

## Guidance on the Standards for Storage and Treatment of End-of-life vehicles

### Introduction

This guidance has been prepared by the Environment Agency and the Scottish Environment Protection Agency (SEPA), with the advice and support of the Department for the Environment, Food and Rural Affairs, the Scottish Executive and the vehicle recycling industry.

It is intended to provide advice to staff from the Agencies and operators of vehicle storage and treatment sites on what environmental standards are required by the End-of life Vehicles Directive.

This guidance develops the guidance that the Government has published on waste management licensing, particularly for the metal recycling industry, and the implementation of the End-of life Vehicles Directive.

The Agencies publish a variety of guides, especially in the series on Pollution Prevention Guidance such as PPG 02 (Above ground oil storage tanks) and PPG 03 (The use and design of oil separators). These are available on the Agencies' web-sites or from local offices.

The Agencies are responsible for ensuring that operators meet the environmental standards set by the ELV Directive. Notwithstanding the Directive and this guidance, operators remain responsible for meeting other requirements relating to, for example, water pollution, planning controls and health and safety.

### The Directive

The End-of-Life Vehicles Directive (2000/53/EC), adopted on 20 October 2000, aims to promote the collection, re-use and recycling of their components to protect the environment. In particular it requires Member States to ensure that ELVs can only be stored and treated in accordance with tightened environmental treatment standards.

### Licensed sites, registered sites & storage sites

Generally, the Directive requires that ELVs may only be treated (treatment includes depollution, dismantling, shearing, shredding, recovery and preparation for disposal) at licensed sites. Such sites must meet the standards for storage, depollution and dismantling, as appropriate.

Sites that only treat ELVs that have been depolluted may operate without a licence if registered with SEPA or the Environment Agency (as appropriate) as being exempt from licensing. Such sites must meet the standards for storage and treatment.

Sites where vehicles become waste and thus ELVs (sites of production) may store those ELVs without a licence or registration, but must still meet the standards for storage.

Standards only apply to the extent that a relevant activity occurs, eg the standard for the storage of dismantled spare parts only applies where spare parts are stored.

### Application to all vehicles

The Directive is aimed at certain classes of motor vehicles (essentially cars and light goods vehicles).

However, the pollution potential of, say, a heavy goods vehicle is no different from its smaller counterpart. Motor cycles also have significant pollution potential.

To apply different environmental protection standards to different classes of vehicles would pose significant compliance issues for the industry and make the enforcement of standards impracticable in some cases.

The Government has decided that the same environmental protection standards will apply in respect of all end-of-life (ie waste) motor vehicles, irrespective of their class.

In this guidance, all such end-of-life motor vehicles are referred to as ELVs.

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### 1. Standards that apply to all sites handling ELVs

This section applies to all ELV sites, whether they are licensed, registered or otherwise exempt from licensing. Additional standards apply to treatment activities.

#### Surfaces

The ELV Directive requires the provision of:  
impermeable surfaces for appropriate areas with the provision of spillage collection facilities, decanters and cleanser-degreasers

"Impermeable surface" means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface. See also "sealed drainage system".

"Sealed drainage system" in relation to an impermeable pavement, means a drainage system with impermeable components which does not leak and which will ensure that:

- (a) no liquid will run off the pavement otherwise than via the system;
- (b) except where they may lawfully be discharged, all liquids entering the system are collected in a sealed sump

#### Appropriate areas

Vehicles that have not been fully depolluted have many pollutants associated with them and are classified as hazardous waste. They generally become waste through age, accident or other occurrence as a result of which their condition cannot be guaranteed. Such vehicles must be stored, even temporarily, on an impermeable surface.

The activity of depollution itself carries a significant risk of pollution that must be managed. All depollution activity must take place on an impermeable surface.

If a vehicle has been depolluted in accordance with the Government's Guidance on Depolluting End-of-life Vehicles any pollution risk associated with it will be significantly reduced and it will no longer be classed as hazardous waste.

Vehicles that have been depolluted may under certain circumstances be stored on hardstanding, and on licensed sites may

be dismantled there if the dismantling is of parts not associated with, and the dismantling activity will not disturb, the engine, transmission or hydraulic systems. The Waste Management Licensing Regulations 1994 require that exempt sites undertake all dismantling activities in areas provided with an impermeable pavement and sealed drainage system.

Impermeable surfaces normally provide the primary control mechanism against the risk of pollution of soils, groundwaters and surface waters. If vehicles are stored or dismantled on a hardstanding that is not impermeable then, notwithstanding that the risks posed by them are significantly reduced through the depollution exercise, the primary control mechanism is absent.

Operators must increase monitoring of areas of hardstanding and deal with problems promptly.

If there is evidence of pollution in any area, this is an indication that the depollution measures adopted for the vehicles in that area are deficient and require review

The length of time that a vehicle is stored and the manner of its storage are factors in determining whether a vehicle may be stored on hardstanding. For instance, engine compartments should be protected from rain in order to avoid contaminants being washed off.

Any dismantling that involves the engine, transmission or hydraulic systems bear the risks posed by disturbance of residual contaminants and so must take place on an impermeable surface.

#### Impermeable surfaces

The type of impermeable surface required is likely to depend on a number of factors, including:

- the volume of ELVs
- type and volume of other materials dealt with
- the type and level of activity undertaken on the surface

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- the length of time the surface is meant to be in service, and
- the level of maintenance.

Areas of a site where different activities are undertaken may be constructed differently provided that the surface is impermeable.

Whether the type of surface should be the same across the entire site is likely to depend upon similar factors to the above.

A 'surface' in this context may not be the uppermost layer. For instance, concrete may be protected by a hardcore layer for certain activities such as flame cutting. Under these circumstances the operator will need to be able to demonstrate the continued effectiveness of the impermeable pavement.

Whether a surface is in fact impermeable will depend on how it is constructed and the use it is put to.

A surface will not be impermeable and therefore will be unacceptable if, for example,

- it is composed solely of hardstanding made up of crushed or broken bricks or other types of aggregate
- it has slabs or paving not properly joined or sealed
- spillages or surface water will not be contained within the system
- it is made of tarmac laid where battery acid is likely to drip (but see below)
- it is in a large battery store but is not made of acid-resistant concrete
- it is made of tarmac where harsh physical activity is likely to damage the surface

There may also be other unacceptable examples.

Surfaces made of tarmac may be considered to be impermeable, depending on the grade of tarmac provided and the method by which it was laid.

### Spillage collection facilities

Spillage collection facilities include the impermeable pavement and sealed drainage system as the primary means of containment.

However, spill kits to deal with spillages of oils, fuels and acids should be provided and used as appropriate

### Management of water

The ELV Directive requires the provision of:  
equipment for the treatment of water, including rainwater, in compliance with health and environmental regulations

On most sites, two systems for the management of water will be necessary, for clean water and for contaminated water.

Clean water can be dealt with by surface water drains that should carry only uncontaminated water from roofs to a watercourse or soakaway.

The treatment of contaminated water to the necessary standard will require a sealed drainage system, as defined above.

It may be necessary to obtain a consent if water is to be discharged. Discharges to sewers are generally controlled by the local water company. Other discharges are regulated by SEPA or the Environment Agency

### Security

For the purposes of this guidance, a place is secure if all reasonable precautions are taken to ensure that the ELVs, their contents or waste cannot escape from it and unauthorised access is prevented.

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### 2. Standards for sites treating ELVs: (depollution and dismantling)

This section applies to licensed and registered ELV sites and is in addition to the standards detailed in section 1 above.

#### **Storage for oil-contaminated spare parts**

The ELV Directive requires the provision of:  
appropriate storage, including impermeable storage for oil-contaminated spare parts

Some spare parts, eg engines, require oil in order to preserve working surfaces.

Such parts must be appropriately segregated and stored in or on containers that are secured such that oil cannot escape from them.

Oily parts must be stored on an area with an impermeable surface and a sealed drainage system.

#### **Batteries, liquified gas tanks, filters and condensers**

The ELV Directive requires:  
removal of batteries and liquified gas tanks, and

the provision of appropriate containers for storage of batteries (with electrolyte neutralisation on site or elsewhere), filters, and PCB/PCT- containing condensers

Lead acid batteries should be removed as should any accessible back-up batteries unless they are required for the subsequent reuse of the part.

Lead acid batteries should be handled carefully and stored in secure containers on impermeable surfaces.

All batteries should be handled and stored having regard for the potential fire-risk associated with them.

The process of electrolyte neutralisation may be classified as a PPC activity under the terms of the Pollution, Prevention and Control Act 1999.

Liquified gas tanks include liquified petroleum gas and compressed natural gas tanks.

Of the different types of filter, only oil-filters need to be removed and stored separately.

Containers must be secure so that oil, battery-acids or other fluids cannot escape from them, and so that liquids, including rainwater, cannot enter them. They must be labelled to identify their contents.

#### **Removal and storage of liquids**

The ELV Directive requires:  
removal and separate collection and storage of fuel, motor oil, transmission oil, gearbox oil, hydraulic oil, cooling liquids, anti-freeze, brake fluids, air-conditioning system fluids and any other fluid contained in the ELV, unless they are necessary for the re-use of the parts concerned, and

appropriate storage tanks for the segregated storage of ELV fluids; fuel, motor oil, gearbox oil, transmission oil, hydraulic oil, cooling liquids, antifreeze, brake fluids, battery acids, air-conditioning system fluids and any other fluid contained in the ELV.

The objective of this ELV Directive requirement is to minimise the impact on the environment and facilitate the reuse, recycling and recovery of waste liquids.

The Government's Guidance on Depolluting End-of-life Vehicles makes it clear what steps are necessary to achieve depollution and when an ELV ceases to be hazardous waste.

Liquids which need to be retained within a component in order to make it re-usable need not be removed.

ELVs that have not been fully depolluted are hazardous waste.

Any fluids that are classified as hazardous waste should not be mixed with hazardous wastes of a different category, non-

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hazardous wastes or material that is not waste.

Generally liquids should be separately removed, collected and stored. However, it may not be practicable to separately remove and collect liquids in certain circumstances, for example where the liquids are mixed together within the vehicle. In those circumstances or where the liquids are classified in the same category within the European Waste Catalogue may be removed, collected and stored together.

A copy of the Catalogue can be found on the Agencies' websites. Your local regulator should be contacted if in doubt.

The handling and storage of fuel has implications for health & safety and the Petroleum Storage Regulations that are outside the remit of site licensing.

If 'any other fluid' (ie any fluid other than that listed), is collected it must be identified and stored in accordance with the above paragraph.

Storage tanks or drums for each category of fluid should be of sufficient strength and integrity to ensure that in normal circumstances they are unlikely to burst or leak.

A suitable secondary containment system should be provided. For example, tanks should either have double skins or be appropriately banded. (Banding for liquid storage tanks should be at least 110% of the capacity of the largest container).

The Agencies provide guidance on banding that can be obtained directly from them.

Generally, storage of oils, fuels etc should be consistent with the statutory standards established for other industrial sectors.

### **Tyres**

The ELV Directive requires: appropriate storage for used tyres, including the prevention of fire hazards and excessive stockpiling

Tyres will need to be stored so that the risk of fire or spread is minimised. Unnecessary stockpiling of tyres should be avoided. Generally, no more than 2 vehicle loads of tyres should be stored.

The local fire service may have its own requirements for the storage of tyres and should be consulted by the operator.

### **Air-bags etc**

The ELV Directive requires: removal or neutralisation of potential explosive components (eg air bags)

Consideration should be given to the ways in which air bags and seat belt pretensioners may be deployed or otherwise neutralised, ie exploded. The impact of noise and vibration on the local environment should be minimised.

The size, location, number of vehicles dealt with and permitted operating hours at the site may be factors to take into account when deciding whether neutralisation is appropriate. If it is not, removal of the components is required.

It may be appropriate to consult the Health and Safety Executive in some cases, for example at larger sites where a high volume of ELVs is being treated.

### **Ozone Depleting Substances**

The EC Regulation on Ozone Depleting Substances (2037/2000) requires that any components containing ozone depleting substances, such as CFCs, in (amongst other things) ELVs should be recovered for destruction or recycling.

Ozone depleting substances may be found in air-conditioning units, refrigeration units and insulating foam (for example in refrigerated vehicles).

The Agencies have published standards on the removal of ozone depleting substances from equipment in the "Guidance on the Recovery and Disposal of Controlled Substances Contained in Refrigerators and Freezers". The principles contained in the guidance also apply to air conditioning units and refrigerated vehicles. The Guidance can be found on the Agencies' web-sites.

Although there is a specific Regulation on Ozone Depleting Substances, the ELV Directive still requires the removal and

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collection of other air-conditioning fluids such as hydrocarbons, eg pentane.

### **Components containing mercury**

The ELV Directive requires: removal, as far as feasible, of all components identified as containing mercury.

Information provided by motor manufacturers will be of great importance in identifying such components. The End-of-Life Vehicles Regulations 2003 require them to provide dismantling information, including information on the location of all hazardous substances in the vehicle.

Treatment operations in order to promote recycling

### **Catalysts**

The ELV Directive requires: removal of catalysts

Catalytic converters from exhaust systems must be removed. The immediate casing of such catalysts should be preserved intact until the unit reaches a specialist recycler.

### **Non-ferrous metals**

The ELV Directive requires: removal of metal components containing copper, aluminium, and magnesium if these metals are not segregated in the shredding process.

In practice, all these metals are segregated at shredders and recovered at media separation plant

### **Tyres and large plastic components**

The ELV Directive requires: removal of tyres and large plastic components (bumpers, dashboard, fluid containers, etc) if these materials are not segregated in the shredding process in such a way that they can effectively be recycled as materials.

The operators of ELV sites, whether licensed or registered, should discuss with

### **Burning**

The burning of waste is not an activity that is permitted by an ELV site licence.

The use of waste oil burners and braziers may be regulated differently in England and Wales and Scotland. Should you wish to use a waste oil burner on your site, you should first contact your local Agency office for further advice. You may be committing an offence if you use a waste oil burner without a relevant authorisation.

the operators of shredder sites which large plastic components should be removed prior to shredding operations.

### **Glass**

The ELV Directive requires: removal of glass

Treatment operations are all specified in order to promote the recycling of materials, a primary objective of the Directive.

It will therefore be necessary to ensure that glass is removed and kept separate from other wastes.

Although there is no specific reference in the Annex to removing glass if it is not segregated in the shredding process, separation of glass post-shredding would be acceptable in some circumstances.

The reference to glass is to all glass components in a vehicle, some of which may not be removed easily before shredding.

Nevertheless, the process of removing and separating glass should ensure that the end product is of suitable quality to be useable.

If it is intended for re-use as cullet then large panes should be removed from the vehicle before shredding. If it is intended as secondary aggregate, it may be left in the vehicle.

The operators of ELV sites, whether licensed or registered, should discuss with the operators of shredder sites which

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glass components should be removed prior to shredding operations.

### **Storage of components**

The Directive requires that: storage operations are to be carried out avoiding damage to components containing fluids or to recoverable components and spare parts.

This applies to parts and components that are being stored after being removed from the vehicle.

How parts are stored varies from site to site and from part to part. Parts must be handled with care and generally should be stored under cover on appropriate racking in order to prevent damage to the parts that may cause harm to the environment, as well as to maximise their value for reuse, recycling and recovery.