation or as determined by the fire risk assessment in consultation with the insurer.
- 3.14 The automatic fire detection and alarm system should be monitored remotely either at a permanently manned point on site or by an off-site alarm receiving centre with accreditation by an independent UKAS-accredited third party certification body and operating in accordance with BS 5979: **Remote centres receiving signals from fire and security systems. Code of practice** (ref. 19).
- 3.15 The installation should be periodically serviced and maintained by a competent engineer with accreditation by an independent UKAS-accredited third party certification body in accordance with BS 5839-1 (ref. 16).
- 3.16 Where new facilities are being planned, and where indicated by the results of the fire risk assessment for existing premises, a water sprinkler installation may be appropriate. Sprinkler systems should be designed, installed, commissioned and maintained in accordance with the **LPC Sprinkler Rules incorporating BS EN 12845** (ref. 20) by a company with accreditation by BAFE or other independent UKAS-accredited third party

Figure 2: Typical 'Ro-ro' containers



- certification body as complying with the requirements of **LPS 1204: Requirements for firms engaged in the design, installation and commissioning of firefighting systems** (ref. 21). Test data should be provided to indicate that the system will be effective in the event of a fire in the worst circumstances that may be envisaged on site.
- 3.17 Suppression systems should be tested and maintained according to the requirements of the relevant British Standard and/or the installer's recommendations by a competent engineer with accreditation by an independent UKAS-accredited third party certification body. Suitable records should be kept.
- 3.18 Emergency escape lighting in accordance with BS 5266-1: **Emergency lighting: Code of practice for the emergency lighting of premises** (ref. 22) should be installed throughout the building. All escape routes shall be adequately signed.
- 4. Solid combustible materials**
- One of the most common forms of recycled material is paper. At present there is no legislation directly controlling paper recycling but there are targets for municipal waste as a whole, of which paper is a part.
- As of the 31 December 2010, the Household Waste Recycling Act 2003 (ref. 23) states that every household (unless it is uneconomic, or alternatives are already in place) must have a kerbside collection of at least two types of recyclable waste together or individually separated from the rest of the household waste. As paper is a relatively easy material to collect and recycle most local authorities have introduced domestic collection schemes for this product. Nevertheless large volumes of paper and card are still taken to recycling centres by small businesses and members of the public.
- 4.1 Paper and cardboard should be collected in Ro-ro or similar containers provided specifically for this purpose. No other waste materials should be allowed to be stored in the same container as to contaminate the paper.
- 4.2 The accumulated product should be compacted periodically and before removal of the filled container as there are reports, although not reliably substantiated, of fires occurring as a result of friction between sheets of card during transit to a reprocessing plant.
- 4.3 Where loose paper is to be transported in an open container, nets or tarpaulins should be used to prevent loose paper blowing away.
- 4.4 Attempts should not be made to fight a fire in waste paper with a handheld fire extinguisher, as such fires spread with great speed.
- 4.5 In no circumstances should anyone climb into a waste container to fight a fire involving waste paper.
- 4.6 Where large quantities of waste paper are produced by industrial or commercial organisations this should be stored in an enclosed shipping container so as to be out of sight of passers-by or anyone gaining access to the premises. The container should be removed and replaced when full.
- 4.7 Confidential documents should be shredded, following which the shredded material is best disposed of by a specialist contractor rather than being disposed of with other waste paper.
- 4.8 Measures must be taken to prevent wind-blown debris from accumulating on site.

Timber and furniture

Timber is often collected separately from paper and card for processing into chipboards, fibreboards and similar

products. In some cases waste chipboard is collected with the general household waste if it cannot be reprocessed.

- 4.9 Timber should be collected in a suitable Ro-ro or other containers rather than being piled on the ground. This allows any fire that occurs to be contained to allow effective firefighting activities as well as preventing uncontrolled fire spread.
- 4.10 Chipping machines should be separated from buildings and containers of combustible materials (see Table 1) so as to prevent ignition by sparks from nails or other foreign bodies introduced with the timber.

Combustible metals

- 4.11 Bulk quantities of magnesium powder and similar combustible metal should be classified as hazardous materials and not be accepted.
- 4.12 Alloy car wheels and small components may well find their way onto a waste recycling site. Combustible metals pose a serious fire hazard as, once alight, the fire has to be extinguished by trained firefighters using a dry powder formulated specifically for this purpose. Due to the seriousness of the hazard, once identified, the items should be segregated and arrangements made to dispose of them safely as soon as possible.

5. Non-combustible materials

Glass

Glass is not a significant fire hazard on recycling sites. For safety, glass tends to be collected in enclosed metal containers or, in the case of small sites, in plastic igloos. The plastic container may therefore be a greater fire hazard than the contents. As the glass is contained the hazard of the sun's rays being focussed through fragments of glass onto combustible material is minimised and will not be considered further here.

Metal

Metal will mainly be encountered in two forms: metal cans and similar containers, and other forms of scrap. Unwanted gas cylinders are discussed in section 7.

Cans, like bottles, are normally collected in enclosed metal containers or igloos. Aluminium and steel cans are collected together but are generally not compacted.

- 5.1 Care should be taken to avoid compacting mixed waste aluminium and steel containers to avoid initiating a thermite reaction between aluminium and rusty iron.

6. Biodegradable waste

Garden waste forms a large volume of the materials handled at local authority sites, especially in the summer months. The material can vary from leaves and grass cuttings to felled trees. The materials are normally deposited (without the bags or other containers) in open metal Ro-ro containers which are periodically compacted.

- 6.1 Grass cuttings and similar materials can self heat as a result of bacterial action when collected in bulk. Staff should be vigilant in case a fire should start in quantities of wet grassy materials that are brought to the site.
- 6.2 When large quantities of very dry leaves and tinder have accumulated, consideration should be given to wetting the material to make it less easily ignitable.
- 6.3 Consideration should be given to testing such materials for overheating at regular intervals with probe or recording thermometers and the fire and rescue service called if the temperature rises above 70°C.

7. Flammable liquids and gases

- 7.1 Where a dangerous substance is either present or liable to be present at the workplace, a suitable assessment of the risks likely to arise should be conducted in compliance

Figure 3: 'Igloos' for bottles and cans at a small recycling site



with DSEAR (ref. 5) and action taken to eliminate or reduce the hazard. Where an explosive atmosphere may occur, the workplace must be classified into zones based on the frequency and duration of the explosive atmosphere and the zones checked by a competent person. This is particularly important where electrical compactors and similar equipment may be in use. Further advice is set out in RC57: **Storage and use of highly flammable and flammable liquids in external fixed tanks** (ref. 24).

Flammable liquids

- 7.2 Provision should be made for the collection of waste flammable liquids in metal tanks or drums. Mild or stainless steel are the most suitable materials. Glass and plastic containers should not be used.
- 7.3 Storage tanks should be located in the open air and their vent pipes should be fitted with flame arrestors. The flame arrestors should be inspected and maintained periodically with the records kept.
- 7.4 Tanks should be located in bunded areas or on bunded pallets with provision for the removal of rainwater. The bund should be cleaned periodically to prevent the build up of liquid residues.
- 7.5 Tanks should be designed so that the level of liquid within can be determined and they should be located at least 2m from the site boundary.
- 7.6 Metal tanks should be bonded and earthed to prevent the build up of static electricity.
- 7.7 Flammable liquids should be stored away from acids (such as the sulphuric acid in old car batteries) and oxidising agents.

Oils and paints

- 7.8 Dedicated containers should be provided for waste oil. These should be protected by having an integral bund or be placed on bunded pallets. The bunds of the pallets should have provision for the removal of rain water and be cleaned periodically to prevent the build up of liquid residues.
- 7.9 Oxygenated oils (such as cooking oils) should be collected separately from hydrocarbon oils (such as vehicle oils). Where large quantities of cooking oil accumulate on a regular basis, consideration may be given to utilising the product for the production of biodiesel fuel.
- 7.10 Any turpentine or similar oils should be segregated and not allowed to contaminate paper, rags or similar materials as there would then be a serious possibility of self heating.
- 7.11 Paints should be retained in the cans or other containers in which they are brought to the site. They should not be mixed with other products.
- 7.12 Water-based paints must not be tipped into water courses.

Gas cylinders

- 7.13 A dedicated cage should be provided in which to store unwanted gas cylinders. Provision should be made to secure large cylinders in an upright position and prominent signs should be displayed to warn the fire and rescue service should they be called to the site.
- 7.14 The gas cylinder cage should be positioned so that no cylinder is closer than 2m to the boundary of the site.

- 7.15 All cylinders should be handled with care and not be dropped.
- 7.16 Cylinders should be protected from direct sunlight.
- 7.17 For fire safety reasons and to protect the environment, gas should not be released from cylinders that are part full. Such cylinders should be retained for collection by the supplier.
- 7.18 If a cylinder is thought to be damaged or leaking, a reputable supplier should be contacted without delay for advice or to make the cylinder safe.
- 7.19 No attempt should be made by staff to use cylinders that are part full for fuelling stoves or heating equipment.
- 7.20 No attempt should be made to reuse pressure gauges and control valves that have been sent for disposal.
- 7.21 Storing waste acetylene cylinders should be avoided. Wherever possible, an appropriate supplier should be contacted to arrange the removal of each acetylene cylinder as it is brought onto site. This applies to acetylene cylinders whether they are part full or thought to be 'empty'.
- 7.22 Other pressure vessels (such as old carbon dioxide fire extinguishers and carbon dioxide gas cartridges) should be treated with care and stored to await collection, preferably in a cage as for gas cylinders.
- 7.23 There will almost certainly be some partially full aerosol cans brought to site with general domestic waste. For this reason members of the public should be excluded from the site when the material in the Ro-ro or other containers in which the deposited waste is compacted.

8. Motor vehicles

A motor vehicle consists of many elements that may be recovered and recycled. This is normally undertaken by specialist vehicle breakers and will not normally form part of the work on a recycling centre.

- 8.1 Unless specialist equipment and facilities are available, vehicles brought to the recycling centre should be redirected to an authorised treatment facility for end of life vehicles which will treat scrap cars to minimise pollution in accordance with the End of Life Vehicle Regulations (ref. 25) prior to recycling the recovered elements.

The recycling process allows harmful pollutants, such as fuel and engine oil, to be removed, preventing leakage into the local environment. Tyres and plastic components are removed for recycling; in future, metal components will be treated similarly.

- 8.2 Components of vehicles brought to a recycling site should be treated according to the materials from which they are manufactured.

9. Tyres

Significant quantities of used tyres are discarded in the UK each year from domestic, commercial and industrial vehicles. Tyres have a high energy value and their use as a substitute fuel in some industries, such as in cement manufacture, is growing.

Although tyres will decompose over a long period of time, they pose a risk to the environment through uncontrolled fires, especially if stockpiled. Such fires can be extremely

difficult to extinguish especially when they occur where millions of waste tyres are stored. A fire in a tyre stack produces copious quantities of thick black smoke and toxic gases. Very large quantities of water are necessary to provide the degree of cooling required to prevent reignition and make the material safe.

- 9.1 Large numbers of used tyres should not be accepted on site but be directed to a licensed waste company to manage their ultimate disposal.
- 9.2 Modest numbers of waste tyres may be collected on site but should be segregated from other materials and stored in a closed skip or shipping container. The container should be emptied or removed and replaced when full.

10. Electrical, electronic and similar items

With designs of electrical and electronic equipment now incorporating few reusable or replaceable parts, increasing quantities of obsolete and broken equipment are thrown away.

The complex mixtures of these materials make waste electrical and electronic equipment difficult to manage and introduce various hazards in the event of fire, the chief of which is the release of toxic materials to the environment.

These materials can include arsenic, bromine, cadmium, halogenated flame retardants, hydrochlorofluorocarbons (HCFCs), lead, mercury and polychlorinated biphenyls (PCBs).

- 10.1 Fridges and freezers should be stored separately from other products and white goods to allow the refrigerant gases to be recovered safely by a specialist contractor.
- 10.2 For safety, old style televisions and computer monitors incorporating glass tubes should also be stored separately, in this case in a closed shipping container for collection by a specialist contractor.
- 10.3 Dedicated facilities should be provided to allow printer cartridges to be collected and recycled. (Many charities and small companies that previously collected and recycled small printer cartridges no longer undertake this work, as the introduction of electronic chips into the cartridges is now making the process untenable.)

Batteries

It is proposed that future legislation will make producers of all types of batteries responsible for treatment and disposal costs, except in the case of small household batteries. Even then, when the battery producer has obligations with regard to the collection and recycling of their products, it is anticipated that many batteries will still find their way to recycling centres as equipment is scrapped or becomes obsolete.

Currently batteries fall into two distinct categories with different hazards:

- wet cells: lead acid batteries of the type used in vehicles. In this case, the principal hazard is the sulphuric acid spilling or leaking from the cells; and

Figure 4: Dedicated recycling container for batteries and low energy bulbs



- dry cells: disposable batteries, including button batteries, used in domestic products and toys. Modern technology has resulted in many forms of battery that are readily available containing significant quantities of heavy metals (including mercury), materials that are toxic if released to the environment in a fire or allowed to accumulate in a landfill site.
- 10.4 Containers for lead acid vehicle batteries should be designed to ensure the safety of people visiting the centres and prevent the acidic contents of the batteries from escaping to cause injury or contaminate the area.
 - 10.5 No attempt should be made to drain the acid from batteries; this will be undertaken in a safe environment off site at the start of the reprocessing process.
 - 10.6 Dedicated facilities should be available to collect all forms of dry cells to minimise the number going to landfill.
 - 10.7 No form of battery should be subject to incineration. To do so would release toxic materials to the environment and, especially in the case of some button batteries, could result in an explosion.
 - 10.8 Metal wool, swarf and similar materials should not be allowed to come into contact with waste batteries of any form as shorting may occur with any residual charge causing fine wire to heat and ignite any readily combustible materials in the immediate vicinity.
 - 10.9 Particular care should be taken when handling lithium polymer batteries that have come to the end of their life. This form of battery is recognisable by not having a solid geometric container (such as those with the common cylindrical or button formats). These batteries can carry a powerful charge and in some circumstances can heat and cause an intense fire. Wherever possible lithium polymer batteries should be collected in a closed, fire-resistant container to contain any fire that may occur.

Light bulbs and tubes

Household bulbs cannot be recycled with other household glass waste due to the metal components which are difficult to separate from the glass bulb. Fluorescent tubes can, however, be recycled. These tubes can contain potentially harmful substances such as highly toxic heavy metals, in particular mercury, cadmium and lead. If they enter the body, these substances can cause damage to the liver, kidneys and the brain. Older fluorescent tubes also contain beryllium, a metal that also has serious health-related issues and can enter the body as a result of a cut from a broken glass tube.

- 10.10 A dedicated container should be provided for collecting fluorescent tubes. Another container should be provided for other forms of recyclable lamp, such as mercury discharge lamps and high-intensity sodium discharge lamps.
- 10.11 Tubes must not be broken but retained whole to prevent the release of toxic materials.

Mobile phones and small electrical items

- 10.12 Where reuse is not viable or the mobile phone is unwanted, the rechargeable battery should be recycled separately from the remainder of the item.

- 10.13 A designated metal container should be available for the collection and storage of electrical items, although in some cases electrical items that are predominantly metal (such as some lamps) may be directed to the scrap metal containers.

11. Checklist

		Yes	No	N/A	Action required	Due date	Sign on completion
11.1	General considerations (section 1)						
11.1.1	Is adequate parking and turning room provided for the maximum number of vehicles expected to be on site? (1.1)						
11.1.2	Are the exhaust pipes of site vehicles enclosed to prevent blown paper and similar materials from lodging and igniting on the hot exhaust pipe? (1.2)						
11.1.3	Are the servicing and maintenance of site vehicles undertaken away from the recycling centre? (1.3)						
11.1.4	To prevent slips, trips and problems with lifting heavy items, is ramped access provided for vehicles or pedestrians to access containers, rather than a level surface with steps? (1.4)						
11.1.5	Are staff on hand to provide advice and direction on the disposal of items in the correct locations? (1.5)						
11.1.6	Where temporary buildings are employed, are they separated from the waste materials and permanent buildings to provide as great a fire break as reasonably possible? (1.6)						
11.1.7	Where the fire break is less than 6m, are temporary building(s) constructed with materials that do not significantly contribute to the growth of a fire or the propagation of smoke and corrosive or toxic fumes? (1.7)						
11.1.8	Where floors of temporary building(s) are raised above ground level, is the space beneath enclosed to prevent accumulation of rubbish, whilst still allowing under-floor ventilation? (1.8)						
11.1.9	Are the areas beneath raised temporary buildings free of stored combustible materials? (1.8)						
11.1.10	Are heaters for use in temporary buildings fixed, preferably above floor level, fitted with securely fixed metal guards and maintained in a sound condition? (1.9)						
11.1.11	Are coat stands and drying racks firmly positioned at a safe distance from heaters (which are thermostatically controlled and have enclosed elements)? (1.10)						
11.1.12	Are all heaters and cooking appliances properly installed with adequate ventilation provided? (1.11)						
11.1.13	Are microwave ovens used to heat food where possible? (1.11)						
11.1.14	Do temporary building(s) contain no more than the minimum of furniture and fittings of a combustible nature? (1.12)						
11.1.15	Is the site clearly signed to indicate fire exits as well as the location of the storage areas for the various materials? (1.13)						

		Yes	No	N/A	Action required	Due date	Sign on completion
11.1.1.16	Is a plan of the site available for the fire brigade on their arrival? (1.13)						
11.1.1.17	Is the site set out to reflect the nature of the materials stored and the containers that are used? (1.14)						
11.1.1.18	At small recycling centres where wheelie bins, igloos and skips are in use, are the separation distances set out in Table 1 observed? (1.14)						
11.1.1.19	At larger centres, are proprietary bottle banks or igloos provided together with similar provisions for other small recyclable items? (1.15)						
11.1.1.20	Are measures in hand to ensure that containers are not overfilled? (1.16)						
11.1.1.21	Is parking provided for staff off site away from the recycled materials? (1.17)						
11.1.1.22	Are wheelie bins secured in position a safe distance from buildings and other structures to prevent them from being moved? (1.18)						
11.1.1.23	Are combustible materials, other than those in Ro-ro containers, sited at least 10m from buildings and temporary buildings? (1.19)						
11.1.1.24	Are loose combustible materials compacted by suitable plant or by use of a front loader or similar vehicle to reduce the volume of the collected material and make it harder to ignite? (1.20)						
11.1.1.25	Is the housekeeping maintained to a high standard without loose papers and similar combustible materials on the ground or blowing in the wind? (1.21)						
11.1.1.26	At the end of each working day, is a fire check carefully undertaken to look for signs of smouldering combustible materials? (1.22)						
11.1.1.27	Are all fires prohibited at waste recycling centres? (1.23)						
11.2	Fire safety management (section 2)						
11.2.1	Does the fire safety management strategy for the site consider practical passive, active and managerial control measures as part of the fire risk assessment for the premises undertaken in compliance with the Regulatory Reform (Fire Safety) Order 2005 (or equivalent legislation in Scotland and Northern Ireland)? (2.1)						
11.2.2	Do these measures include all of the following: <ul style="list-style-type: none"> development of an emergency action plan to protect life and property and ensure the continuing functioning of the site in the case of fire?; staff training in the actions to take in the event of fire, including the safe shut down of any processes being carried out (such as compacting) and evacuation of the site?; staff awareness of the need for tidiness and good housekeeping, especially in relation to loose paper and other combustible materials?; and the establishment of a fire check regime at the end of each work period? (2.2) 						

		Yes	No	N/A	Action required	Due date	Sign on completion
11.2.3	Has an assessment in compliance with the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) been undertaken where hazardous materials such as gas cylinders or flammable liquids or oils are brought to the site? (2.3)						
11.2.4	Has serious consideration been given to the potential for deliberate fire setting when the fire risk assessment is undertaken? (2.4)						
11.2.5	Are all parts of the site enclosed by a permanent palisade or welded metal fence? (2.4.1)						
11.2.6	Is the site illuminated at night? (2.4.2)						
11.2.7	Are staff vigilant for fires started accidentally or deliberately by visitors to the site? (2.4.3)						
11.2.8	Where a new site is being selected, have studies been made of the local landscape, surface drainage and ecology of the site? (2.5)						
11.2.9	When designing the site, have the maximum quantities of the various materials to be stored on site been identified and measures taken to remove the sorted waste for further processing on a regular basis before these limits are exceeded? (2.6)						
11.2.10	Have steps been taken to make a suitable emergency plan? (2.7)						
11.2.11	Following completion, has the emergency plan been tested by means of a table top exercise, with the results being assessed and amendments made to the plan as necessary? (2.8)						
11.2.12	Has consideration been given to applying commercially available computer programs to develop and check the adequacy of the plan? (2.9)						
11.2.13	Is a policy in place to eliminate the need for hot work wherever possible? (2.10)						
11.2.14	Is any necessary hot work carried out off site whenever practicable? (2.11)						
11.2.15	Where hot work on site is unavoidable, is it carried out at a time when the site is free of members of the public and other visitors? (2.11)						
11.2.16	Where the hot work is being carried out inside a building or in the vicinity of combustible waste materials, is it subject to a hot work permit system as outlined in RC7: Hot work? (2.12)						
11.2.17	Following completion of the work, is the area where it was undertaken damped down if possible? (2.13)						
11.2.18	Is hot work prohibited within an hour of staff leaving the site? (2.14)						
11.2.19	Is smoking by members of public prohibited on site? (2.15)						

		Yes	No	N/A	Action required	Due date	Sign on completion
11.2.20	Is a designated area, well away from the stored materials, identified as a smoking area for staff? (2.16)						
11.3	Fire protection (section 3)						
11.3.1	Are suitable means of raising the alarm in case of fire provided and staff trained in its use? (3.1)						
11.3.2	Has consideration been given to the installation of automatic sprinkler systems and intruder alarms in temporary buildings used for cooking or the drying of clothes? (3.2)						
11.3.3	Are automatic fire detection systems complying with a recognised category of system as set out in BS 5839-1 installed in temporary buildings used for cooking or the drying of clothes? (3.2.1)						
11.3.4	Are adequate water supplies for firefighting available and tested periodically? (3.3)						
11.3.5	Are all hydrants on site clear of obstruction and suitably marked? (3.4)						
11.3.6	Are an adequate number of appropriate portable fire extinguishers, approved and certificated by an independent, third-party certification body, provided, in accordance with the requirements of BS 5306-8 and maintained in accordance with BS 5306-3? (3.5)						
11.3.7	Are appropriate extinguishers provided to protect the electrical distribution panels, compactors and similar equipment? (3.6)						
11.3.8	Is all firefighting equipment which is not designed to come into use automatically easily accessible? (3.7)						
11.3.9	Are extinguishers located in conspicuous positions? (3.8)						
11.3.10	Are personnel sufficiently instructed to be able to use the portable firefighting equipment provided on site? (3.9)						
11.3.11	Is all portable firefighting equipment serviced annually in accordance with BS 5306-3 by a qualified person and the maintenance service date recorded, including marking on the appliances? (3.10)						
11.3.12	Does mechanically-propelled site plant carry an appropriate fire extinguisher where reasonably practicable? (3.11)						
11.3.13	Where recycling facilities are enclosed, are an adequate number of suitable escape routes out of the building provided? (3.12)						

		Yes	No	N/A	Action required	Due date	Sign on completion
11.3.14	Is the structure protected by an automatic fire detection and alarm system designed, installed and maintained in accordance with BS 5839-1 by an engineer with accreditation by an independent UKAS-accredited third party certification body and to at least an L2 category installation or as determined by the fire risk assessment in consultation with the insurer? (3.13)						
11.3.15	Is the automatic fire detection and alarm system monitored remotely either at a permanently manned point on site or by an off-site alarm receiving centre with accreditation by an independent UKAS-accredited third party certification body and operating in accordance with BS 5979? (3.14)						
11.3.16	Is the installation periodically serviced and maintained by a competent engineer with accreditation by an independent UKAS-accredited third party certification body in accordance with BS 5839-1? (3.15)						
11.3.17	Where new facilities are being planned, and where indicated by the results of the fire risk assessment for existing premises, has consideration been given to installing a water sprinkler systems designed, installed, commissioned and maintained in accordance with the LPC Sprinkler Rules incorporating BS EN 12845 by engineers having accreditation by an independent UKAS-accredited third party certification body? (3.16)						
11.3.18	Are suppression systems tested and maintained according to the requirements of the relevant British Standard and/or the installer's recommendations by a competent engineer with accreditation by an independent UKAS-accredited third party certification body? (3.17)						
11.3.19	Is emergency escape lighting in accordance with BS 5266-1 installed throughout the building with all escape routes being adequately signed? (3.18)						
11.4	Solid combustible materials (section 4)						
11.4.1	Is paper and cardboard collected in Ro-ro or similar containers provided specifically for this purpose? (4.1)						
11.4.2	Is the accumulated product compacted periodically and before removal of the filled container? (4.2)						
11.4.3	Where loose paper is to be transported in an open container are nets or tarpaulins used to prevent loose paper blowing away? (4.3)						
11.4.4	Are staff aware that attempts should not be made to fight a fire in waste paper with a hand held fire extinguisher as such fires spread with great speed? (4.4)						
11.4.5	Are staff aware that in no circumstances should anyone climb into a waste container to fight a fire involving waste paper? (4.5)						

		Yes	No	N/A	Action required	Due date	Sign on completion
11.4.6	Where large quantities of waste paper are produced by industrial or commercial organisations is this stored in an enclosed shipping container so as to be out of sight of passers-by or anyone gaining access to the premises? (4.6)						
11.4.7	Are confidential documents shredded, with the shredded material being disposed of by a specialist contractor rather than being disposed with other waste paper? (4.7)						
11.4.8	Are measures taken to prevent wind-blown debris from accumulating on the site? (4.8)						
11.4.9	Is timber collected in a suitable Ro-ro or other containers rather than being piled on the ground? (4.9)						
11.4.10	Are chipping machines suitably separated from buildings and containers of combustible material? (4.10)						
11.4.11	Are bulk quantities of magnesium powder and similar combustible metal classified as hazardous materials and not accepted? (4.11)						
11.4.12	Due to the seriousness of the hazard, once identified, are alloy car wheels and similar items segregated and arrangements made to dispose of them safely as soon as possible? (4.12)						
11.5	Non-combustible materials (section 5)						
11.5.1	Is care taken to avoid compacting mixed waste aluminium and steel containers to avoid initiating a thermite reaction between aluminium and rusty iron? (5.1)						
11.6	Biodegradable waste (section 6)						
11.6.1	Grass cuttings and similar materials can self heat as a result of bacterial action when collected in bulk. Are staff vigilant in case a fire should start in quantities of wet grassy materials that are brought to the site? (6.1)						
11.6.2	When large quantities of very dry leaves and tinder have accumulated, is consideration given to wetting the material to make it less easily ignitable? (6.2)						
11.6.3	Is consideration given to testing biodegradable materials for overheating at regular intervals with a probe or recording thermometer, with the fire and rescue service being called if the temperature rises above 70°C? (6.3)						
11.7	Flammable liquids and gases (section 7)						

		Yes	No	N/A	Action required	Due date	Sign on completion
11.7.1	Where a dangerous substance is either present or liable to be present at the workplace, has a suitable assessment of the risks likely to arise been conducted in compliance with the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002? (7.1)						
11.7.2	Is provision made for the collection of waste flammable liquids in metal tanks or drums? (7.2)						
11.7.3	Are storage tanks located in the open air and their vent pipes fitted with flame arrestors? (7.3)						
11.7.4	Are tanks located in bunded areas or on bunded pallets with provision for the removal of rainwater? (7.4)						
11.7.5	Are tanks designed so that the level of liquid within can be determined? (7.5)						
11.7.6	Are tanks located at least 2m from the site boundary? (7.5)						
11.7.7	Are metal tanks bonded and earthed to prevent the build up of static electricity? (7.6)						
11.7.8	Are flammable liquids stored away from acids and oxidising agents? (7.7)						
11.7.9	Are dedicated containers provided for waste oil, these being protected by having an integral bund or being placed on bunded pallets? (7.8)						
11.7.10	Are oxygenated oils (such as cooking oils) collected separately from hydrocarbon (such as vehicle) oils? (7.9)						
11.7.11	Where large quantities of cooking oil accumulate on a regular basis has consideration been given to utilising the product for the production of biodiesel fuel? (7.9)						
11.7.12	Are any turpentine or similar oils segregated and not allowed to contaminate paper, rags or similar materials so as to prevent a serious possibility of self heating? (7.10)						
11.7.13	Are paints retained in the cans or other containers in which they are brought to the site? (7.11)						
11.7.14	Are staff aware that water-based paints must not be tipped into water courses? (7.12)						
11.7.15	Is a dedicated cage provided in which to store unwanted gas cylinders? (7.13)						
11.7.16	Is provision made to secure large cylinders in an upright position with prominent signs displayed to warn the fire and rescue service should they be called to the site? (7.13)						
11.7.17	Is the gas cylinder cage positioned so that no cylinder is closer than 2m to the boundary of the site? (7.14)						

		Yes	No	N/A	Action required	Due date	Sign on completion
11.7.18	Are all cylinders handled with care to avoid their being dropped? (7.15)						
11.7.19	Are cylinders protected from direct sunlight? (7.16)						
11.7.20	Are measures taken to prevent gas from being released from cylinders that are part full? (7.17)						
11.7.21	If a cylinder is thought to be damaged or leaking, is a reputable supplier contacted without delay for advice or to make the cylinder safe? (7.18)						
11.7.22	Are staff aware that no attempt should be made by staff to use cylinders that are part full for fuelling stoves or heating equipment? (7.19)						
11.7.23	Are staff aware that no attempt should be made to reuse pressure gauges and control valves that have been sent for disposal? (7.20)						
11.7.24	Is the storing of waste acetylene cylinders avoided? (7.21)						
11.7.25	Are other pressure vessels (such as old carbon dioxide fire extinguishers and carbon dioxide gas cartridges) treated with care and stored to await collection, preferably in a cage as for gas cylinders? (7.22)						
11.7.26	Are members of the public excluded from the site when the material in the Ro-ro or other containers in which the deposited waste is compacted? (7.23)						
11.8	Motor vehicles (section 8)						
11.8.1	Unless specialist equipment and facilities are available, are vehicles brought to the recycling centre redirected to an authorised treatment facility for end of life vehicles which will treat scrap cars to minimise pollution in accordance with the End of Life Vehicle Regulations? (8.1)						
11.8.2	Are components of vehicles brought to a recycling site treated according to the materials from which they are manufactured? (8.2)						
11.9	Tyres (section 9)						
11.9.1	Is the acceptance of large numbers of used tyres avoided on site, with such requests being directed to a licensed waste company to manage their ultimate disposal? (9.1)						
11.9.2	Are the modest numbers of waste tyres that are accepted segregated from other materials and stored in a closed skip or shipping container? (9.2)						
11.10	Electrical, electronic and similar items (section 10)						
11.10.1	Are fridges and freezers stored separately from other products and white goods to allow the refrigerant gases to be recovered safely by a specialist contractor? (10.1)						

		Yes	No	N/A	Action required	Due date	Sign on completion
11.10.2	Are old style televisions and computer monitors incorporating glass tubes stored separately, in this case in a closed shipping container for collection by a specialist contractor? (10.2)						
11.10.3	Are dedicated facilities provided to allow printer cartridges to be collected and recycled? (10.3)						
11.10.4	Are containers for lead acid vehicle batteries designed to ensure the safety of people visiting the centres and prevent the acidic contents of the batteries from escaping to cause injury or contamination to the area? (10.4)						
11.10.5	Is no attempt made to drain the acid from batteries, with this being undertaken in a safe environment off site at the start of the reprocessing process? (10.5)						
11.10.6	Are dedicated facilities available to collect all forms of dry cells to minimise the number going to landfill? (10.6)						
11.10.7	Are staff aware that no form of battery should be subject to incineration? (10.7)						
11.10.8	Are measures taken to prevent metal wool, swarf and similar materials from coming into contact with waste batteries of any form? (10.8)						
11.10.9	Is particular care taken when handling lithium polymer batteries that have come to the end of their life? (10.9)						
11.10.10	Are dedicated containers provided for collecting fluorescent tubes and other forms of recyclable lamp, such as mercury discharge lamps and high intensity sodium discharge lamps? (10.10)						
11.10.11	Are staff aware that tubes must not be broken but retained whole to prevent the release of toxic materials? (10.11)						
11.10.12	Where reuse is not viable or a mobile phone is unwanted, is the rechargeable battery recycled separately from the remainder of the item? (10.12)						
11.10.13	Is a designated metal container available for the collection and storage of electrical items? (10.13)						

➤ PRESS REPORTS OF FIRES AT RECYCLING CENTRES

Homes evacuated as fire engulfs recycling plant

Up to 80 people have been evacuated from their homes after a severe fire broke out overnight at a recycling plant, emergency crews said this morning.

The blaze began on Western Way in Moxley, Walsall, West Midlands, shortly before 4am and firefighters cordoned off the area due to the presence of a large quantity of asbestos at the site.

Police evacuated residents while 15 fire engines and 16 firefighters tackled the flames. Many of the evacuees went to friends or relatives, while the rest were moved to Darlaston police station.

West Midlands Ambulance Service said there had been no serious casualties but several people, including police officers, were treated at the scene for the effects of smoke. The service sent two ambulances and the Hazardous Area Response Team (HART) to the scene, while an additional paramedic was at the police station. A spokesman for the service said: 'The fire has caused a thick plume of acrid black smoke to move into a nearby housing area. So far there have not been any casualties from the fire itself though a handful of residents have been checked over, but thankfully no one has required hospital treatment. Ambulance staff will remain at the scene due to the large number of firefighters tackling the blaze. The members of the HART team have specialist equipment in case it is required to enter the areas affected by the smoke.'

The fire, at AWM Recycling Ltd, was being brought under control this morning, firefighters said.

Two joint units at the site, spanning around 100m by 50m, were affected by the fire, but flames were no longer reaching the roof of the building. The palls of black smoke reported in the early hours were thinning to a grey mixture of smoke and steam and dispersing. A spokeswoman for West Midlands Fire Service confirmed that 16 firefighters had initially been committed to tackle the blaze, but 50 were now bringing the situation under control, with more on hand.

Roads in the area were shut down earlier when the smoke was at its peak, with motorists urged to seek alternative routes.

A spokesman for West Midlands Police said: 'The A41 Black Country New Road and some side roads close to the scene were closed.'

Officers said it was too early to determine what caused the fire or whether it was suspicious.

(Press Association report)

Smoke from recycling centre monitored

Around 25 firefighters are still tackling the fire at a recycling centre in Skewen, near Neath, next to the A465 Heads of the Valleys Road.

Mid and West Wales Fire Service were called to the plant, which contains recycled metals and plastics, at just after 0220 BST on Monday. More than 35 firefighters and five fire engines were at the fire at its height, with the materials at the centre said to be well alight.

Water was being pumped from a local canal to tackle the flames which involved 1,500 tonnes of mixed recycled waste. The incident commander said: 'Now that we have a good supply of water, crews are working to suppress the fire carefully to ensure that the smoke plume remains buoyant thus keeping the smoke at a high level.'

The fire service said the smoke levels on the M4 and A465 were being monitored but should not be enough to affect road traffic. The smoke was dispersing well but, as a precaution only, householders in the immediate area were advised to keep windows closed.

No injuries were reported.

(Taken from BBC News)

Waste plant fires 'still burning'

Fire crews remained at a waste recycling plant in East Yorkshire on Wednesday as they continued to tackle a fire which started on Monday evening. About 1,000 tonnes of waste timber which went up in flames at the Transwaste site in Foster Street, Hull, may burn for another three days. A Humberside Fire and Rescue Service spokesman said crews were letting the main seat of the fire burn out. Smaller fires at the site were being extinguished to protect nearby homes.

The fire service was working with Yorkshire Water to ensure contaminated run-off water was being stored and treated. The cause of the fire is still under investigation; fire service officers and police are studying CCTV images of the surrounding area to establish whether there was any suspicious activity before the fire started.

Residents and businesses near the site have been advised to keep doors and windows closed as smoke pours from the scene.

Humberside Fire Service group manager Keith Evans said: 'Pouring more water on to the fire is going to cause more problems for the area so we have got what we call a controlled burning environment. We are protecting surrounding buildings and structures and allowing the actual 1,000 tonnes of wood product to just burn off.'

Environment Agency officers said the fire 'should not pose any significant risk' as it involved waste timber.

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