End of life vehicles: appropriate measures for permitted facilities

Draft guidance for regulated facilities with an environmental permit to store and mechanically treat end of life vehicles (ELVs)

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Contents

1. Introduction

This guidance explains the standards (appropriate measures) that are relevant to regulated facilities with an environmental permit to store and treat end of life vehicles (ELVs) or components.

Exempt facilities which store or treat ELVs (or components) may find it useful to refer to this guidance.

1.1. When appropriate measures apply

Appropriate measures are the standards that operators should meet to comply with their environmental permit requirements. This guidance sets out what you must consider when you assess the appropriate measures for your site. It is not definitive, and it does not replace your obligation to assess appropriate measures fully.

Some measures may not be suitable or relevant for your operation. Appropriate measures will depend on the:

- activities being carried out
- size and nature of the activities
- location of the site

Where a measure is not suitable, an operator can propose alternative measures that achieve the same level of environmental protection. Or they can provide an explanation of why the specific measure is not appropriate.

In certain situations, you may need to provide a higher standard of environmental protection, for example:

- where there are local sensitive receptors
- if there is a risk that an operation may exceed an Environmental Quality Standard

This guidance also covers some activities where legislation applies directly to that activity. This guidance, and any time scales for the appropriate measures, does not remove the need to comply with that legislation. For example, legislation relating to:

- F-gases
- persistent organic pollutants (POPs)

- hazardous waste

This is not an exhaustive list.

1.2. The different types of measures that apply

The standards in this technical guidance have been grouped into the following sections. All sections apply to regulated facilities with an environmental permit to store and treat ELVs or components.

- General management
- ELV (or components) pre-acceptance, acceptance, and tracking
- ELV (or components) storage, segregation, and handling
- ELV (or components) treatment
- Emissions control
- Waste minimisation, recovery, and disposal

Other generic technical guidance also applies to ELV facilities , including guidance on emissions, odour and noise.

You also need an approved fire prevention plan that meets the requirements of our fire prevention plan guidance.

1.3. Implementing appropriate measures at new and existing facilities

The appropriate measures in this guidance apply to both new and existing facilities with a permit to store and treat ELVs (or components).

For new facilities the appropriate measures must be in place before operations start.

For existing facilities, if the cost of complying with the appropriate measures is disproportionate to the environmental benefit, immediate compliance may not be reasonable.

Through permit reviews, the Environment Agency will assess the current operating techniques of existing facilities against the relevant appropriate measures.

Where an operator is not using appropriate measures, we will expect them to provide improvement plans and timetables for implementing the relevant appropriate

measures. We will review these proposals and set formal timescales for making the improvements needed. We will do this by varying the environmental permit to include improvement conditions.

Improvements at existing facilities are likely to fall into one of the following 2 categories.

Standard good practice requirements

For example, these could be:

- updated management systems
- ELV (or components) water and energy efficiency measures
- measures to prevent fugitive or accidental emissions
- ELV (or components) acceptance and handling techniques
- appropriate monitoring equipment
- operational equipment
- fire prevention

Where these improvements are relatively low cost, operators should implement them as soon as possible, and in any event within 12 months.

Larger, more capital-intensive improvements

For example, these could be:

- installing new drainage and surfacing
- a significant redesign of the facility layout, including the design and installation of new buildings or depollution and dismantling facilities

Operators should complete these improvements as soon as practicable, and in any event within 3 years.

However, local environmental impacts may mean that you need to act more quickly than the timescales provided here. For example, if there are sensitive receptors or an air quality management area close by.

2. General management appropriate measures

These are the appropriate measures for the environmental management of a regulated facility with an environmental permit to store and treat end of life vehicles (ELVs)

2.1. Management system

1. You must have and follow an up to date, written management system. It must incorporate the following features.

You have:

- management commitment, including from senior managers
- an environmental policy that is approved by senior managers and includes the continuous improvement of the facility's environmental performance

You plan and establish the resources, procedures, objectives, and targets needed for environmental performance alongside your financial planning and investment.

You implement environmental performance procedures, paying particular attention to:

- staff structure and relevant responsibilities
- staff recruitment, training, awareness, and competence
- communication (for example, of performance measures and targets)
- employee involvement
- documentation
- effective process control
- maintenance programmes
- the management of change (including legislative changes and ELV or components classification changes)
- emergency preparedness and response
- making sure you comply with environmental legislation

You check environmental performance and take corrective action paying particular attention to:

- learning from incidents, near misses and mistakes, including those of other organisations
- records maintenance independent (where practicable)
- internal or external auditing of the management system to confirm it has been properly implemented and maintained

Senior managers review the management system to check it is still suitable, adequate, and effective.

You review the development of cleaner technologies and their applicability to site operations.

When installing new or upgraded equipment, you make sure you assess the environmental impacts from its operating life and eventual decommissioning.

You consider the risks a changing climate poses to your operations. You have appropriate plans in place to assess and manage future risks.

You compare your site's performance against relevant sector guidance and standards on a regular basis.

You have and maintain the following documentation:

- inventory of emissions to air and water
- residues management plan
- accident management plan
- site infrastructure plan
- site condition report
- fire prevention plan

If required, you have and maintain the following documentation:

- odour management plan
- noise and vibration management plan
- dust management plan
- pest management plan

2.2. Staff competence

1. Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence.

2. The design, installation and maintenance of infrastructure, site and equipment must be carried out by competent people.

3. You must have appropriately qualified managers for your ELV (or components) activity who are either:

- qualified under a technical competence scheme
- operating under a government approved technical competence scheme

4. Non-supervisory staff must be reliable and technically skilled. Their skills may be based on experience and relevant training.

2.3. Accident management plan

1. As part of your management system you must have a plan for dealing with any incidents or accidents that could result in pollution.

2. The accident management plan must identify and assess the risks the facility poses to human health and the environment.

3. Areas to consider include:

- ELV (or components) types and the risks that they pose
- robust ELV (or components) acceptance procedures to avoid receiving unwanted items, such as gas cylinders
- abatement systems failure for example, interceptors
- equipment failure (for example over-pressure of vessels and pipework, blocked drains)
- containment failure (for example, bund failure, or drainage sumps overfilling)
- damaged electric end of life vehicles (EELVs) Li-ion batteries
- failing to contain firefighting water
- making the wrong connections in drains or other systems
- making sure that interceptors are functioning correctly
- vandalism and arson
- extreme weather conditions for example, flooding or very high winds

Assessing the risks

4. You must assess the risk of accidents and their possible consequences. Risk is the combination of the likelihood that a hazard will occur and the severity of the impact resulting from that hazard. Having identified the hazards, you can assess the risks by addressing six questions:

- how likely is it that the accident will happen?
- what may be emitted and how much?
- where will the emission go – what are the pathways and receptors?
- what are the consequences?
- what is the overall significance of the risk?
- what can you do to prevent or reduce the risk?

5. You must identify any fire risks that may be caused, for example by:

- arson or vandalism
- self-combustion, for example within oily rags and overalls
- equipment failure and electrical faults
- naked lights and discarded smoking materials
- hot works (for example welding or cutting), industrial heaters and hot exhausts
- reactions between incompatible materials
- neighbouring site activities
- sparks from forklift trucks and machinery
- hot loads deposited at the site for example, vehicles involved in collisions resulting in thermal runaway of batteries
- damaged Li-ion batteries
- batteries left connected in ELVs causing an electrical short circuit
- batteries (storage, processing, and handling)

The above list is not exhaustive and you must have a fire prevention plan that identifies the risks at your site and meets the requirements of our fire prevention plan guidance.

6. The depth and type of accident risk assessment you carry out will depend on the characteristics of the site and its location. The main factors to consider are the:

- scale and nature of the accident hazard presented by the activities
- risks to areas of population and the environment (the receptors)

- complexity of the activities and how difficult it is to decide and justify adequate risk control techniques

7. Through your accident management plan, you must also identify the roles and responsibilities of the staff involved in managing accidents. You must provide them with clear guidance on how to manage each accident scenario.

8. You must appoint one facility employee as an emergency co-ordinator who will take lead responsibility for implementing the plan. You must train your employees so they can perform their duties effectively and safely and know how to respond to an emergency.

9. You must also:

- establish how you will communicate with relevant authorities, emergency services and neighbours (as appropriate) both before, during and after an accident
- have appropriate emergency procedures, including for safe shutdown and site evacuation
- have post-accident procedures that include assessing the harm that may have been caused by an accident and the remediation actions you will take
- depending on scale, test the plan by carrying out emergency drills and exercises

2.4. Accident prevention measures

1. You must take the following measures, where appropriate, to prevent events that may lead to an accident.

Segregating ELVs (or components)

2. You must keep apart incompatible ELVs or components. Examples could include but are not limited to:

- storing lead acid batteries separately to nickel metal hydride and Li-ion batteries
- segregating flammable gas cylinders in cages away from other activities

Preventing accidental emissions

3. You must make sure you contain the following (where appropriate) or route to the effluent system (where necessary):

- site drainage waters
- emergency firefighting water
- oil, fuel, or chemical contaminated waters
- spillages of oils, fuels, and chemicals

4. You must be able to contain surges and storm water flows. You must provide enough buffer storage capacity to make sure you can achieve this. You can define this capacity using a risk-based approach, for example, by considering the:

- nature of the pollutants
- effects on downstream wastewater treatment
- sensitivity of the receiving environment

5. You can only discharge wastewater from this buffer storage after you have taken appropriate measures to control, treat, or reuse the water.

6. You must have spill contingency procedures to minimise the risk of an accidental emission of raw materials, products, and waste materials, and to prevent their entry into water.

7. Your emergency firefighting water collection system must take account of additional firefighting water flows, firefighting foams, and other firefighting media. You may need emergency storage lagoons to prevent contaminated firefighting water reaching a receiving water body. This should be considered as part of your fire prevention plan.

8. You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from:

- overflows
- vents
- safety relief valves

If this is not advisable on safety grounds, you must focus on reducing the probability of the emission.

Security measures

9. You must have security measures in place to prevent:

- entry by vandals and intruders

- damage to equipment
- theft
- fly-tipping
- arson

10. Facilities must use an appropriate combination of the following measures:

- security guards
- total enclosure (usually with fences)
- controlled entry points
- adequate lighting
- warning signs
- 24-hour surveillance, such as CCTV

Fire prevention

11. There are 3 fire prevention objectives. You must:

- minimise the likelihood of a fire happening
- aim for a fire to be extinguished within 4 hours
- minimise the spread of fire within the site and to neighbouring sites

You must have a fire prevention plan that meets the requirements of our fire prevention plan guidance.

Other accident prevention measures

12. You must maintain control in an emergency using one or a combination of the following measures:

- alarms
- process trips and interlocks
- manual interventions

13. You must:

- make sure all the measurement and control devices you would need in an emergency are easy to access and operate in an emergency
- maintain the equipment so it is in a good state of repair through a preventive maintenance programme and a control and testing programme

- use techniques such as suitable barriers to prevent moving vehicles damaging equipment
- have procedures in place to avoid incidents due to poor communication between operating staff during shift changes, or following maintenance or other engineering work
- where relevant, use equipment and protective systems designed for use in potentially explosive atmospheres

Record keeping and procedures

14. You must:

- keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections
- carry out investigations into accidents, incidents, near misses and abnormal events and record the steps taken to prevent their reoccurrence
- maintain an inventory of chemicals, which are present (or likely to be) and which could have environmental consequences if they escape – many apparently innocuous substances (for example, AdBlu) can damage the environment if they escape
- have procedures for checking ELVs (or components) to make sure they are compatible with other substances they may accidentally come into contact with
- make sure that any documents that may be needed in the event of an incident are accessible

2.5. Contingency plan and procedures

1. You must have and implement a contingency plan and management procedures to make certain you comply with all your permit conditions and operating procedures during maintenance or shutdown at your site.

2. Your contingency plan must also contain provisions and procedures to make sure that you:

- do not exceed storage limits in your permit and you continue to apply appropriate measures for storing and handling ELVs (or components)
- stop accepting ELVs (or components) unless you have a clearly defined method of recovery or disposal and enough permitted storage capacity
- as far as possible, know in advance about any planned shutdowns at ELV (or components) management facilities where you send ELVs (or components)

3. Your contingency plan must include plans and procedures for circumstances where you cannot send your ELVs (or components) to other sites due to their planned or unplanned shutdown.

4. If you produce waste material at your facility, your contingency planning must consider issues with storage capacity for the waste.

5. You must make your customers aware of your contingency plan, and of the circumstances in which you would stop accepting ELVs (or components) from them.

6. You must consider whether the sites or companies you rely on in your contingency plan:

- can take the ELVs (or components) at short notice
- are authorised to do so in the quantities and types likely to be needed – in addition to carrying out their existing activities

Where circumstances mean you could exceed your permitted storage limits or compromise your storage procedures, you must look for alternative disposal or recovery options. You must not discount alternative disposal or recovery options on the basis of extra cost or geographical distance.

You must not include unauthorised capacity in your contingency plan. If your contingency plan includes using temporary storage for additional ELVs (or components) on your site, then you must make sure your site is authorised for this storage and you have the appropriate infrastructure in place.

7. Your management procedures and contingency plan must also:

- identify known or predictable malfunctions associated with your technology and the procedures, spare parts, tools, and expertise needed to deal with them
- include a record of spare parts held, especially critical spares – or state where you can get them from and how long it would take
- have a defined procedure to identify, review and prioritise items of site which need a preventative regime.
- include all equipment whose failure could directly or indirectly lead to an impact on the environment or human health
- identify and decommission ‘non-productive’ or redundant items such as tanks, pipework, retaining walls, bunds, reusable ELVs (or components) containers, ducts, filters, and security systems
- make sure you have the spare parts, tools, and competent staff needed before you start maintenance

8. Your management system must include procedures for auditing your performance against all these contingency measures and for reporting the audit results to the site manager.

2.6. Site decommissioning

1. You must consider the decommissioning of the site at the design stage and make suitable plans to minimise risks during later decommissioning.

2. For an existing site, identify potential decommissioning risks and take steps to address these. Changes and design improvements should be made as and when site is upgraded, or when construction and development works are carried out at your site. Examples of design improvements could include avoiding using underground tanks and pipework. If it is not economically possible to replace them, you must protect them by secondary containment or a suitable monitoring programme.

3. You must have, and maintain, a decommissioning plan to demonstrate that the site will be:

- decommissioned without causing pollution
- returned to a satisfactory condition

4. Your decommissioning plan should include details of:

- whether you will remove or flush out pipelines and vessels (where appropriate) and how you will empty them of any potentially harmful contents
- site plans showing the location of all underground pipes and vessels
- how you will remove asbestos or other potentially harmful materials, unless we have agreed it is reasonable to leave such liabilities to future owners
- methods for dismantling buildings and other structures, and for protecting surface water and groundwater during construction or demolition at your site
- any soil testing needed to check for any pollution caused by the site activities, and information on any remediation needed to return the site to a satisfactory state when you cease activities, as defined by the initial site condition report
- the measures proposed, once activities have definitively stopped, to avoid any pollution risk and to return the site of operation to a satisfactory state (including, where appropriate, measures relating to the design and construction of the site)
- the clearing of deposited residues, ELVs (or components) and any contamination resulting from the ELV (or components) treatment activities

5. When the site is changing use, you should make sure that you decontaminate equipment taken out of use and remove it from the site.

3. ELV (or components) pre-acceptance, acceptance and tracking

These are the appropriate measures for ELV (or components) pre-acceptance, acceptance and tracking at regulated facilities with an environmental permit to store and treat ELVs.

These measures are designed to make sure operators only receive ELVs (or components) they can safely store, depollute, and dismantle.

3.1. ELV (or components) pre-acceptance

1. In all cases you must reassess the information required at pre-acceptance on an annual basis. The information required and the assessment made at the pre-acceptance stage is to make sure you:

- only accept ELVs (or components) that are suitable for the site
- avoid accumulating ELVs (or components)
- have enough storage and treatment capacity

2. You must implement ELV (or components) pre-acceptance procedures so that you know enough about ELVs (or components) before they arrive at your facility. You need to do this to assess and confirm the ELVs (or components) are technically and legally suitable for your facility and processes. Your procedures must follow a risk-based approach, considering:

- the source and nature of the ELV (or components)
- its hazardous properties for example, whether it is a combustion vehicle or electric end of life vehicle (EELV)
- potential risks to the environment (for example, from fire)

3. You must get the following information in writing when you agree to accept an ELV (or components):

- details of the ELV (or components) producer including organisation name, address and contact details
- the specific source of the ELV (or components)

- a description of the ELV (or components) including its composition and quantity
- the List of waste codes (European waste classification (EWC) code)

If the ELV has already been depolluted, you should request evidence to demonstrate this has been done.

4. You must consider whether any of the specific ELVs (or components) you are permitted to receive have properties that can pose unacceptable risks to the site or process. For example, this could be a risk of fire from damaged Li-ion batteries.

5. You should establish a list of these ELVs (or components) and procedures for managing the risks they pose.

6. You must keep pre-acceptance records for at least 3 years in a suitable ELV (or components) tracking system following receipt of the ELV (or components).

7. You must reassess the information required at pre-acceptance if the ELV (or components) received does not conform to the pre-acceptance information.

3.2. ELV (or components) acceptance and tracking

1. You must implement ELV (or components) acceptance procedures to check that the ELV (or components) received matches the information you obtained during pre-acceptance. This is to confirm that the waste is as expected and that you are permitted to accept it.

2. If not, you must confirm that you can accept it as a non-conforming waste, or you must reject it. If you are rejecting an undepolluted ELV, you must follow the guidance on the procedure for rejecting hazardous loads.

3. Your procedures should be documented and auditable and must follow a risk-based approach, considering the ELVs' (or components'):

- source, nature, and age
- hazardous properties
- potential to contain POPs
- potential risks to process or occupational safety, and to the environment (for example, from odour and other emissions)
- previous holder(s) and your knowledge about them

4. If you have not received any pre-acceptance information, you must assess the load to make sure it is technically (and legally) suitable for the site. Your checks and assessment must be risk-based considering, for example, the:

- hazardous properties of the ELV (or components)
- risks posed by the ELV (or components) in terms of process safety, occupational safety, and environmental impact

Storage areas

5. All relevant storage areas (quarantine, reception and general) and treatment processes in your facility must have the physical capacity needed for the ELVs (or components) you receive. You must not receive ELVs (or components) if this capacity is not available. The amount of ELVs (or components) you receive must also comply with storage limits in your permit.

6. The ELV (or components) offloading, reception and quarantine areas must have impermeable surfaces with a sealed drainage system. This system must collect all surface water run-off and channel it to a blind sump, unless you can lawfully discharge it in another way.

7. You must clearly designate a materials reception area (or areas). Staff controlling the inspection, reception and validation of materials at the installation must be trained in their respective roles.

Waste acceptance

8. You must assess the weight of each load of ELVs (or components) on arrival to confirm the quantities against the accompanying paperwork. This is unless you have alternative reliable systems (for example, based on established data). You must record the weight in a suitable ELV (or components) tracking system.

9. You must check and validate all transfer documentation and resolve discrepancies before you accept the ELVs (or components). If you believe the classification and description of the incoming ELVs (or components) is incorrect or incomplete, then you must address this with the customer during ELV (or components) acceptance. You must record any non-conformances. If you have assessed the ELVs (or components) as acceptable for on-site storage or treatment, you must document this.

10. You must have clear criteria that you use to reject non-conforming ELVs (or components). You must also have a written procedure for recording, reporting, and tracking non-conforming ELVs (or components), including notifying the relevant customer or ELV (or components) producer to prevent reoccurrence.

Baling ELVs or components

11. If you are baling ELVs, you must make sure they are fully depolluted before baling.

Quarantine storage

12. You must establish quarantine areas for materials that are prohibited, awaiting full inspection, or awaiting testing or removal.

13. Quarantine storage must be for a maximum of 14 working days. For some limited and specific cases (for example gas cylinders) you can extend the quarantine storage time if the Environment Agency agrees.

14. You must have written procedures in place for dealing with waste held in quarantine, and a maximum storage volume.

15. Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.

16. You must identify and isolate gas cylinders and other prohibited items to remove them from the ELV (or components) stream. You must store gas cylinders in locked cages. Where possible, you must send prohibited items back to the appropriate owner.

3.3. ELV (or components) tracking

1. You should use an electronic tracking system to hold up-to-date information about the available capacity of the ELV (or components) quarantine, reception, general and bulk storage and treatment areas of your facility, If you do not have an electronic system, you still need to hold the equivalent level of information. You should use a pre-booking system to make sure you have enough waste storage and treatment capacity for the incoming ELVs (or components).

2. Your ELV (or components) tracking system must hold all the information generated during:

- pre-acceptance
- acceptance
- non-conformance or rejection
- storage
- repackaging

- treatment
- removal off site

This information must be readily accessible.

3. You must create records and update them to reflect deliveries, on-site treatment, and despatches.

4. Your tracking system will also operate as a ELV (or components) inventory and stock control system. It must include this information as a minimum:

- the date the ELV (or components) arrived on-site
- the original producer's details (or unique identifier)
- a unique reference number
- ELV (or components) pre-acceptance and acceptance information
- the intended treatment or recycling route
- accurate records of the nature and quantity of ELVs (or components) held on site, including all hazards – and identifying the primary hazards
- where the ELV (or components) are physically located on site

5. The tracking system must be able to report:

- the total quantity of ELVs (or components) present on site at any one time
- a breakdown by type of the ELV (or components) quantities you are storing pending treatment or transfer
- the quantity of ELVs (or components) on site compared with the limits authorised by your permit
- the length of time the ELVs (or components) have been on site
- the quantity of ELV (or components) product materials on site at any one time, and where applicable, details of any non-conformances and rejections

6. You must store back-up copies of computer records off site. Records must be readily accessible in an emergency.

7. You must hold acceptance records for a minimum of 2 years after you have treated the ELVs (or components) or removed them off site. You may have to keep some records for longer if they are required for other purposes, for example, hazardous ELV (or components) consignment notes.

4. ELV (or components) storage

These are the appropriate measures for ELV (or components) storage at regulated facilities with an environmental permit to mechanically treat ELVs (or components)

4.1. General

Directive 2000/53/EC (known as the 'ELV Directive') sets out minimum standards for dismantling and recycling ELVs. Its purpose is to minimise the environmental impacts of dismantling ELVs and to set targets for reuse, recycling, and recovery of ELVs and their components.

The ELV Directive requirements relate only to cars and light commercial vehicles. However, the Environmental Permitting Regulations (EPR) have extended these requirements to cover all motor vehicles, including motorbikes and commercial vehicles.

Sites that are accepting, depolluting, and dismantling ELVs must have an EPR waste permit authorising the activity, and must have the following facilities:

- impermeable surfaces and sealed drainage for areas where the depollution process is carried out
- suitable storage for parts removed from the ELV that are destined for re-use – this will prevent damage to the parts

All undepolluted ELVs are classed as hazardous. They contain fluids and components that can cause pollution if not removed and handled correctly.

Oil contaminated parts (engines, gear boxes etc) must be stored in an area that has an impermeable surface and sealed drainage.

Oils, fluids, and other components removed as part of the depollution process should be stored in a manner that prevents pollution and in separate containers

Inadequate or poor depollution processes may lead to contamination of soils and water. This may also increase the risk of fire and explosions at sites storing and mechanically treating ELVs.

After dismantling, the remaining ELV shell is either crushed, baled, or sent intact to a metal shredder.

In all cases the vehicle must be fully depolluted before crushing, baling, or shredding.

4.2. Storage of undepolluted ELVs

1. Areas storing undepolluted ELVs awaiting depollution must have the following infrastructure:

- an impermeable surface
- sealed drainage

Sealed drainage is an impermeable surface and system that will not leak. It allows liquids to flow from the surface and either drains to a sealed sump, foul sewer, or other lawful discharge.

The definition of sealed drainage can vary between permits. Standard rules permits take a narrower definition of sealed drainage and bespoke permits may have additional specific conditions. It is important to always check the wording and conditions of the permit.

Permits issued before the End-of-Life Vehicles Regulations (ELV Regulations) 2003 came into force were directly modified by the regulations to make the ELV Directive requirements apply.

Although the permitting parts of the ELV Regulations have been revoked, the Environmental Permitting Regulations have kept the condition that automatically applies the ELV Directive requirements to permits.

4.3. Storage of fully depolluted ELVs

1. After the ELVs are fully depolluted they can be stored on either:

- an impermeable pavement with a sealed drainage system
- a hard standing

2. Uncontaminated plastic, glass, ferrous and non-ferrous metals arising from ELVs can be stored on either:

- an impermeable pavement with a sealed drainage system
- a hard standing

3. You must store parts contaminated with oils and other fluids in an area that has an impermeable surface and sealed drainage.

4. You may be able to store intact shock absorbers and undeployed airbags in otherwise fully depolluted ELVs on a hardstanding until you remove them for second hand parts, if you comply with the requirements of RPS195.

Dangerous Substances and Explosive Atmospheres Regulation 2002 (DSEAR)

5. You should assess areas of the site where explosive atmospheres could occur (for example, ELV depollution bays). Where appropriate, you must classify these into hazardous zones, following the Dangerous Substances and Explosive Atmospheres Regulation 2002 (DSEAR).

4.4. Other storage

Battery storage

1. You must check for damage and the chemistry type of any batteries:

- produced through depollution activities on site
- accepted as discrete loads

2. You must do this before allocating them to the storage area.

3. You must isolate damaged batteries from other batteries.

4. You must store batteries in appropriate containers that are either:

- weatherproof
- stored in a building, but in a way that prevents them from being exposed to high temperatures

5. You must store:

- lead acid batteries upright in acid proof containers to prevent leaks and short circuits
- nickel metal hydride (Ni-MH) batteries in a way that will prevent them being damaged

6. You must not mix batteries of incompatible chemistries, for example lead acid batteries with Ni-MH batteries.

7. You must store Li-ion batteries from electric vehicles separately from other batteries.

8. You must store them in a way that prevents them from:

- coming into contact with any liquids
- being damaged

- being exposed to high temperatures

5. ELV (or components) treatment

These are the appropriate measures for ELV (or components) treatment at regulated facilities with an environmental permit to mechanically treat ELVs (or components).

5.1. General treatment

1. ELV (or components) treatment must have a clear and defined benefit. You must fully understand, monitor, and optimise the ELV (or components) treatment process to make sure you treat ELV (or components) effectively and efficiently.

2. The treated output material must meet your expectations and be suitable for its intended disposal or recovery route.

3. You must identify and characterise emissions from the process and take appropriate measures to control them at source.

4. You must have up-to-date written details of your treatment activities and the control equipment you are using. This should include information about the characteristics of the ELVs (or components) you will treat and the ELV (or components) treatment processes. The written details should include:

- diagrams of the main site items where they have environmental relevance (for example, storage, tanks, treatment, and site design)
- details of depollution processes and physical treatment processes
- an equipment inventory listing site type and design parameters
- ELV (or components) types that you will treat
- a summary of operating and maintenance procedures

5. You must have up-to-date written details of the measures you will take during abnormal operating conditions to make sure you continue to comply with permit conditions. Abnormal operating conditions include:

- unexpected releases
- fire events

6. You need to consider physical hazards and include an assessment of the environmental risks and emissions from the site and processes. You also need to consider prevention and protective measures and process management, such as:

- working instructions
- staff training
- appropriate process control measures
- alarms
- site maintenance
- checks
- audits
- emergency procedures

7. You must accurately classify and code the ELVs (or components). This should be carried out following the Waste classification guidance.

8. You must not use a waste code for a single material fraction, such as plastic, unless the process is specifically aimed to produce that single fraction. Contamination by other materials must be negligible.

Typical waste codes used in the ELV sector are described in this table.

List of Waste Codes	Description
13-01-11*/13-01-12*/13-01-13*	Hydraulic oils
13-02-06*/13-02-07*/13-02-08*	Engine, gear, and lubricating oils
13-05-03*	Interceptor sludges
13-05-07*	Oily water from interceptor
13-05-01*	Solid waste from interceptor
13-07-01*	Fuel oil and diesel

List of Waste Codes	Description
13-07-02*	Petrol
13-07-03*	Other fuels, including mixed fuels from mis-fuelling
14-06-01*	Air conditioning gas (R12 or R134a)
14-06-02*	Air conditioning gas (HFO-1234yf)
16-01-04*	End-of-life vehicles – undepolluted
16-01-07*	Oil filters
16-01-08*	Mercury containing components (tilt switches)
16-01-11*	Brake pads containing asbestos (older ELVs)
16-01-13*	Brake fluids
16-01-14*	Antifreeze containing hazardous substances
16-01-21*	Catalytic converter/ DPF units containing (RCF)
16-06-01*	Lead acid batteries
16-06-02*	Ni-Cd batteries
16-01-03	Tyres (no longer usable)

List of Waste Codes	Description
16-01-10*	Explosive components (for example airbags)

Other waste codes can be found in the Waste classification guidance (WM3)

Minimising diffuse emissions from the process

9. You must minimise releasing diffuse emissions to air from activities which may create them, for example cutting, drilling, or grinding activities.

10. To track and control changes to processes, you must have a written procedure for proposing, considering, and approving changes to both:

- technical developments
- procedural or quality changes to the site and processes

Record keeping for all treatment residues

11. You must record in a suitable ELV (or components) tracking system:

- that an ELV (or components) have been treated
- what the treatment residues are and their weight
- what ELV (or components) products have been made and their weight

5.2. Depollution of ELVs

1. The depollution sequence shown can be represented as 3 stages:

- preliminary activities
- removal of fluids and other items
- removal or deployment of air bags

2. After you have carried out each depollution operation, you must transfer the fluid or item you have removed to a suitable storage facility as soon as possible.

Preliminary activities

3. Before depollution, you must assess the vehicle for health and safety hazards. Hazards include glass, hypodermic needles and other biological contamination, or fire damage, which might affect the way in which its treatment should be handled.

4. You must check the vehicle for and remove any other foreign objects that might affect the way in which its treatment should be handled, such as gas cylinders and aerosols.

5. You must use the specific vehicle manufacturer's guidance on depollution. If this is not available, then depollution information may be available on systems such as the International dismantling information system (IDIS). It is important to make sure you use the latest version of IDIS. You can check this on the IDIS website. Other sources of information may be available.

6. You must determine how many airbags are present in the vehicle and whether they have already been deployed or not. You must remove airbags that have not been deployed or depollute them in situ.

7. You should, where possible, deploy air bags in situ using suitable equipment and that anyone deploying airbags attends a suitable training course.

8. You must remove the starting, lighting, ignition (SLI) battery to prevent an accidental electrical discharge before the fuel tank is depolluted. If the vehicle is electric powered or a hybrid vehicle, then refer to manufacturer's instructions.

9. You should either remove the fuel, oil filler and other caps or open them to allow fluids to drain more easily.

10. You should set heater controls to maximum heat to make sure that the coolant in the heater unit can be drained. You must set the heater controls at the position which would provide the maximum amount of heat.

11. Removing wheels or tyres is not a depollution requirement (you are required to remove lead balancing weights). Removing the wheels and tyres will improve access to brakes and shock absorbers for depollution.

12. When removing tyres from rims, you may be able to reduce the operatives' exposure to dust by deflating the tyre first. You can do this by either removing the valve, or by piercing the sidewall with a suitable tool if the tyre is not intended for reuse or retreading.

13. Remove balance weights from all wheels including the spare wheel, and place in a suitable storage container for recycling.

14. Prepare electric or hybrid vehicles for treatment. These vehicles contain a high voltage electrical system. There are dismantling requirements for the high voltage system before you can treat the vehicle as a normal ELV.

15. It is important you recognize and understand the high voltage electrical system and its specifications in order to safely handle the ELV. Electric or hybrid vehicle batteries that have not been discharged carry a significant risk of electric shock. They may also be an environmental hazard if their contents are accidentally released.

16. You must make safe electric or hybrid vehicle batteries. You can normally do this by removing the safety cut-off plug. However, as vehicles have different designs you must refer to the manufacturer's data sheet or other competent data source.

17. When dismantling any electric or hybrid components from the vehicle you must use the utmost care. You must comply with the important safety warnings listed in the manufacturer's instructions, in IDIS, or in other competent data sources.

5.3. Removing oils and other fluids

1. You must store removed fluids of differing types (for example, oils or water-based) in separate containers in a bunded storage area before carrying out specialist recovery or disposal.

2. You will need separate containers for:

- fuels (petrol and diesel separate)
- oils (lubricating, transmission, power steering and shock absorber oils together)
- brake fluid (separate)
- water based (coolant and screen wash together)

3. You must place the ELV on a support frame or lifting device to allow easy access below the vehicle before you can carry out a number of operations. Although you could get access to the underneath of a vehicle by placing it above a pit, there are health and safety issues with this approach. In particular, this would be the possible build-up of fuel vapour in the pit (and risk of explosion or fire) during the depollution procedure.

4. You should also take care to avoid any vapour build up in floor mounted drip trays. The first activity you must carry out is to start draining the engine oil. You can carry out other activities in parallel, but the engine oil can typically take 20 minutes to reach the point where you can no longer see any oil draining.

5. You should carry out depollution activities using equipment which has been specifically designed for a depollution operation. Using such equipment, while not

essential, will make sure that you can achieve a high level of depollution in a relatively short time frame.

6. You must also follow the instructions provided with any commercial equipment you are using to make sure that you achieve this high level of depollution.

7. After depollution, you must plug all gravity-drained holes to prevent any residual leakage. You can either do this with their own drain plug or with a suitable plastic bung.

Engine oil

8. Engine oil is gravity-drained by removing the drain plug at the bottom of the sump and collecting the oil. If you are not using commercially available equipment for collecting the oil, you should use a suitable container which has a minimum volume of 10 litres.

9. You must allow the oil to drain from the engine for a minimum of 20 minutes, or until you can no longer see any oil draining.

10. You must remove the oil filter. You should do this by using a suitable spanner or tool which does not puncture the oil filter during removal. You must treat the oil filter to remove residual oil. You can do this by crushing the filter and recovering the oil. Alternatively, you can send the oil filters to a suitable treatment facility using leakproof transit packaging.

11. Once drained, you should replace the sump plugs, or other bungs to prevent further dripping.

Gearboxes

12. If a manual gearbox has a drain plug, you can gravity-drain it by removing the drain plug and collecting the oil in a suitable container which has a minimum volume of 5 litres. You must allow the oil to drain for a minimum of 10 minutes until you can no longer see any oil draining.

13. You must drain gearboxes which do not have a drain plug by drilling or piercing a suitably sized hole in the bottom of the gearbox and collecting the oil.

14. You must drain automatic gearbox oil from both the gearbox and the torque converter. These may be combined in a single unit, but the torque converter on some types of gearboxes is separate from the main gearbox unit. The procedure for draining these is the same as for a manual gearbox.

Rear differential

15. The procedure for draining a rear differential is the same as for a manual gearbox. You can drill those that do not have a drain plug or, alternatively, you can loosen and prise open the differential flange (if rear wheeled drive) to allow the oil to drain.

Power steering

16. If the ELV has power steering, you must extract fluid from both the reservoir and the connecting hose. You remove fluid by piercing the hose and sucking out the fluid, or by cutting it at the lowest point and allowing the fluid to gravity drain.

Brake fluid

17. All ELVs contain brake fluid. You can remove brake fluid with commercial equipment using both pressure and suction on the reservoir, pipes, and cylinder. You can also remove brake fluid by manually pumping the brake pedal. The manual method is not as effective as using commercial equipment and introduces additional health and safety concerns.

18. You should allow a drainage time of 10 minutes, with no visible fluid left in the reservoir and with no visible further drainage following removal of suction equipment.

Clutch fluid

19. Virtually all modern cars have cable clutches and so do not contain any hydraulic clutch fluid. Some older cars may have hydraulic clutches, you can use equipment similar to that used to extract brake fluid from the brake reservoir to extract fluid from the clutch reservoir and slave cylinder.

Coolant (Antifreeze)

20. You can gravity drain coolant and collect the liquid in a suitable container with a minimum volume of 10 litres. Commercial equipment allows you to make a hole in the bottom hose and suck the coolant out through this hole into a container.

21. You should allow a drainage time of 10 minutes, until you can no longer see any coolant draining.

Screen washing fluid

22. You remove screen washing fluid by sucking it from the reservoir, or by draining it from below. You can either use commercially available equipment or a simple pump.

23. If you use a simple pump, you must inspect the reservoir to check that it has been completely emptied. If a vehicle has more than one reservoir, then you must drain all reservoirs.

24. You should drain the reservoir(s) until you can no longer see any fluid there.

Fuel tank (not LPG)

25. You can remove fuel by suction or siphoning it from the tank with a tube that enters the tank through the fuel filling pipe, but this procedure is unlikely to achieve the required level of depollution.

26. To make sure you achieve the required level of depollution you should pierce or drill a hole should into the lowest point of the fuel tank and use suction to remove the fuel.

27. Drills or piercing tools should be made of suitable non-sparking material and pneumatically powered. There must be an earthing connection between the vehicle and the extraction equipment. Commercially available equipment should meet these requirements.

28. You should drain the fuel tank until you can no longer see any fluid in the (see through) extraction tubing.

Suspension system – shock absorbers

29. The most efficient way to drain the fluid from the shock absorber is whilst it is in situ and attached to the vehicle. To achieve the required level of depollution, you must remove the fluid from both the inner and outer cylinders of the shock absorber.

30. The equipment designed for fluid or oil-based shock absorbers may be suitable for safely removing the gas from gas suspension systems. You must confirm this with the manufacturer of the equipment before you use it for this purpose. You must follow any additional safety requirements or other instructions provided by the manufacturer.

Sealed suspension systems

31. There is commercially available equipment for both removing and recharging these sealed suspension systems and you can use this to drain them. Alternatively, you can gravity-drain them in about 20-25 minutes. You should carry out these procedures until you can no longer see any fluid.

Air conditioning refrigerant

32. Not removing the air conditioning gas from ELVs would breach your environmental permit and the requirement of the ELV Directive. This Directive sets out minimum standards for dismantling and recycling ELVs and includes the requirement to remove the air conditioning gas.

There are 3 types of gas found in vehicle air conditioning systems.

- R12
- R134a
- HFO-1234yf (2,3,3,3-Tetrafluoropropene)

33. Although the same equipment can be used to extract R12, R134a and HFO-1234yf they must not be mixed. Systems using HFO-1234yf need different connectors to those used for R12 and R134a so operators should have both sets.

34. If you are using R134a air conditioning gas from ELVs to recharge air conditioning systems then please refer to RPS226.

35. You must remove air conditioning refrigerant gas using specialist equipment, and you must have separate collection cylinders for each type. Depollution and collection takes around 10 to 12 minutes (depending on the system and ambient air temperature).

36. Relevant operatives must be formally trained and hold a duly accredited certificate of competence. See the F-gases guidance.

AdBLUE

AdBlue is a liquid containing urea which is widely used in catalytic reduction systems. AdBlue is injected into the vehicle exhaust gases to aid the breakdown of NOx emissions into nitrogen and water.

AdBlue is an aqueous solution of urea. It is extremely polluting if it enters surface water or groundwater. AdBlue is soluble in water, so oil separators do not contain or remove it.

37 Any areas where you are removing (or storing) AdBlue from vehicles must have an impermeable surface and sealed drainage. It is also important that you store AdBlue in containers with valves and pipework specifically designed to store urea. This is because it contains ammonia which is corrosive to some metals, such as copper and its alloys.

LPG (liquid petroleum gas) tank

38. You should run the engine to remove as much fuel as possible from the tank before removing it. Doing this will reduce the weight of the tank and the risk of vapour loss.

39. Even after running to empty the tank will still contain some residual gas vapour, so you must still follow the full removal procedure. The basic depollution procedure is as follows:

- turn off the isolating valve
- cut through or disconnect the connecting pipes
- cut through or remove the retaining clamps or straps
- remove the tank to safe storage

40. You should quarantine the vehicle in an open area so the tank can be isolated and removed for emptying, purging and separate disposal by suitably qualified personnel. You should check the vehicle for gas leaks using proprietary detection equipment.

41. You should store removed tanks in the open air in appropriate racks or cages until qualified disposal agents can collect or treat them.

42. Because there are health and safety issues when removing, handling and storing LPG tanks, authorised treatment facilities (ATFs) should check the Health and Safety Executive's (HSE) current guidance.

Switches containing mercury

43. You must do a visual inspection of areas which contain this type of switch during the depollution procedure, but you only need to remove switches which are clearly identified as containing mercury.

5.4 Other hazardous items

Catalytic converters (catalysts)

Older ELVs may not possess a catalyst, but nearly all modern vehicles, particularly those registered since 1993, both petrol and diesel, will have a catalytic conversion unit in the exhaust system.

You can identify the catalyst by a visual inspection of the exhaust system. Although not strictly a depollution activity, this is a preparation for recycling activity.

1. Remove the catalyst unit by cutting through the exhaust pipe, both in front of, and behind, the catalyst unit. Some vehicles may have more than one catalyst unit.

Batteries

2. You must remove or disconnect all batteries, with the terminals taped, as soon as practicable after the ELV arrives and before the ELV is stockpiled. This is to reduce the risk of fire and electric shock.

3. You must make safe electric or hybrid vehicle batteries. You can normally do this by removing the safety cut-off plug. However, as vehicles have different designs you must refer to the manufacturer's data sheet or other competent data source.

4. Modern vehicles may have several smaller lithium-ion batteries, for example in the infotainment and tracking systems. If not removed, these batteries can become damaged and pose a fire risk. IDIS provides information of the number and types of batteries in a particular make and model of ELV and where they are located.

5. You must store lead acid batteries upright in leak proof acid resistant containers. You must not use damaged containers. If the battery containers are not stored in a well-ventilated building the containers must have lids that prevent water ingress.

6. You must not store different types of batteries together, for example, lead acid batteries with other types of batteries removed from hybrid and electric ELVs. This is to reduce the risk of fire and explosion.

7. Batteries should already be labelled to identify the battery chemistry. If there is no label present, get advice from the manufacturer or databases such as IDIS.

8. Lithium-ion (Li-ion) batteries are found in electric and hybrid vehicles. They have several cells within the battery and can have a voltage of over 500 volts. High voltage Li-ion batteries can be located in various places within the car, for example in the floor or in the boot areas. Different systems discharge in different ways, so you

must understand how to safely deactivate, discharge and remove the battery packs. There is some information on the SMMT website.

9. The Li-ion battery packs in electric vehicles are becoming increasingly large and heavy. Whatever method of removing and moving this battery you use, you must avoid damaging the battery.

10. You must also store Li-ion batteries separately to other battery types and store them securely to prevent water ingress and to prevent damage.

Further detail about the risks and hazards of working with electric and hybrid vehicles can be found on the HSE website Electric and hybrid vehicles (hse.gov.uk).

Airbags

11. Under the ELV Directive, you must remove or deploy all pyrotechnic devices such as airbags or pyrotechnic seat belt pre-tensioners. This is because they are classed as explosive components.

12. Pyrotechnic devices are deployed either mechanically or electrically depending on vehicle type and year. You must assess every vehicle for airbag type and quantity, and any other pyrotechnic devices that may be present, so you can use a safe procedure.

13. You should get advice from the manufacturer if information is not provided in IDIS. If you are attempting to deploy pyrotechnics you need to be aware of the:

- different types of airbags and pyrotechnic devices contained in a vehicle
- method of deployment – mechanical or electrical
- health and safety issues regarding deployment, removal and disposal

14. Only appropriately trained personnel should carry out airbag deployment or removal. The CARE website lists a suitable airbag deployment training course.

15. Before you carry out any work on electrically deployed airbags, you should disable them by disconnecting the battery. After disconnecting the battery, you should allow a minimum period of 30 minutes before carrying out any work on the airbags. This is to allow any residual charge left in the system to dissipate.

16. Some vehicles have a supplementary battery back-up system, which will normally be indicated by a flashing LED on the steering wheel, which indicates the airbag circuit is still active. Check IDIS for details of the battery location and how to disconnect it.

17. You must remove and store undeployed air bags. Because they are classed as explosive devices, the storage facility must meet all the relevant regulations and requirements for storing explosive materials, including those relating to health and safety.

18. Many modern cars may well have more than 10 air bags. Removing all the airbags would be a time-consuming process. The safest and most efficient way to do this is to deploy the airbags within the vehicle. If it is not possible to deploy the airbag within the vehicle, remove the airbag and deploy it immediately.

19. You should carry out airbag deployment outside in a secure non-hazardous area. If you deploy air bags in situ, you must make sure that neither the operator of the equipment, nor any other person, is within 10 metres of the vehicle when the air bags are detonated.

20. You must assess the level of noise produced during the deployment of air bags and you may need to discuss this with the local authority, particularly if the treatment facility is close to a residential area. Gases and particulates are generated during deployment of pyrotechnic devices. Once all devices have been deployed, you should open all doors to thoroughly ventilate the vehicle before re-entering it for any removal operations.

21. Once deployed, pyrotechnic devices are neutralised and can be left inside the vehicle. The explosives used in airbags (before deployment) are toxic and are hazardous to health. As they are sealed into the generator in manufacture, exposure to these chemicals during normal handling is highly unlikely. If a generator is split open you must take extreme care, see health and safety guidelines, HSG184.

Seatbelt pre-tensioners

ELVs that contain air bags may also contain seatbelt pre-tensioners. These are designed to pull the seat belt tight at the same time as the airbags are deployed, to clamp the seat belt wearer to the seat preventing them from gaining too much acceleration or twisting before they hit the airbag.

22. Pre-tensioners may contain explosive or have stored mechanical energy (a large spring) that is deployed mechanically or electrically. If they contain explosive devices, you must deploy them as part of the depollution procedure. You should get guidance from the manufacturer on how to identify, remove and deploy seat belt pre-tensioners if this is not in IDIS.

Asbestos

23. Some older ELVs may contain asbestos (for example, certain brake pad linings). Regulations require that you identify the location of any components that may contain asbestos.

24. You must do a visual inspection of the vehicle during the depollution procedure to identify if the ELV contains any notices indicating parts that contain asbestos.

25. If a visual inspection identifies components that contain asbestos you must remove them. When you remove the components that contain asbestos, your procedures must follow all health and safety guidelines relating to asbestos.

6. Emissions control

These are appropriate measures for emissions control for a regulated facility permitted to store, treat or transfer (or both) ELVs. You must identify, characterise, and control emissions from your activities that may cause pollution.

6.1. Enclosure within buildings

1. Enclosing activities within buildings can be an appropriate measure for preventing and minimising emissions of pollution. An appropriately designed building will reduce a range of types of pollutants noise, dust and odour.

2. A partially enclosed building may be an appropriate measure on its own, or together with other appropriate measures, depending on the site-specific circumstances.

3. If your waste treatment activities are likely to cause (or are causing) significant pollution at sensitive receptors, and you cannot address this by alternative measures, then you must carry out that waste treatment activity within an enclosed building.

4. You must also carry out non-treatment activities in enclosed buildings if they are likely to cause (or are causing) significant pollution at sensitive receptors and you cannot address this by alternative measures. For example, activities such as storing and transferring waste (including loading and unloading).

5. An enclosed building means a construction designed to provide sheltering cover and minimise emissions of noise, particulate matter, odour, and litter. It must be enclosed on all sides.

6. Enclosed buildings must be ventilated to provide a safe working environment for employees. Your building's ventilation system must be properly designed and effective for the building to provide adequate containment and prevent fugitive emissions and unacceptable noise. You must understand and consider the needs of the occupants working in the building.

7. You must regularly assess the integrity of your building for damage that could result in fugitive emissions, including noise breakthrough. You must prevent and minimise damage by implementing a maintenance programme.

8. To reduce emissions of noise and vibration, the building must have appropriate acoustic seals on doors and windows.

6.2. Point source emissions to air (channelled emissions)

1. You must use appropriate measures to make sure that you collect, extract, and direct all process emissions to an appropriate abatement system for treatment before release.

2. You must make an assessment of the fate and impact of the substances emitted to air, following the Environment Agency's risk assessment guidance.

3. To reduce point source emissions to air (for example dust and odorous compounds) from the treatment of waste, you must use an appropriate combination of abatement techniques. Or you must demonstrate to the Environment Agency that your alternative abatement is equally effective.

4. You must have procedures to make sure that you correctly operate, monitor, and maintain abatement equipment.

5. Your monitoring should demonstrate the effectiveness of the abatement, so that you can take preventative or corrective action as necessary.

6.3 Fugitive emissions to air

1. You must use appropriate measures to prevent and minimise fugitive emissions to air, including dust, mud and litter, odour and noise and vibration.

2. You must use your waste pre-acceptance, waste acceptance and site inspection checks and procedures to identify and manage wastes that could cause, or are causing, fugitive emissions to air. When you identify any such wastes you must:

- take appropriate risk-assessed measures to prevent and control emissions

- prioritise their treatment or transfer

3. Where necessary to prevent fugitive emissions to air from the storage or handling of wastes, you should use a combination of the following measures:

- store and handle the waste within a suitably enclosed area (for example bays), a building or enclosed building
- keep doors closed except when access is required

4. You must have an appropriate, regular maintenance programme covering all buildings, plant, and equipment. It must help prevent emissions or minimise them.

Other measures for dust, mud, and litter

5. If your activities are likely to produce dust and particulates, mud, or litter that could cause pollution at sensitive receptors, or if such pollution has been substantiated, you must implement and regularly review a dust, mud and litter management plan. You must do this following our guidance. Your dust, mud and litter management plan must explain how you will prevent and minimise emissions of dust, mud, and litter from your facility.

6. You should locate measures such as litter fencing, and micro-netting as close as possible to areas where you load and unload light-weight loose waste if this activity is done outdoors. You should not rely on fences and screens at the perimeter of your facility to stop litter escaping.

Other measures for odour

7. If your activities are likely to produce odour pollution at sensitive receptors, or such pollution has been substantiated, you must implement and regularly review an odour management plan following our guidance, which includes H4 Odour management. Your odour management plan must explain how you will prevent and minimise odorous emissions from your facility.

8. You must cover odorous or potentially odorous waters or liquids or keep them in enclosed tanks or containers.

Other measures for noise and vibration

9. If your activities are likely to produce noise or vibration pollution at sensitive receptors, or such pollution has been substantiated, you must implement and regularly review a noise and vibration management plan.

10. You should follow our guidance Noise and vibration management: environmental permits. Your noise and vibration management plan must explain how you will prevent and minimise emissions of noise and vibration from your facility.

11. You should take care not to drop ELVs or components as this could produce noise and vibration pollution.

12. If you are detonating airbags in situ, you must consider and implement the measures needed to prevent and minimise the risk of noise and vibration pollution.

6.4 Point source emissions to water (including sewer)

1. You must identify the main chemical constituents of your facility's point source emissions to water and sewer as part of your inventory of emissions.

2. You must assess the fate and impact of the substances emitted to water and sewer following the Environment Agency's risk assessment guidance.

3. Discharges to water or sewer must comply with the conditions of an environmental permit and a trade effluent consent.

4. Relevant sources of wastewater include:

- runoff from all waste storage and handling areas, including loading, and unloading areas
- condensate collected from treatment process
- vehicle washing
- washing of containers and vessels
- vehicle oil and fuel leaks
- spills and leaks
- rainwater from bunds around containers and tanks

If you need to treat wastewater before discharge or disposal, you must use appropriate treatment techniques. An appropriate combination of treatment techniques, for example, could include silt or solids removal and using an oil separator to manage site drainage.

5. You must segregate uncontaminated water streams (for example, clean runoff from roofs) from those that require treatment.

6. You must separate contaminated water streams based on pollutant content and treatment required. For example, you may need to collect and treat separately contaminated surface runoff water and process water.

6.5 Fugitive emissions to land and water

1. You must use appropriate measures to control potential fugitive emissions and make sure that they do not cause pollution. See the guidance on emissions to water and leaks from containers.

2. You must design appropriate surfacing and containment or drainage facilities for all operational areas, considering:

- collection capacities
- surface thicknesses
- strength and reinforcement
- falls
- materials of construction
- permeability
- resistance to chemical attack
- inspection and maintenance procedures
- relevant standards of construction
- end use, for example by tracked or wheeled vehicles or vehicle weight

3. Your drainage infrastructure must:

- prevent incompatible wastes coming into contact with each other
- make sure that fire cannot spread

4. You must store and treat all waste on an impermeable surface with contained drainage that meets CIRIA 736 or an equivalent approved standard. The impermeable surfaces must have sealed construction joints. These requirements do not apply in designated areas where the waste being stored or handled does not pose any significant risk of contaminating surface water or ground water. You must appropriately isolate these designated areas from other operational areas so that there cannot be any flows between them. This includes in the event of an accident, for example a fire.

5. You must provide bunds for all tanks containing liquids (whether waste or otherwise) that could be harmful to the environment if spilled. Bunds must meet CIRIA 736 or an equivalent approved standard and:

- be impermeable, stable, and resistant to the stored materials
- have no outlet (that is, no drains or taps) and drain to a blind collection point
- have pipework routed within bunded areas with no penetration of contained surfaces
- be designed to catch leaks from tanks or fittings
- have an appropriate capacity
- have regular visual inspections – any contents must be pumped out or otherwise removed under manual control after checking for contamination
- be fitted with a high-level probe and an alarm (as appropriate) if not frequently inspected
- have tanker connection points within the bund (where possible), and if not, possible you must provide adequate containment for spillages or leakage
- have programmed engineering inspections (extending to water testing if structural integrity is in doubt)
- be emptied of rainwater regularly to maintain the containment capacity

6. You must keep all above-ground tanks containing liquids (waste or otherwise) that could be harmful to the environment if spilled on an impermeable surface. This must have contained drainage that meets CIRIA 736 or an equivalent approved standard. You must fit the tanks with alarms and cut-out systems to detect and prevent leaks and spills.

7. You must minimise using subsurface equipment and infrastructure and decommission it where possible. For subsurface structures, you must:

- establish and record the routing of all site drains and subsurface pipework
- identify all subsurface sumps and storage vessels
- engineer systems to minimise leakages from pipes and make sure they can be detected quickly if they do occur
- provide secondary containment or leakage detection for subsurface pipework, sumps, and storage vessels – vessels must be fitted with alarms and cut-out systems to detect and prevent spills when filling
- establish an inspection and maintenance programme for all subsurface structures, for example, pressure tests, leak tests, material thickness checks or CCTV

8. You must provide secondary containment that meets CIRIA 736, or an equivalent approved standard, for all drums and other mobile containers which:

- are greater than 200 litres in capacity and are kept outside

- contain liquids (waste or otherwise) that could be harmful to the environment if spilled

9. You must comply with the oil storage regulations. These apply to non-hazardous wastes such as vegetable and cooking oil, as well as to biofuels and mineral oils.

10. You must provide appropriate buffer storage capacity at your facility to store waste waters, taking into account:

- potential abnormal operating scenarios and incidents
- the nature of any polluting substances and their impact on the downstream wastewater treatment plant and receiving environment

You must have appropriate measures to monitor, treat and reuse the water held in the buffer storage before discharging.

11. You must take appropriate measures to prevent emissions from washing and cleaning activities, including:

- containing and directing spray, liquid effluent and wash-waters to foul sewer or collecting them in a sealed system for offsite disposal – you must not discharge them to surface or storm drains
- where possible, using biodegradable and noncorrosive washing and cleaning products.
- storing all detergents, emulsifiers, and other cleaning agents in suitable bunded or containment facilities, within a locked storage area, or in a building away from any surface water drains
- preparing cleaning or disinfection solutions in contained areas of the site and never in areas that drain to the surface water system or groundwater

12. You must produce and implement a spillage response plan and train staff to follow it and test it.

13. Your procedures and associated training must make sure you deal with spillages immediately. You should follow the manufacturer's health and safety advice for any products or substances involved.

14. You must keep spill kits at locations close to areas where a spillage could occur and make sure relevant staff know how to use them. You must make sure kits are replenished after use.

15. You must stop spillages from entering drains, channels, gullies, watercourses, and unmade ground. You must make available proprietary sorbent materials, sand, booms or drain mats for use when required.

16. You must make sure your spillage response plan includes information about how to recover, handle and correctly dispose of waste produced from a spillage.

17. You must have a documented inspection and maintenance programme for impermeable surfaces and containment facilities and keep records to demonstrate its implementation.

6.6 Pests

1. You must manage waste in a way that prevents pests. For example, if you do not manage flies, rats, and birds they can affect operations, be a nuisance to neighbours and pose an environmental and health hazard as a potential vector for pathogens. We have produced internal guidance for our officers on fly management. Contact us if you would like a copy.

2. If you expect pests will cause pollution, hazard or annoyance at sensitive receptors, or if this has been substantiated, you must create, use and regularly review a pest management plan, following our guidance.

3. Your pest management plan must include procedures for:

- inspecting for and controlling pests
- rejecting loads of infested waste
- treating pest infestations promptly, and removing waste if necessary
- storing, handling, and using approved pest control products – you can get information on using chemicals at work from the Health and Safety Executive

7. Waste minimisation, recovery, and disposal

These are waste minimisation, recovery and disposal appropriate measures for a regulated facility permitted to store, treat or transfer (or both) ELVs (or components).

1. You must have and implement a residues management plan that:

- minimises the generation of residues, that is solid waste arising from the treatment of waste
- optimises the reuse, regeneration, recycling, or energy recovery of residues, including packaging

- makes sure you properly dispose of residues where recovery is technically or economically impractical

2. Where you must dispose of waste, you must carry out a detailed assessment identifying the best environmental options for waste disposal.

You must review on a regular basis, options for recovering and disposing of waste produced at the facility. You must do this as part of your management system to make sure that you are still using the best environmental options and promoting the recovery of waste where technically and economically viable.