# ENVIRONMENTAL MANAGEMENT SYSTEM – EPR/FB3201LQ

Recycling Lives limited, The Flatts, Whitworth Close, Darlaston, Wednesbury, West Midlands, WS10 8LJ

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***ALL RECORD KEEPING FORMS ARE KEPT ELECTRONICALLY AND NOT INCLUDED IN THIS EMS***

# Site Information & Key Contacts List

| | | |
|---|---|---|
| **Site Address:** | The Flatts, Whitworth Close, Darlaston, Wednesbury, West Midlands, WS10 8LJ | **National Grid Reference** |
| **Site Operator:** | Recycling Lives Ltd | SO 98162 97314 |

| Contact | Description | Office Hours | Out of Hours |
|---|---|---|---|
| **Recycling Lives Ltd** | Site Operator/Permit Holder | 01772 654321 | **ADJ Fire & Security** 01257 233222 |
| **Paul Ballard** | Technically Competent Manager | 01772 654321 | 01772 654321 |
| **Hannah McDonald** | Site Manager & Out of Hours Contact | 01772 654321 | 07946596037 |
| **Graeme Slater** | Out-of-Hours Contact for Emergencies Only | 01772 654321 | 07515 567118 |
| **Walsall Manor Hospital** Moat Road, Walsall, WS2 9PS | Local NHS Hospital including A&E | 01257 261222 | In Emergency 999 |
| **Darlaston Family Practice** Darlaston Health Centre, Pinfold Street, Darlaston, WS10 8SY | Local Doctors GP | 0121 568 4300 | In Emergency 999 OR Non-Emergency 111 |
| **West Midlands Police** | Local Police – non-emergency<br>Police Emergency | 0345 113 5000<br>999 | 101<br>999 |
| **Willenhall Community Fire Station** Clarkes Ln, Willenhall, WV13 1HT | Fire & Rescue Service (in Emergency Dial 999) | 0121 380 7553 | 999 |
| **Environment Agency** Sapphire East, 550 Streetsbrook Rd, Solihull B91 1QU | Environmental Regulator | 0370 850 6506 | 0800 80 70 60 |
| **Walsall Borough Council** | Local Planning Authority | 01922 650000 | |
| **South Staffordshire Water** | Local Water Supplier/Sewerage Provider | 0800 389 10 11 | 0800 389 10 11 |

# 1 General Considerations

## 1.1 Site Operator/Permit Holder

1.1.1 Recycling Lives Ltd are recognised as a UK leader for combining business and charity. Their model comprises using commercial operations in recycling and waste management to support and sustain charity programmes for offender rehabilitation, residential support and food redistribution meaning they create more than just environmental and financial value from their activities, but significant social value too.

1.1.2 Recycling Lives have a proud history, with 40 years' experience working in the recycling sector. Recycling Lives was founded, and is run, by second generation recyclers, making them unique in the industry.

1.1.3 Recycling Lives operate an authorised treatment facility (ATF) for End-of-life Motor Vehicles. The permit was originally issued to T.L. Harvey & Sons Ltd on 17/11/1993. Recycling Lives are leasing a part of the site and operate the site as an SR2008 No20 - site. In summary the operations on site will include:

- The importation to site of end-of-life vehicles (ELV's) to depollute, dismantle and remove all potentially hazardous components;
- Separation of different elements of ELVs e.g. batteries, tyres, engines etc for resale; and
- Baling ELV's for recovery to a suitably permitted site.

1.1.4 ELVs will be accepted from members of the public and from the commercial, industrial and agricultural sector.

1.1.5 The site currently allows for the acceptance of up to 25'000 tonnes a year of waste (ELVs) and is looking to increase this to 50'000 tonnes a year with the application of an Environmental Bespoke Permit.

1.1.6 Developments in legislation such as the introduction of the landfill tax have increased the effectiveness and scope of operations for waste transfer and recycling centres, permitting greater recovery rates for recyclable waste.

## 1.2 Site Location

1.2.1 The site is located within T.L Harvey's site but is run independently and is called Recycling Lives Limited, The Flatts, Whitworth Close, Darlaston, Wednesbury, WS10 8LJ and the National Grid Reference for the site is SO 98162 97314.

## 1.3 Permitted Operations

1.3.1 Specified waste management operations include waste disposal and waste recovery operations listed Annex IIA and IIB of the Waste Framework Directive 2008/98/EC; as extracted from Table 2.1 'activities of the EP:

Table 1.1 – Extract of Table S2.1 activities from SR 2008 No 20

| Description of Activities | Limits of Activities |
|---|---|
| R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)<br><br>R4: Recycling/reclamation of metals and metal compounds<br><br>R5: Recycling/reclamation of other inorganic materials<br><br>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it was produced.) | Treatment consisting only of depollution of waste motor vehicles and sorting, separation, grading, baling, shearing, compacting, crushing, or cutting of waste into different components for recovery.<br><br>There shall be no treatment of lead acid batteries, other than sorting and separating from other wastes.<br><br>There shall be no treatment including the decanning of catalytic converters, other than sorting and separating from other wastes.<br><br>The maximum quantity of hazardous waste shall not exceed 10 tonnes per day. This does not include the manual depollution and dismantling of waste motor vehicles.<br>Wastes shall be stored for no longer that 1 year prior to disposal and 3 years prior to recovery.<br><br>Wastes shall be stored for no longer than 1 year prior to disposal and 3 years prior to recovery<br><br>The maximum quantity of hazardous waste stored at the site shall not exceed 50 tonnes at any one time of which no more than 10 tonnes shall be stored for disposal. This does not include waste motor vehicles awaiting manual depollution.<br><br>No more than 50 tonnes of intact waste vehicle tyres (waste code 16 01 03) shall be stored at the site at any one time.<br><br>No more than 25 tonnes of waste vehicle batteries (waste code 16 01 01* or 16 06 05) shall be stored at the site at any one time. |

| | |
|---|---|
| | No more than 10 tonnes of intact waste vehicle catalytic converters (waste code 16 01 21* or 16 01 22) shall be stored at this site at any one time. |

## 1.4 Hours of Operation

1.4.1 The site will be opening for the delivery and receipt of waste on site and for all waste handling/processing operations according to the hours specified below:

| | |
|---|---|
| Monday to Friday | 07:00 – 17:30 |
| Saturday | 07:00 – 12:00 |
| Sundays & Bank/Public Holidays | Closed |

1.4.3 The only activities on site which will be permitted outside of these hours are onsite maintenance work and general office use.

1.4.5 During times when the site is closed or not in operation, the site will be locked and secured to prevent unauthorised vehicular and/or pedestrian access.

## 1.5 Lighting

1.5.1 During official lighting up times or during times of low light the site has sufficient lighting within the working areas to permit effective inspection of waste and ensure that safe working practices are maintained on site.

## 1.6 Waste Types and Quantities

1.6.1 The waste types to be accepted at site are those as defined in the Controlled Waste (England & Wales) Regulations 2012 and section 75 of the Environmental Protection Act 1990 consisting of End-of-Life motor vehicles [ELVs] (including hazardous wastes such as lead acid batteries and catalytic convertors which form part of, or are contained in, a waste motor vehicle and were necessary for the normal operation of the vehicle.)

1.6.2 The site will also accept some components (including hazardous) removed from cars as they are occasionally found within vehicles and rejection of such components may lead to fly tipping. For example, if a customer has some oil filters to dispose of with their vehicle the filters will be accepted and deposited appropriately at the site.

1.6.3 A detailed breakdown of wastes from the European Waste Catalogue (EWC) – Commission Decision 2000/532accepted at the site is shown in Table 2.2 of the SR2008 No20 which is included in Appendix II.

1.6.4 The throughput of the site is changing for a bespoke permit application to <50'000 tonnes per annum of ELV'S. The storage and treatment of metal at site will be limited to 1000 tonnes at any one time.

## 1.7 Waste Storage Details

1.7.1 The following table details the maximum pile sizes and duration for all permitted wastes stored on site during the time of writing this EMS. The below table is clearly shown on Drawing No. EMS-Walsall-1.

Table 1.2 Waste Storage Table

| Plan Ref: | Brief Description | Storage Form | Height (m) | Volume (m3) or tonnes | Max Storage Time |
|---|---|---|---|---|---|
| Area 6 | Tyre Contractor/ End-of-Life Tyre Storage | Stacked on pallets/ Free standing inside specific storage area at site | 2M | 30 tonnes | <2 Weeks |
| Area 2 | Undepolluted ELV Storage | On the ground in specific storage area | 2M | 90 tonnes (80 ELVs max) | <48 hours |
| Area 3 | Batteries/ Catalytic Convertors | Battery Storage Bins with lids or under cover in the depollution building | 1M | <1M3 | <2 weeks |
| Area 4 | Drained Fluids i.e. Petrol, Diesel, Coolant, Oil, Contaminated Fuel | Double Bunded Tanks | 1M | 20,000 litres | <2 weeks |
| Depolluted Car Storage Area | Depolluted ELV Storage | Free-standing/3-sided panel bay | <4M | 750m3 | <2 weeks |
| Area 9 | Engines and CAT removal area | 40 cubic yard skip/ fire wall to rear | 2.6M | 78m3 | < 2weeks |
| Area 10 | Baled ELVs | Baled/2-sided panel bay | <4M | 400M3 | <2 weeks |
| Area 11 | Alloy Storage | Free-standing/3-sided panel bay | <2M | 30 tonnes | <2 weeks |

1.7.2 If the maximum storage capacity of the site is reached then no further waste will be accepted until waste can be removed from the site and taken to a suitably permitted or exempt site.

## 1.8 Staffing and Management

1.8.1 The table below details the staff structure of the site when operating at full capacity. Positions in bold italic print below are the minimum staff requirements when the site is open for the reception and processing of waste.

Table 1.3 – Staffing numbers and responsibilities

| POSITION | EMPLOYEES | RESPONSIBILITIES |
|---|---|---|
| Site Manager | 1 ***(1)*** | Overall management of the site including covering administration. |
| Technically Competent Manager (TCM) required at site 20% of the operating hours of the site. | 1 ***(1)*** | Ensuring that the site is being operated in accordance with the Environmental Permit and in line with attendant regulations. |

| | | |
|---|---|---|
| Machine/Plant Operators / Operatives | 11 *(11)* | Waste handling/processing, reception and plant operation |

1.8.2 Additional staff may be employed and utilised on site during busy periods to carry out site maintenance works, plant maintenance, administration and record keeping.

## 1.9 Health and Safety

1.91 All operations on site will be carried out in accordance with the relevant requirements of the Health and Safety at Work Act 1974. Conditions of site use for employees, visitors and contractors are shown in Appendix III. These conditions will be shown to all site users and must be signed prior to using the site. Anyone refusing to comply with the conditions of use will be asked to leave the site.

## 1.10 Fit and Proper Persons

1.10.1 The site's Technically Competent Manager (TCM) will have obtained, at a minimum, the Level 4 Medium Risk Operators Competence (MROC) for Waste Management Operations – Physical Treatment with Waste Management Industry Training and Advisory Board (WAMITAB) Certificate of Technical Competence (COTC) or equivalent qualification.

1.10.2 The COTC holder (and any additional TCMs) will be required to enter their time spent on site in the site signing in book at a minimum with the ideal being that an entry will be made in the site diary at each visit. The required managerial cover is usually 20% a percentage of the sites operational hours but this can be changed based on the sites OPRA score calculated by the EA. Any permanent changes to the site management will be notified to the EA within five working days, naming the new manager or person providing cover.

1.10.3 At the time of application of this EMS, neither the operator nor any of the relevant people within the organisation had been convicted of a relevant offence.

# 2. Site Engineering and Infrastructure

## 2.1 General

2.1.1 Operational and storage areas are clearly shown on Drawing No. EMS-Walsall -1.

## 2.2 Access and Parking

2.2.1 Access to the site is off Tramway Close.

2.2.2 Car Parking is provided on site for staff and visitors.

## 2.3 Notice Board and Signs

2.3.1 A notice board is erected at the site entrance and displays the following information:

- The site name and address
- The name of the permit holder and operator
- The Environmental Permit number and accompanying statement that the site is permitted by the Environment Agency

- Environment Agency contact details, Emergency No 0800 80 70 60 and
- General Enquiries No 03708 506 506
- Operators "out of hours" emergency contact details (telephone number)
- Operating hours

2.3.2 Additional signs are displayed around the site for operational/health and safety purposes. All staff and visitors will be required to comply with the requirements of all signs whilst on site.

## 2.4 Site Security

2.4.1 The site is bounded by a mixture of 2.4m high palisade fencing and 4.5m high concrete panel walls. The site also has steel lockable access gates.

2.4.2 The site will benefit from site-wide CCTV coverage with 24 hours on and off-site supervision. The locations of CCTV cameras are indicatively shown on Drawing No. EMS-WALSALL-6.

2.4.3 The site security will be inspected on a daily basis and any defects which impair the effectiveness of the security will be repaired to the same or better standard within a suitable timeframe. All repairs will be noted in the site diary.

2.4.4 The security measures at the site are under constant review under the site's inspection regime. If unauthorised access becomes apparent as a problem at the site, the security measures will be reviewed, and improvements implemented.

## 2.5 Site Office

2.5.1 The location of the site is shown on Drawing No EMS-Walsall-3. The office is available for the storage of important site management documentation as shown below.

Documents to be retained in the site office

- The Environmental Permit (Original and subsequent variations.)
- This Environmental Management System (EA agreed document.)
- Current site diary (to record all inspections and relevant visitors to site.)
- Environment Agency Inspection (CAR) Forms.
- In House inspection sheets/recording forms.
- Duty of Care Transfer Notes (for a minimum 2 years.)
- Hazardous Waste Consignment Notes (inc. rejected waste, for a minimum 3 years.)
- Waste delivery tickets
- Accident reports and first aid kit.

## 2.6 Weighbridge

2.6.1 The site benefits from a weighbridge to accurately calculate incoming and outgoing loads as required.

2.6.2 Should the weighbridge be offline agreed WRAP and EA volume-weight conversion factors will be used to calculate weights of incoming/outgoing loads. See section 3.3.1 for further information.

## 2.7 Wheel Cleaning Facilities

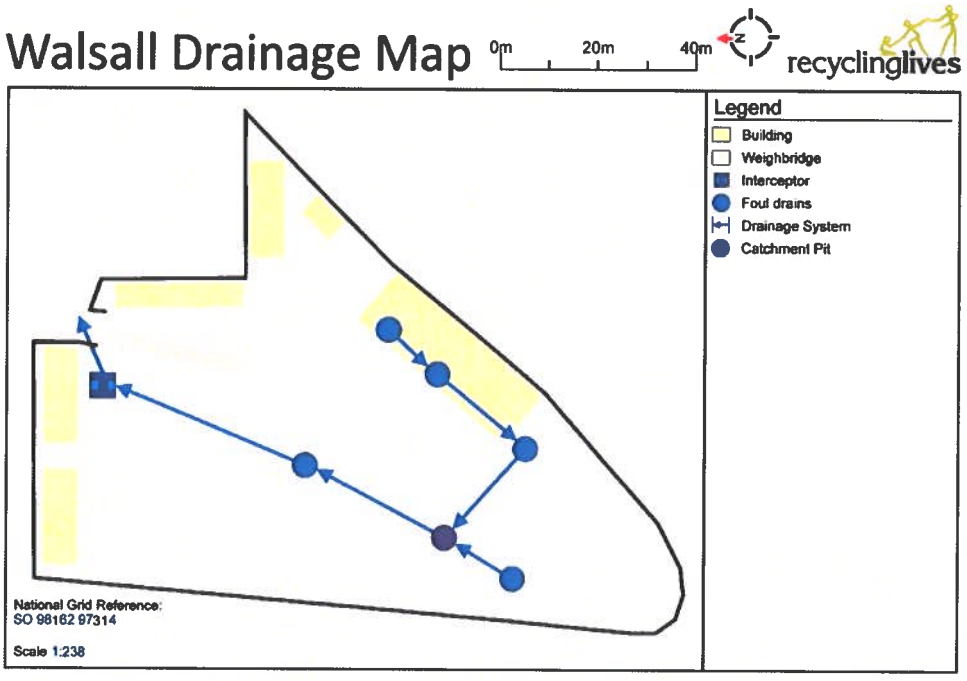
2.7.1 No wheel cleaning facilities are proposed at this site. The waste types handled on site reduces the likelihood of mud or debris being carried onto the surrounding public highways. There is access to a mobile jet wash in the unlikely event of visual mud/debris evidence.

## 2.8 Waste Transfer and Storage Areas

2.8.1 The sites location, operational and storage areas are shown on Drawing No EMS-Walsall -1.

2.8.3 Outcomes of inspections of waste types, hardstanding areas, transfer/treatment areas, storage areas, drainage channels, etc are recorded detailed comments are entered into the site's diary (if required, including any actions taken or proposed.)

## 2.9 Site Drainage




2.9.1 The site foul drains run to the interceptor as shown in the above diagram. The interceptor has a one-way valve which means whilst all waste can go in none can get out of the feed drain ensuring the site has a sealed drainage system. The interceptor is drained on a quarterly basis or as required by the site manager.

2.9.2 The interceptor is fitted with an alarm which will alert the site manager when near capacity to ensure the contents can be emptied by a suitably permitted drainage contractor.

2.9.3 Further checks to surfacing will be carried out to ensure no repairs need to be carried out, and comments noted on internal inspection sheets.

## 2.10 Vehicles, plant and equipment

2.10.1 Waste will be handled using the plant listed below. Additional plant will be hired to cover any very busy periods if required. Only trained operators will be permitted to drive/operate the plant listed below. Additional staff will be hired as required.

Table 2.1- Number of Plant Operations at site and their function

| Item | Number | Function |
|---|---|---|
| 360 Grab | 2 | Loading/unloading/movement/sorting |
| Scrap Baler | 1 | Compaction/processing ELV's |
| Forklift | 4 | Movement of waste around site |
| Weighbridge | 1 | Accurate weighing of incoming/outgoing loads |

2.10.2 The plant/equipment on site may vary depending on the amount of waste to be processed/treated.

2.10.3 Preventative and plant maintenance will be carried out as per the manufacturer's instructions and also as per Recycling Lives Annual Plant Maintenance checks. Any plant or equipment is checked by the operator at the start and end of each shift and daily defect sheets completed and sent to the maintenance department at Preston.

# 3. Site Operations

## 3.1 Preliminary Procedures

3.1.1 Guidance will be given by the site management, including the compliance team, to all employees, sub-contractors, other waste carriers and customers regarding the waste types and operations which are acceptable at the. The procedures below are followed prior to the receipt of waste on site.

3.1.2 Visitors to the site will sign the visitor's book upon arrival and exit stating the purpose of their visit and whom they represent.

3.1.3 When a driver employed by the permit holder arrives at the waste producers' premises, he/she will inspect the load for conformity with relevant regulations and safety procedures:

1. If the load is satisfactory the driver will sign the relevant paperwork (Duty of Care transfer note/delivery ticket) and remove the load from the premises.
2. If the waste does not meet the description stated on the controlled waste transfer note the customer is advised to check the note and give a more detailed description of the waste.
3. If the more detailed description of the waste reveals that the waste is not permitted at the site, then the customer is advised that the waste must be taken to another site which is appropriately permitted to accept the waste(s).

4. If further instructions are needed the driver may also report back to the site manager.

## 3.2 Checking & Inspection of Loads

3.2.1 All persons delivering waste to the site are required to report to the weighbridge office upon arrival at site (including employees of the operator.) Where a controlled waste transfer note accompanies a consignment of waste the note is checked to ensure that it actually describes the type and quantity of the waste. If the waste does not meet the description stated on the controlled waste transfer note the customer is advised to check the note and give a more detailed description of the waste. If the more detailed description of the waste reveals that the waste is not permitted at the site, then the customer is advised or assisted by the RL management team to find an alternative site.

3.2.2 A visual inspection of the ELV will be carried out by a member of the depollution team once the ELV has been unloaded. At this point any accompanying paperwork will also be checked. If a leak is found on the ELV, the leaking fluid will be drained immediately and stored in the appropriate manner and spillages dealt with in accordance with section 5.3. If unauthorised waste is discovered inside a vehicle after receipt, two courses of action are available:

1. Return the vehicle to the producer and advise the EA of the deposit; or,
2. Where the producer/owner of the vehicle has left the site and cannot be contacted or where the removal off-site of the waste may cause further problems then the waste will be deposited in the quarantine area. The EA will then be contacted to agree a course of action if the waste is difficult to handle or special.

3.2.3 Provided that the vehicle meets the acceptance criteria (as judged visually by a trained operative) then the vehicle will be moved into the depollution storage area to await removal to Recycling Lives Recycling Park for processing.

## 3.3 Weighing and Categorising Loads

3.3.1 The incoming loads are either weighed using the weighbridge or estimated by class category or vehicle documentation. The weight of delivered vehicles may be recorded as the standard/plated net weight for that type of vehicle if whole. These weights are required for each ELV that is delivered to the site to ensure that the site complies with recycling targets and throughput limits. The EA define the average weight of an ELV as 1.3 tonnes.

3.3.2 Where registration documents are available these are used to confirm vehicle details. However, vehicles arriving via insurance companies are unlikely to possess such documents.

## 3.4 Waste Handling

3.4.1 Schedule 5 or the End-of-Life Vehicles Regulations 2003 sets out the minimum technical requirements for keeping and treating ELVs. The site will operate to the standards set out in these regulations.

3.4.2 Un-depolluted ELVs will be stored appropriately as shown on Drawing No. EMS-Walsall-1. The site employees will ensure that batteries are disconnected from waste vehicles to ensure they do not short circuit prior to removal. If the vehicle requires assessment by an insurance company, it will be held until it is assessed to determine whether the vehicle is deemed 'waste' or not in the RAW 2K (non-waste) area.

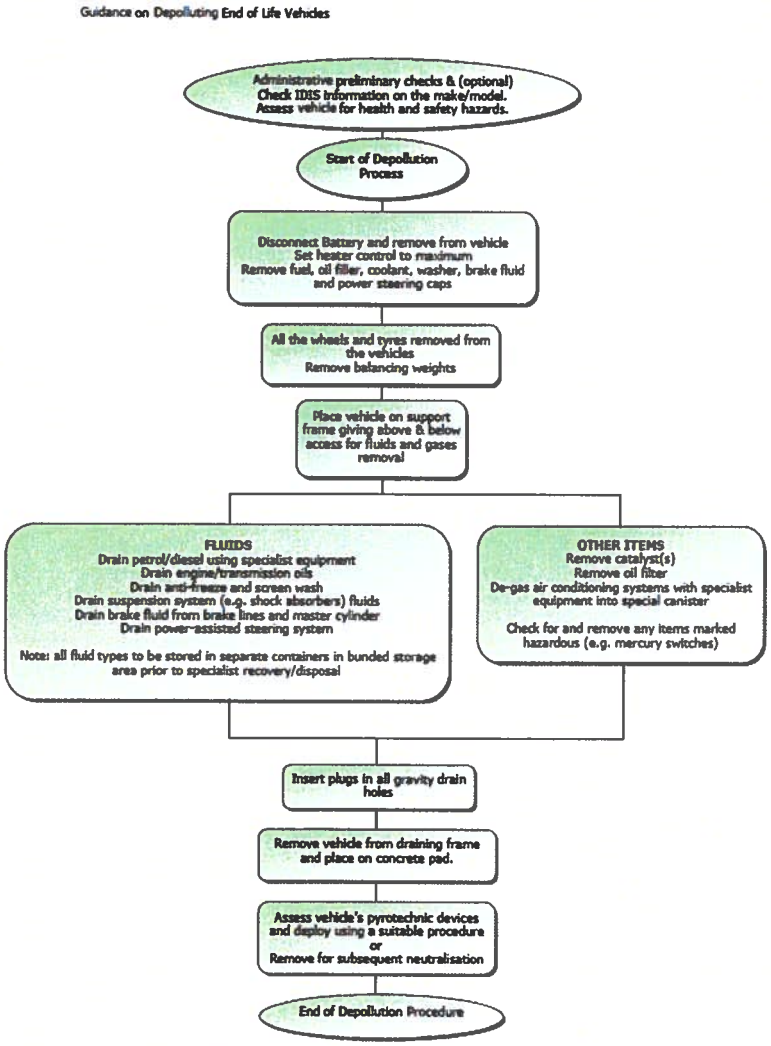
3.4.3 Un-depolluted ELVs will be moved onto the depollution rig and will be depolluted to the standards detailed in the DEFRA/DTI document "Depolluting End-of-Life Vehicles – Guidance for Authorised Treatment Facilities, summarised in section 3.6.

## Rejected Wastes

3.5.1 Rejected wastes will be deposited in the quarantine area of site. This will occur when non-conforming waste is discovered after the deposit of a load or where the removal off-site of the waste may cause further problems.

## 3.6 ELV Depollution Process

3.6.1 Each ELV will be treated as set out in the DEFRA/DTI publication "Depolluting End-of-Life Vehicles: Guidance for Authorised Treatment Facilities" (Appendix IV) as shown below;




3.6.2 A suitable absorbent and full spill kit will be kept by the depollution rig in the event of any spillages of oil or fuel. Any contaminated absorbent will then be removed to an appropriate permitted facility.

3.6.3 The depollution area will be a lift or elevated forks on which the vehicle will be placed to allow operatives to safely remove the hazardous components and fluids to render the car as

non-hazardous waste. The surface of the depollution area will be a tray or containment area to ensure the containment of all liquids/fluids drained from the vehicle.

3.6.4 The depolluting equipment installed at site is designed specifically for the depollution of ELVs and includes tanks to 'suck out' the fluids (see below):

3.6.5 A trained member of staff should be able to complete the depollution process in around 20 minutes. Once vehicles have been depolluted, they will be removed from the depollution area as quickly as possible.

## 3.7 ELV and parts Storage

3.7.1 All other materials/components will be stored in designated containers/areas located on site pending collection/removal as shown on Drawing No. EMS-Walsall-1.

a) Once ELVs have been subjected to the depollution process, depolluted ELVs will be transferred to the engine removal area where the engine will be removed from the vehicle. The engine will be stored in this area prior to removal off site.

b) Once the engine has been removed the ELV will undergo mechanical processing in the form of baling for size reduction. The bale will then be sent to one of the Recycling Lives main shredding/fragmentiser sites (either in Preston or Hitchin) for further processing.

c) Tyres (both waste and re-usable) are sold to the onsite tyre contractor and will be stored in the separated area of site until they are sold or moved to a permitted waste tyre disposal site (Drawing No. EMS-WALSALL-4)

3.7.2 Storage quantities for the above wastes are clearly shown on the waste storage area details table.

## 3.8 Fuel and hazardous fuel storage

3.8.1 All hazardous liquids removed from the vehicles will be stored in dedicated double bunded tanks on concrete with sealed drainage shown on Drawing Walsall-1.

3.8.2 The tanks/containers to be used for the storage of fuel or hazardous fluids will be double bunded and capable of containing a minimum of 110% of the volume of fuel stored in the tank. All pipework and associated infrastructure will be enclosed within the bund and a lock will be fitted to the tank valve to prevent unauthorised operation. All valves and gauges on the tank will be constructed to prevent damage caused by frost. The tanks will be clearly marked showing their capacity and product within.

3.8.3 Quantities of fluids in the drums/tanks which are drained during the depollution process will be monitored on a daily basis to ensure there is adequate capacity. Fluids will be collected on a contract basis by a reputable contractor who is a registered carrier of hazardous waste.

## 3.9 Removal of Batteries

3.9.1 Batteries removed from vehicles as they arrive at site will be handled as follows:

i) Stored in purpose made acid proof containers with a lid capable of holding the contents of the batteries placed in it will be stored in the ELV storage area. If a container does not have a lid the container will be stored undercover in the depollution area. Containers can usually hold up to 1 tonne of batteries and regular visual checks will be made on the containers to ensure they are fit for purpose.

ii) A suitable absorbent agent will be kept within the yard so that prompt action can be taken to absorb any spillages. Any contaminated absorbent material will then be removed to an approved disposal facility.

iii) Removal of batteries will be carried out in accordance with the Hazardous Waste Regulations 2005 (as amended) or any subsequent amending legislation.

## 3.10 Difficult Wastes – Catalytic Convertors

3.10.1 Catalytic Convertors accepted individually at site or removed from ELV's will be stored in containers adjacent to the Engine Export & Additional Storage area, as shown on Drawing No. EMS-WALSALL-1. Catalytic convertors will be bulked up and removed from the site for treatment to a suitably permitted de-canning facility.

## 3.11 Record Keeping

3.11.1 The details below shall be recorded on a combination of the weighbridge, internal record keeping forms, invoices, site diary and controlled waste transfer notes.

3.11.2 The following details are recorded for every load deposited at site that is not bought into site by a domestic customer, although some of these items will also be recorded for domestic customers (identified with a 1):

a) The date and time of delivery.

b) The name and address of the waste producer.

c) Detailed and accurate description of the waste including type, quantity (in tonnes or cubic metres) and EWC codes.

d) How the waste is contained e.g. loose, container type.

e) The carriers name and address.

f) Drivers name, signature and vehicle registration number.

g) Signature or initials of persons producing/accepting/inspecting/carrying the waste

h) Additional handling details/notes made by the driver after inspection of the loads.

i) SIC code of the premises which produced the waste.

j) SIC code of the transferor.

k) Waste hierarchy declaration.

3.11.3 The following details are recorded for all deposits of non-conforming waste at the site and are forwarded to the EA, where required:

a) Date and time of deposit.

b) A description of the waste.

c) The quantity of waste in tonnes or cubic metres.

d) Name, address and telephone number of the waste producer.

e) The carrier's name, registration details and vehicle registration.

f) Reason for the rejection of waste and action taken.

3.11.4 The following details are recorded for every load leaving the site:

a) The date and time of the removal.

b) The type and quantity of waste (in tonnes or estimated cubic metres)

c) The destination waste management site or exempt facility.

d) The name and registration number of the carrier or employee removing the waste (if applicable) and vehicle registration number.

e) Signature or initials of persons i.e. transferor, transferee, and carrier of the waste.

f) SIC code of the premises transferring the waste.

g) Waste hierarchy declaration.

3.11.5 A summary of waste types and quantities deposited at and removed from the site and origin and destination details will be forwarded to the EA on a quarterly basis before the due date of each quarter using the standard waste return form.

### 3.12 Site Closure Plan

3.12.1 In the event that the site ceases to operate as a waste transfer/treatment facility as set out in the site's EP, the following steps will be followed to achieve site closure:

a) Contact the EA to advise the Environment Officer(s) that the site is planning to cease/have ceased the acceptance of wastes under the permit.

b) The amount of residual processed and unprocessed waste on site will be assessed by the TCM to set a timetable for the final processing and timely removal of waste from site.

c) Following removal of all waste, plant and machinery from site a site investigation will be undertaken to ascertain the ground conditions of the land to which the site relates.

3.12.2 A surrender application will then be submitted to the EA for determination.

## 4. Environmental Control, Monitoring and Reporting.

### 4.1 Breakdowns and Spillages

4.1.1 In the event of a breakdown or malfunction to plant, equipment or infrastructure alternatives will be brought on site until repaired. If alternatives cannot be sourced, waste and operations will be managed until the item is repaired. The repair will be carried out at the most convenient location with absorbents used to clear oil or fuel spillages.

4.1.2 All site surfaces will regularly be inspected when the site is in operation. Debris will be swept as required and placed in a skip for disposal to a suitably permitted site.

4.1.3 Any spillages of fuel/oil will be cleared immediately by depositing sand or absorbents on to the affected area. The sand or absorbents will be placed in the Spill Kit bin ready to be sent to a suitably permitted site for disposal. All spillages of waste and windblown litter will be cleared by the end of the working day in which they occur. Spillage clearance procedures are detailed in Section 5.3. Sand and/or absorbents will be stored on site.

4.1.4 All wastes liable to give rise to contamination will be removed from the site if the site is not secure or if operations cease or are temporarily suspended.

### 4.2 Site Inspections and Maintenance

4.2.1 The inspection frequencies for maintenance/housekeeping are at this site managers discretion. As the site is a small site the site manager will informally inspect the site on a daily basis. All defects will be reported by email to the relevant department on the day they are identified. All details of defects, problems and repairs carried out will be recorded in the site diary on the day they occur or as soon as possible after. All repairs will be carried out within 5 working days, otherwise an alternative will be sourced until such time as a repair can be carried out.

4.2.2 All repairs to site security including gates and fencing will be made within 5 working days of the discovery of the damage and the site will be made secure until such time as a proper repair has been completed.

4.2.3 Any major defects found during site inspections which are likely to lead to a breach of permit conditions will be repaired immediately as much as is possible on the day they are discovered. If a repair is not possible the EA will be contacted to agree a suitable timescale for repair.

4.2.4 All defects and problems likely to give rise to pollution will be recorded on the site inspection forms with repairs or alternative solutions to be carried out immediately.

## 4.3 Site Diary / Inspection Form

4.3.1 A site diary for the purpose of recording site activities will be maintained in addition to the site inspection forms. The diary will also be used to record any other information relevant to the working of the site. The following information will be recorded in the diary/record forms required by the EP/Exemptions:

i) The identity of the signature of the inspection personnel;

ii) The date and time of the inspection (or event);

iii) The inspection details and any actions taken; and,

iv) The name of the nominated deputy in the absence of the site manager.

## 4.4 Security Monitoring

4.4.1 The security infrastructure including CCTV and fencing will be checked on a regular basis by operational staff to ensure it is fit for purpose and functioning adequately. Any defect will be reported to the site manager/TCM and noted on a defect form and/or the site diary with follow up by email to the relevant people to ensure the issue is rectified as soon as is practically possible.

## 4.5 Control of Mud and Debris

4.5.1 Although unlikely to present a problem, due to the nature of the waste accepted at the site and the site being surfaced with concrete, staff will report any problems with mud or debris at the site immediately to the site manager or deputy.

4.5.2 The deposit of material on the access road or public highway will be treated as an emergency and will be cleared immediately by the operator using either a brush and shovel or vacuum tanker/road sweeper if necessary.

## 4.6 Control and Monitoring of Dust

4.6.1 The containment of waste within the site and the nature of the wastes accepted at the site (ELVs) present a very low risk of dust. If dust were to become a problem at the site, a permanent water supply is available on site in all climatic conditions to ensure that the dust suppression can be maintained effectively. Any external water pipes will be lagged as necessary to prevent frost damage in winter months.

## 4.7 Odour Control

4.7.1 The containment of waste within the site and the nature of the wastes accepted at the site (ELVs) present a very low risk of odour nuisance. If malodourous waste is deposited on site, it will be consigned to a skip for rejected waste or removed from the site immediately.

## 4.8 Litter Control

4.8.1 Although unlikely to present a problem, due to the nature of the waste accepted at the site (ELVs) regular inspections of the site boundary will be carried out for the presence of windblown litter and operatives will be instructed to collect the litter and place it in a litter disposal receptor (such as the onsite litter bin) or will be placed into a skip for recovery/disposal before the end of the working day.

## 4.9 Control of Pests, Birds and other Scavengers

4.9.1 It is unlikely that vermin will present a problem due to the waste types handled at site (ELVs) but a recognised pest control contractor will be brought into site within 48 hours if any problems are encountered. The site will be inspected daily for the presence of vermin and if any problems are encountered will be noted in the site diary or on the site inspection forms.

## 4.10 Control and Monitoring of Noise and Vibration

4.10.1 Due to the relatively enclosed nature of the site and the sites industrial setting any noise associated with the operations on site will not greatly increase the existing noise level in the surrounding area. The waste operations will be carried out using the best Practicable Means at all times.

4.10.2 A site specific Noise Management Plan has been prepared as part of this EMS and is shown below. These measures will ensure the noise levels at the site are managed appropriately by identifying: the likely sources of noise arising from the site and the actions to be taken/procedures to be followed or planned in order to prevent or minimise levels.

| Potential Noise Source | Action to be taken to prevent or minimise noise |
|---|---|
| HGVs travelling to and from the site for delivery/collection of waste/products | All vehicles are required to be driven onto and off site with due consideration for neighbouring premises.<br>HGV movement will be spread out as evenly as possible throughout the day. |
| Loading/unloading of waste delivery vehicles | Vehicles must be well maintained and operated where possible with silencers. Moving parts must be regularly lubricated. All vehicles must be driven slowly around the site (5mph site speed limit.)<br>Engines must be switched off when not in use.<br>Reversing alarms to be preferentially fitted with white noise alarms to minimise impacts on neighbouring sites.<br>No shaking of vehicle bodies whilst raised. |
| Operation of loading plant (i.e. telehandler/360 | Drop heights to be kept to a minimum, particularly when loading empty tipper wagon/skip/container to minimise noise/vibration. |

| | |
|---|---|
| | Engines to be switched off when not in use.<br>Plant to be well maintained and operated, where possible, with silencers.<br>Moving parts to be kept lubricated. All vehicles must be driven slowly around site.<br>Loading plant/machinery will only be operated at ground level i.e. never on stockpiles. |
| Location of plant | The scrap cropper is located within the nonferrous building. The telehandler/360 grab is located outside next to the ferrous metal pile. The grab is only used during daytime site operating hours and will be parked up outside of these hours to prevent nuisance to neighbours. |
| Baler | The baler is only operated during normal working hours and not at a time which could result in nuisance. |
| Small vehicles travelling to and from the site (e.g. staff and visitor's cars, courier van deliveries etc.) | All those working on and visiting the site to be made aware of the need for considerate driving and keeping vehicles well maintained.<br>Small vehicles will arrive marginally earlier than the main site operating hours. |

### 4.11 Complaints Procedure

4.11.1 Any complaints will be recorded on a complaint form which will include a record of the complaint, particulars of the complaint and details of any actions taken to alleviate the problem.

# 5. Emergency Procedures

## 5.1 General

5.1.1 In addition to obligations imposed by RIDDOR '13 (Reporting of Injuries, Diseases and Dangerous occurrences Regulations 2013) the permit holder will notify the HSE of any serious injuries to employees of the operator, other site users or members of the public arising as a result of operations on site. Minor injuries such as cuts and grazes etc will be recorded using the organisations accident forms and passed through to the compliance department to ensure follow up is completed as required. Separate procedures will be used for different types of emergencies. An emergency at the site is defined by the site management as follows:

*"Any incident which is likely to result in harm to human health or pollution of the environment or serious breach of permit conditions and serious detriment to the amenities of the locality."*

5.1.2 For all emergency situations, the deposit of any further waste will be suspended where necessary to allow action to be taken safely. If necessary, staff and other users of the site

will be evacuated to an area which is a safe distance from the hazards. Staff handling the emergency will be provided with and trained to use the necessary PPE (personal protective equipment) unless the manager instructs them that the hazard is too severe and outside help is needed from the emergency services or specialist waste contractors. A visitor's book will be kept checking who is on site at all times.

## 5.2 Fire

5.2.1 The site has an FPP which is referenced as Drawing No. Walsall-FPP-1 and available to all staff/visitors at the site with a copy kept in the site office and another copy kept on the Recycling Lives Network for easy access for all staff.

5.2.2 No waste will be burnt on site.

5.2.3 In the event of a fire occurring on site, the operator/site supervisor will exercise his/her judgement and extinguish the fire with a suitable fire extinguisher (Drawing No. EMS-WALSALL-5) and/or call the fire service for assistance. Any fires will be reported to the EA on the working day that they occur. All staff will be evacuated from the site if necessary. Smoking is not permitted on site. Firefighting residues will be disposed of to a permitted waste management facility.

5.2.4 For quick reference, the following actions will be taken when fire is detected or suspected

(site operatives)

a) DON'T PANIC

b) RAISE THE ALARM (IF NOT DONE SO ALREADY)

c) NOTIFY THE SITE MANAGER (IF SAFE TO DO SO)

d) DO NOT TRY TO TACKLE THE FIRE YOURSELF UNLESS YOU ARE TRAINED IN DOING SO AND YOU ARE SURE OF THE NATURE OF THE FIRE

e) LEAVE THE BUILDING USING THE NEAREST EXIT (I.E. FIRE DOOR, ROLLER SHUTTER DOOR, ETC.) AS QUICKLY AND AS ORDERLY AS POSSIBLE

f) ASSEMBLE AT THE SPECIFIED FIRE ASSEMBLY POINT WHICH IS LOCATED BY THE SITE ACCESS GATES

g) THE SITE MANAGER OR DELEGATED OPERATIVE WILL BE IN CHARGE OF CALLING THE EMERGENCY SERVICES ON "999" AND ENSURING THAT ALL PERSONS WHO ARE WORKING ON SITE, OR VISITING SITE, ARE ASSEMBLED SAFELY AT THE EVACUATION MUSTER POINT.

H) INFORM ALL NEIGHBOURING PREMISES WHO ARE LIKLEY TO BE AFFECTED.

i) INFORM THE ENVIRONMENT AGENCY

j) DO NOT RETURN TO THE SITE UNTIL YOU HAVE BEEN GIVEN THE "ALL CLEAR" BY THE EMERGENCY SERVICES AND THE SITE MANAGER OR OPERATIVE IN CHARGE.

## 5.3 Spillages

5.3.1 All fuels stored on site are double bunded to contain any fuel leaks. Any oil and vehicle maintenance chemicals kept on site will be securely stored. If any spills occur, a spill

containment kit (absorbent pads, booms or granules) will be used to prevent further spillage and the contaminated absorbents placed in a suitable container for disposal to a suitably permitted waste management facility. No chemical leaks are expected in the waste handling area, but should they occur the procedures outlined in Section 5.4 will apply.

## 5.4 Drummed waste

5.4.1 the deposit of drummed waste will not be allowed at the site. If a drum is concealed within a load and is not observed until the load is deposited at site, then the following procedure will apply:

i) The staff member will visually check the condition of the drum from a safe distance, noting any labels referring to the possible contents or hazards.

ii) The site manager will be contacted to verify the observations and to decide on further action.

iii) If possible, the producer of the waste will be contacted for advice and further information if necessary. (On occasion vehicles are bought to site from police contracts and the police are not aware of the owner of the vehicle.)

iv) The EA will be contacted for advice and further information as required. They and the producer of the waste will be informed that a breach of the Duty of Care and site permit conditions has occurred as the result of the unauthorised deposit.

v) All spillages will be cleared using a spill containment kit and all contaminated absorbents placed in a suitable container for disposal to a suitably permitted waste management site.

vi) If the deposit results in serious reactions with other waste or harmful emissions or the drum contents cannot be identified, then the emergency services and/or specialist waste contractors will be brought in to assist. If necessary, staff will be evacuated from the site or to a safe area within the site.

## 5.5 Adverse Reactions

5.5.1 No wastes are accepted which will react to present such a hazard. If unauthorised waste is found in a load and does present such a hazard the same procedures as for the deposit of drums (above) shall apply.

## 5.6 High Winds

5.6.1 There will be no sorting, processing or treatment of any wastes which are likely to be blown around during conditions of high winds. Vehicles leaving the site will be sheeted as required to comply with the requirements of the Duty of Care legislation.

## 5.7 Poor Visibility

5.7.1 The site will not operate in conditions of poor visibility such as dense fog to reduce the risk of vehicle collision.

## 5.8 Operational Failure

5.8.1 The manager will be contacted by staff in the event of any operational failure such as the breakdown of plant, systems or equipment and will decide whether operations are to continue or be suspended prior to corrective action being taken. Serious operational failures, which result in the closure of the site, will be reported to the higher management team and recorded in the site diary.

### 5.9 Bomb Scare

5.9.1 In the unlikely event of a bomb scare, the site will be evacuated, and the police contacted. The police will then assume control of the site until the threat has been verified or the device defused and removed. The EA will be kept informed of the events on site.

## 6. Training for Site Staff

### 6.1 Training Needs Assessment

6.1.1 All new and existing staff are subject to a specific training regime based on their responsibilities at the site to ensure all operations are carried out without harm to the environment or amenity of the surrounding area. Training in all aspects of the site and waste operations at the site with regard to the individual responsibilities of the site staff will help to prevent incidents occurring which may have an adverse impact on the environment and/or the employees and their co-workers.

6.1.2 An employee training record provides a comprehensive checklist for the training needs of all new site staff and also serves as a training review for existing site staff which will be carried out annually or a period set at the operator's preference.

### 6.2 Site Rules and Infrastructure Training

6.2.1 This information will be provided to all employees, visitors and contractors with a full understanding of the site's conditions of use, which will be communicated and documented at induction for all staff with specific induction for visitors and contractors.

6.2.2 Competency should be demonstrated within this field to ensure the employee is fully aware of the sites surroundings and operations to ensure their safety and compliance with specific operating conditions at the site.

### 6.3 Emergency Procedures Training

6.3.1 All employees will be required to be familiar with the Environmental Controls in Section 4.0 and the emergency procedures as detailed in Section 5.0.

6.3.2 In addition to normal operating conditions as specified in the site rules, employees must also be trained in dealing with eventualities which may occur outside the scope of normal operating conditions, so they are aware of how to deal with these situations in advance of an occurrence.

### 6.4 Fire Safety / Firefighting Training

6.4.1 Management must provide all employees with appropriate fire safety training with regard to their individual responsibilities.

6.4.2 Emergency procedures detailing what measures employees should adopt should a fire occur at the site are detailed in Section 5.2 and will be covered by the 'emergency procedures' training (see Section 6.3). Staff will also be familiar with the sites Fire Risk Assessment.

6.4.3 Regular fire drills will be undertaken by site management to ensure proper procedures are followed by employees in the unlikely event that a fire incident occurs. These will be unannounced drills and will not form part of the induction or review training as specified in Section 6.1.

## 6.5 Recognition of Waste Types Training

6.5.1 All employees will be given induction training and subsequent regular training to identify those waste types which are permitted for acceptance at the site under the site's EP and Exemptions and those waste types which are not. This will include specific training to identify those common wastes which may be found following deposit and are not permitted at the site and will also include more obscure wastes and how to handle these wastes safely. All employees will be advised that they should refer any unrecognisable or unknown wastes to senior or more experienced members of the site team, who should, in turn, follow procedures outlined in the EMS and/or contact the EA to agree a suitable method for removal.

6.5.2 This training will be provided to all site users who handle waste on site and those in charge of administration and reporting. In-depth training will also be provided to drivers responsible for collecting wastes from the sites of production. They will be trained on how to identify any wastes not covered by the EP/Exemptions for the site and inform the producer that an alternative facility must be sought for any non-compliance wastes.

## 6.6 Storage Areas/ Limits Training

6.6.1 Those employees who carry out their responsibilities at the site and those in senior posts must be trained to identify appropriate waste storage areas to ensure that waste storage operations comply with the requirements of the EP/Exemptions for the site.

6.6.2 Employees in these roles must also be trained to recognise storage limits to ensure that they are in accordance with those specified in Section 1.7.

## 6.7 Vehicle/Plant Preventative Maintenance Training

6.7.1 This training is provided specifically for the vehicle and plant operators in order to ensure that all plant and machinery is checked regularly to prevent any occurrences which may lead to any adverse impacts on the environment or human health.

6.7.2 The same training will be provided to the senior management of the site enabling a dual-level maintenance programme.

## 6.8 Duty of Care and Hazardous Waste Note Training

6.8.1 All sites where waste is taken to provide RL with a copy of their waste permit/exemption to allow the compliance department to check they can accept the waste that is being sent to them.

## 6.9 Plant Operation Training

6.9.1 Any employees who are required to operate loading or treatment plant for the movement or processing of waste will be required to undertake the necessary qualification for the operation of the specific item of plant in question. This will be required prior to operating the plant and will be obtained through in-house or external certification programmes as deemed necessary.

6.9.2 Regardless of general plant operation certification, all operatives will be fully inducted in the operation of the specific make and/or model of plant used on site.

## 6.10 Permit/EMS Training

6.10.1 All employees will be informed of the operating conditions as prescribed in the EP/Exemptions for the site and will be made aware of the location of the EP/Exemptions in the site office. The above permit/EMS training will provide specific guidance to the site management team for the needs of the EP/Exemptions.

## 6.11 Training for Contractors

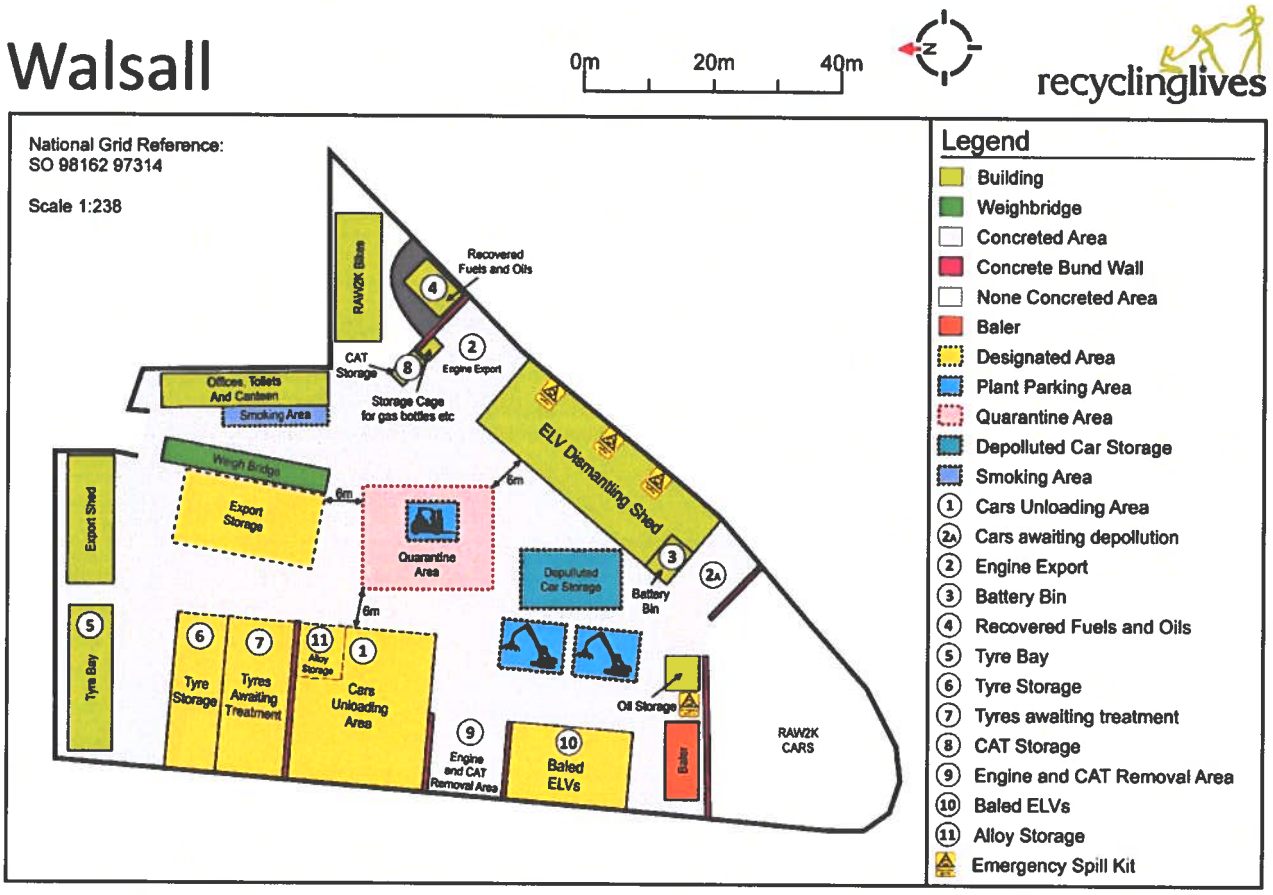
6.11.1 General site training will be provided to any contractors who are working on the site on a temporary basis as described in Section 6.2, 6.3 and 6.4 above.

6.11.2 If they are dealing with specific items of plant/machinery, site operating conditions and a general understanding of the EP/Exemptions conditions will be provided to prevent any adverse impacts on the environment.

## 7.0 Appendices

### 7.1 Appendix I – **Drawings**

EMS-Walsall-1 – Site Layout



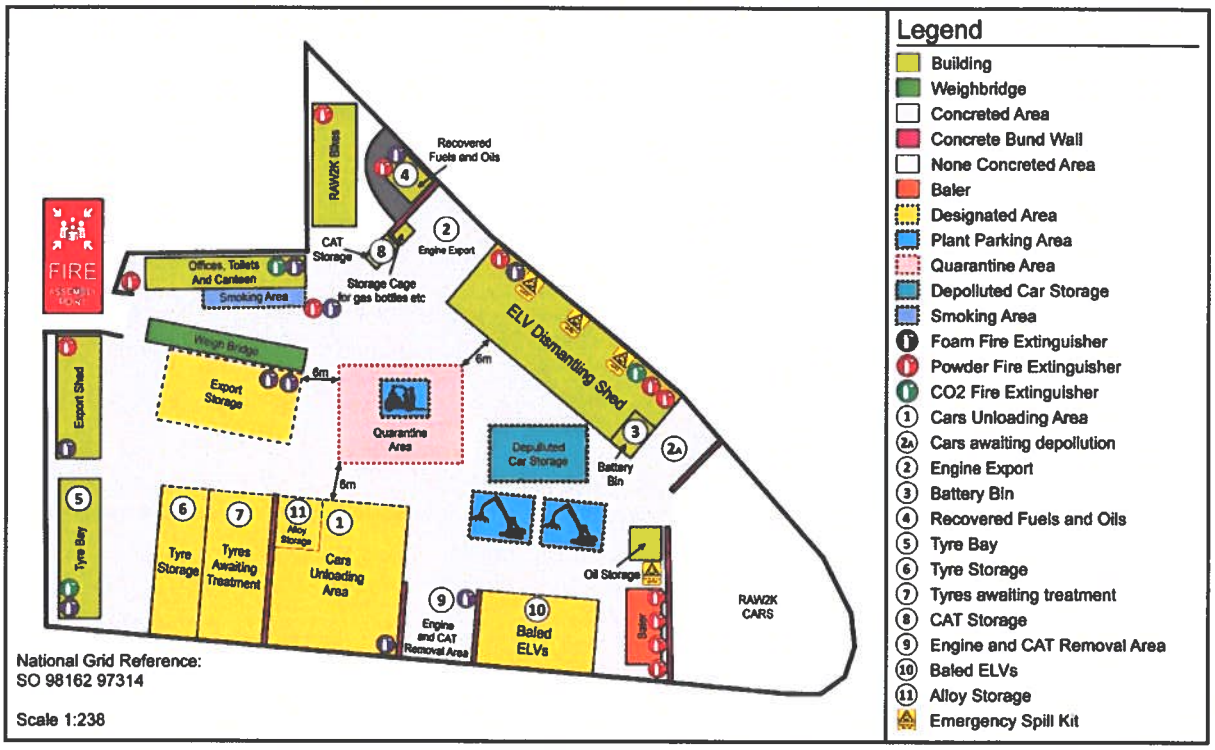
EMS-Walsall-2 – Site Boundary


EMS-Walsall-3 – Site Location/ FRS Access Route

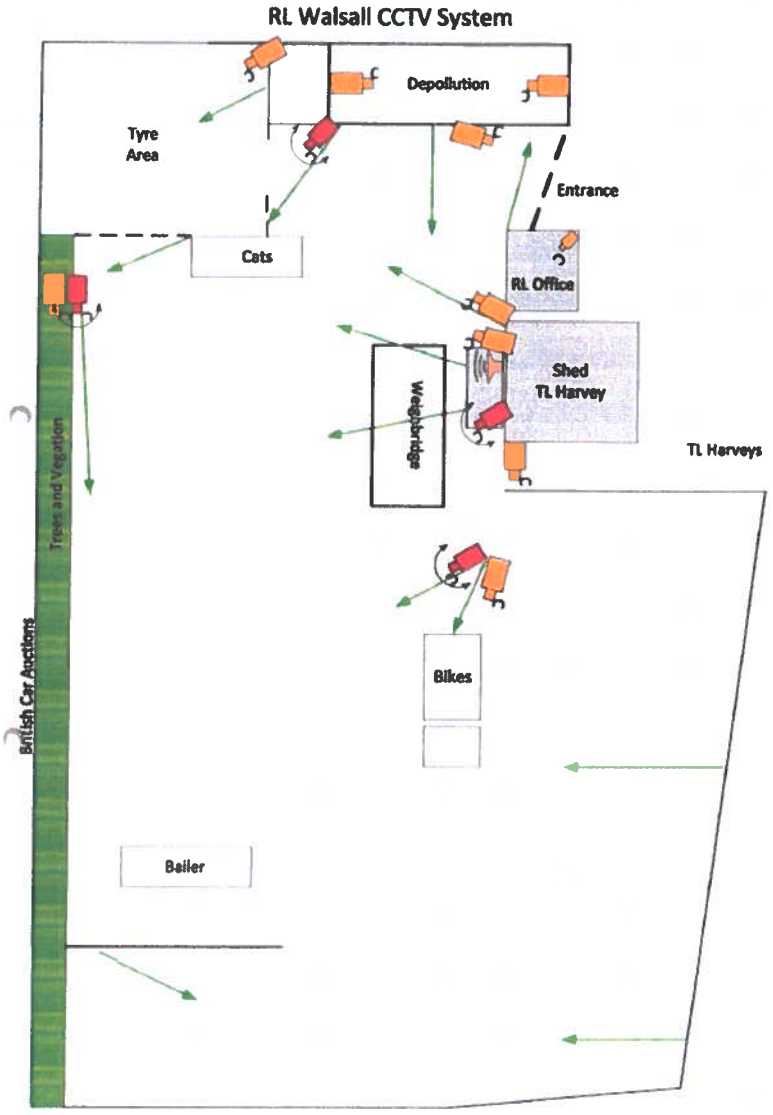
EMS-Walsall-4 – Tyre Area Map – Second Round Tyres

EMS-Walsall-5 – Fire Extinguishers Map

# Walsall



EMS-Walsall-6 – CCTV System Map including Infra-red Cameras



7.2 Appendix II - **Table 2.2 of the SR2008 No20**

| Table 2.2. Waste types and quantities | |
|---|---|
| 16 | WASTES NOT OTHERWISE SPECIFIED IN THE LIST |
| **16 01** | **end-of-life vehicles from different means of transport [including off-road machinery] and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13,14, 16 06 and 16 08)** |
| 16 01 03 | end-of-life tyres |
| 16 01 04 | end-of-life vehicles* |
| 16 01 06 | end-of-life vehicles (containing neither liquids nor other hazardous components) |
| 16 01 07 | oil filters* |
| 16 01 11 | brake pads containing asbestos* |
| 16 01 12 | brake pads other than those mentioned in 16 01 11 |
| **16 06** | **batteries and accumulators** |
| 16 06 01 | lead batteries* |
| 16 06 05 | other batteries and accumulators |

7.3 Appendix III - **Health and Safety – Conditions of Use**

The following guidelines apply to all site personnel, contractors and visitors using the site (where applicable).

1) The site is covered by the Health & Safety at Work Act 1974 and its associated regulations and all users must abide by any relevant provisions. Any person found to be in contravention of the requirements of this Health and Safety Statement will be asked to leave the site.

2) All visitors and contractors must sign the visitor's book upon entry to and exit from site. All vehicle drivers must report to the office and await instruction from the site manager/deputy before proceeding to deposit waste at the site.

3) All accidents, diseases, injuries or dangerous occurrences shall be reported to the site manager. All instructions issued by the site manager in respect of health and safety at the site must be followed by all site users.

4) A first aid box (including eye-wash bottles) is kept in the site office. If you are injured on site, please alert a member of staff/trained first aider for assistance.

5) All persons must wear the appropriate PPE on site including high visibility jackets and bump cap.

6) Safety boots must be work by all persons in the waste sorting/storage areas.

7) Protective gloves must be worn for any operations which present a hazard of puncture to or laceration of the skin or for any manual handling work carried out at site.

8) Ear defenders, safety helmets (hard hats) and eye protection will be issued when deemed necessary and must be worn by all employees and contractors where required by the site manager or other site representatives.

9) Fire extinguishers are kept on site to deal with any fires – fires shall only be dealt with by employees of Recycling Lives Ltd unless alternative instructions are given by the site manager. Access to fire exists and firefighting equipment must be kept clear at all times. When the fire alarm sounds, please follow instructions and leave the site in an orderly fashion.

10) Persons who are suspected to be under the influence of drugs or alcohol will be removed from the site.

11) Smoking is not permitted on the site.

12) Observe and follow all traffic directions and traffic/safety signs.

13) Drivers must comply with all safety instructions given by the site manager or appointed deputy.

14) All drivers are responsible for ensuring that their vehicle is safely loaded. Unsafe loads will not be accepted at the site and will not be allowed to leave the site until they have been made safe.

15) Drivers waiting to tip at the recycling centres shall follow the instructions of the operator and shall only tip in the designated area, unless advised otherwise. No tipping shall take place over sorted stockpiles.

16) Drivers must remain in the cab or stand well clear of the vehicle during loading or tipping. Once the vehicle has been loaded it must be securely sheeted (if necessary) before leaving the site. When sheeting and unsheeting the vehicle, ensure that the engine is switched off, the ignition key removed, and the parking brake is on. Do not gain access using the mudguards and wheels. Ensure that your ropes, hooks and sheets are in good condition.

17) Never travel with the vehicle body raised. Ensure you know the maximum height of the raised body of your vehicle.

**Declaration: To be completed by site users**

I have read and understand the conditions of use for this site and agree to comply with them at all times. I accept that neither Recycling Lives Ltd nor their employees shall be liable for any loss or injury arising form my non-compliance with the above conditions.

Signed..... Print Name.....

Company/Organisation ..... Date.....

*Note: these conditions are included in the EMS for information only and may be revised regularly as part of the site's Health & Safety Policy.*

7.3 Appendix IV – **Depolluting End-of Life Vehicles (cars and light goods vehicles) Guidance for Authorised Treatment Facilities (March 2011)**



# Depolluting End-of-Life Vehicles (cars and light goods vehicles) Guidance for Authorised Treatment Facilities

## March 2011

defra
Department for Environment Food and Rural Affairs

BIS | Department for Business Innovation & Skills

This guidance document provides advice to Authorised Treatment Facilities (ATFs) on how to depollute passenger cars and light goods vehicles in accordance with the requirements of the End-of-Life Vehicles Regulations (and parallel legislation in Scotland and Northern Ireland), which implement elements of the End-of-Life Vehicles Directive (2000/53/EC). The guide was originally commissioned by DEFRA and DTI (now BIS) from AEA Technology Environment and Universal Vehicle Services. Jema Associates Ltd and David Hulse Consultancy Ltd updated it in December 2005, to reflect latest best practice and to draw upon practical experience gained in the depollution phase of the DTI/CARE shredder trial carried out at GW & G Bridges in June 2005.

This second edition of the guidance incorporates further updates, reflecting the latest available information regarding treatment of airbags and LPG (Liquefied Petroleum Gas) cars. The section on LPG Tanks (4.10) has been expanded.

This guidance does not seek to prescribe how a particular depollution activity should be carried out. There will be safety issues surrounding the carrying out of any depollution activity (see in particular section 1.2 below). Neither Defra nor BIS will accept any liability for death, personal injury or any other damage howsoever arising as a result of undertaking any of the depollution activity covered by this guidance.

# Contents

# 1 Introduction

Between 1.5 and 2 million end-of-life vehicles (ELVs) are generated each year in the UK. These ELVs are classified as hazardous waste, and must be depolluted to certain standards, as a consequence of European and UK legislation, prior to dismantling, crushing, or shredding. All facilities treating ELVs are covered by this legislation.

**This brochure contains generic guidance on how to depollute waste passenger cars and light goods vehicles in accordance with the requirements of the End-of-Life Vehicles Regulations. If you carry out the procedures in this guidance, then you should have depolluted an ELV sufficiently for it to be considered to be non-hazardous waste. The same outcome can be achieved even if you do not use these particular guidance methods, provided you have ensured that you can demonstrate the same levels of depollution. Non-destructive methods of removing hazardous components may be carried out, provided that component integrity is not compromised. Additional, model-specific guidance can be found in IDIS, the International Dismantling Information System, published by the Vehicle Manufacturers. (See section 3.2.)**

A system for recording the quantity of fluids and other items which have been removed must be in place. The information which is thereby recorded will enable regular reports to be provided to waste regulators and will be needed for the annual reports on ELV recovery and recycling target compliance, as required by the End-of-Life Vehicles (Producer Responsibility) Regulations 2005 and 2010.

This guidance initially briefly covers:

The relevant legislation on ELVs and hazardous waste;
Health and safety considerations;
Equipment and facilities.

The depollution operations which must be conducted to meet the requirements of the legislation are then described.

The depollution procedure is only one stage in the overall process required to treat an ELV. Other operations, such as associated administrative activities, and complying with all existing legislation relating to these activities, still need to be carried out, but are not discussed in this guidance document.

## 1.1 LEGISLATION

1. The EU End-of-Life Vehicles (ELV) Directive (2000/53/EC), the ELV Regulations 2003, 2005 and 2010 and parallel regulations in Scotland and Northern Ireland
2. The updated versions of both the European Waste Catalogue (EWC) and Hazardous Waste List (HWL) (Commission Decision 2000/532/EC) (the List of Wastes Decision) and its subsequent amendments.

## 1.2 END-OF-LIFE VEHICLES DIRECTIVE

The ELV Directive introduces measures to promote and increase recycling and to further protect the environment by requiring adequate depollution (e.g. draining of fluids such as engine oil) and sets minimum technical requirements for the treatment of ELVs. Following the introduction of the End-of-Life Vehicles Regulations 2003 (Statutory Instrument 2003, No.2635), ELV treatment facilities carrying out depollution need to be permitted as "authorised treatment facilities" (ATFs) by the Environment Agencies, by holding a permit under the Environmental Permitting (England and Wales) Regulations 2010 or a licence under parallel legislation in Scotland and Northern Ireland. In each case, these pieces of environmental legislation have a wider scope than the ELV Regulations, in that their scope is not restricted to facilities treating only cars and light goods vehicles.

The End-of-Life Vehicles (Producer Responsibility) Regulations 2005 (Statutory Instrument 2005, No.263) implement the producer responsibility, recovery, recycling and associated reporting aspects of the ELV Directive. The two sets of End-of-Life Vehicles Regulations 2010 (Statutory Instruments 2010 No.1094 and 1095) updated the 2003 and 2005 End-of-Life Vehicles Regulations in certain respects.

The depollution requirements of the ELV Directive are given below.

Extract from ANNEX I
**Minimum technical requirements for treatment in accordance with Article 6(1) and (3)**

3. Treatment operations for depollution of end-of-life vehicles:
- removal of batteries and liquefied gas tanks,
- removal or neutralisation of potential explosive components, (e.g. air bags),
- removal and separate collection and storage of fuel, motor oil, transmission oil, gearbox oil, hydraulic oil, cooling liquids, antifreeze, brake fluids, air-conditioning system fluids and any other fluid contained in the end-of-life vehicle, unless they are necessary for the re-use of the parts concerned,
- removal, as far as feasible, of all components identified as containing mercury.

The individual hazardous components and materials removed during depollution should be kept separate.

Clearly, ATFs need to remain vigilant for any other hazardous materials or items that might be encountered in the course of their operations.

## 1.3 LIST OF WASTES DECISION

The European Waste Catalogue (EWC) and Hazardous Waste List (HWL) were first published in 1994. These are used for the classification of all wastes and hazardous wastes, and are designed to form a consistent waste classification system across the EU. They form the basis for all national and international waste reporting obligations, such as those associated with waste licences and permits, and the transport of waste.

Updated versions of both the European Waste Catalogue and Hazardous Waste List were published as a homogenised list of hazardous and non-hazardous wastes in 2001, and came into force on 1 January 2002. The List of Wastes Decision includes ELVs (Category 16 01) and lists a number of hazardous wastes in this category. It has been implemented by the List of Wastes (England) Regulations 2005 (as amended), the List of Wastes (Wales) Regulations 2005, the List of Wastes Regulations (Northern Ireland) 2005 and, in Scotland, by the Special Waste Regulations 1996 (as amended). This list is more comprehensive than that in the ELV Directive, and also applies to all vehicles. The ELV Directive only applies to a specified range of vehicles, by reference to European Whole Vehicle Type Approval legislation. This means vehicles designated as M1 (passenger vehicles comprising no more than 8 seats, in addition to the drivers seat) and N1 (vehicles used for the carriage of goods, having a technically permissible maximum mass not exceeding 3.5 tonnes).

Although the List of Wastes Decision could be interpreted as implying that, for example, every drop of engine oil must be removed in order to classify an ELV as non-hazardous, the cost for achieving this would be high. More importantly, there is likely to be little additional environmental benefit in removing the very small quantity of oil which is likely to remain in practice. Consequently, this guidance document has been prepared based on practical trials that have been shown to achieve an acceptable level of decontamination, which would meet the requirements of both the ELV Directive and the List of Wastes Decision.

## 1.4 HEALTH & SAFETY CONSIDERATIONS

Vehicle depollution will involve removing fluids and components which may be either explosive or corrosive. The main legislation covering this area includes:

The Management of Health & Safety at Work Regulations 1999 - these impose a duty on employers (and the self-employed) to make a suitable and sufficient assessment of the risks faced by employees at work and by other persons arising out of the work carried out by the employer, to inform employees of the risks, and to prepare emergency procedures.

The Control of Substances Hazardous to Health Regulations 2002 (COSHH) - these impose a duty on employers (and the self-employed) to prevent employees (or the self-employed) from being exposed to hazardous substances (or where that is not reasonably practicable, to adequately control such exposure) as well as other persons who may be affected by the work carried out by the employer.

The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) - these cover risks of fire and explosion from hazardous substances. They also cover storage.

The Manufacture and Storage of Explosives Regulations 2005 - these require the licensing of storage of certain explosives; appropriate measures to prevent fire or explosion; limiting the extent of any fire or explosion should one occur; and protecting persons in the event of a fire or explosion.

Operators removing or deploying Airbags and other pyrotechnic devices should be properly trained in order to reduce the risk of injury.

From July 4, 2010, operators undertaking the removal of Air Conditioning fluids/gases must be formally qualified under the "F Gas Regulation" (EC No. 307/2008), implemented through the Fluorinated Greenhouse Gases Regulations 2009, which has both safety and environmental implications.

Operators treating LPG powered vehicles should be suitably trained and refer to the guidance in this document.

Hybrid or Electric Vehicles contain a high voltage battery system, which requires special attention to avoid the risk of injury by electrocution. Operators treating these vehicles should be properly qualified and should refer, as a minimum, to the guidance on page 14 of this document, as well as the vehicle manufacturers' guidance in IDIS.

Further guidance on health and safety considerations can be obtained in the Health & Safety Executive's leaflets and guides http://www.hse.gov.uk/waste/dismantling.htm. Relevant guidance includes: Reducing Ill Health and Accidents in Motor Vehicle Repair (INDG356); Health and Safety in Motor Vehicle Repair and Associated Industries (HSG261); The Safe Recovery of Petrol from End of Life

Vehicles (WASTE10); Safe use of Petrol in Garages (INDG331); A Guide to the Handling and Storage of Airbags and Seat Belt Pre-Tensioners at Garages and Motor Vehicle Repair Workshops (INDG280); Safe Working with Vehicle Air-Conditioning Systems. The Dos and Don'ts (INDG349); Using Electric Storage Batteries Safely (INDG139); and LPG-Fuelled Motor Vehicles (INDG387).

## 1.5 EQUIPMENT

It is recommended that depollution activities are conducted using equipment which has been specifically designed for carrying out the required depollution operations. The use of such equipment ensures that a high level of depollution (removal, as far as reasonably practicable, of most fluids contained in the ELV) can be achieved in a relatively short time-frame (20-30 minutes per ELV).

ATFs may decide to use alternative methods to achieve the same levels of depollution, but health and safety requirements should never be compromised. An assessment of the risks involved in using alternative methods of depollution must be carried out and measures necessary to comply with relevant health and safety legislation put in place. In addition, if alternative methods are used, these will need to be able to demonstrate that at least the same level of depollution has been achieved.

The majority of commercially available equipment is usually operated pneumatically. Consequently, the compressor used to power this equipment must have sufficient capacity to ensure that the equipment can operate satisfactorily.

## 1.6 FACILITIES

Sites for ELV treatment and storage (including temporary storage) of end-of-life vehicles prior to their treatment must have:

***Sites for Storage***
impermeable surfaces for appropriate areas with appropriate spillage collection facilities, decanters and cleanser-degreasers.
equipment for the treatment of water, including rainwater.

***Sites for Treatment***
impermeable surfaces for appropriate areas with appropriate spillage collection facilities, decanters and cleanser-degreasers.
equipment for the treatment of water, including rainwater.
appropriate storage for dismantled spare parts, including impermeable storage for oil-contaminated spare parts.

appropriate containers for storage of batteries (with electrolyte neutralisation on site or elsewhere), oil filters unless crushed, PCB/PCT containing condensers and any hazardous components identified in IDIS.
appropriate storage tanks for the segregated storage of end-of-life vehicle fluids.
appropriate storage for used tyres, including the prevention of fire hazards and excessive stockpiling.

Storage operations are to be carried out avoiding damage to components containing fluids or to recoverable components and spare parts.

DEFRA guidance notes covering this part of the ELV regulations can be found at
http://www.defra.gov.uk/environment/waste/topics/pdf/elv-guidance.pdf

The health & safety implications of storing large quantities of hazardous and/or highly flammable materials need to be properly assessed in consultation with the Health & Safety Executive, and the Environment Agencies should be consulted on any environmental implications.

NOTE: If pyrotechnics, e.g. airbags, are removed and stored, an explosives licence and suitable storage facilities will be required. Refer to HSE booklet HSG184 for guidance.

Employers are encouraged to seek specific training, as necessary, for each depollution process and general health and safety. Site managers should also be aware of the requirement to put in place a suitable Health & Safety policy and carry out the risk assessments required.

# 2 Example of the depollution process

In order to depollute an ELV, a number of operations have to be conducted. An example sequence is shown in Table 1 and the Process Flow Diagram. This was developed from practical trials using one make of proprietary equipment. As a different sequence of operations may be more suitable for other types of equipment, treatment facilities can develop an alternative sequence. However, if a different sequence of operations is developed, this alternative sequence should recognise that it can typically take up to 20 minutes within the sequence for gravity draining of the engine oil.

Table 1 indicates whether an individual operation is best conducted from either above or below the ELV.

**Table 1 - Possible depollution sequence**

| Above / Below (A/B) vehicle | Operation |
|---|---|
| A | Remove battery |
| A | Remove fuel filler cap and oil filler cap |
| A | Set heater to maximum |
| A | Remove wheels and tyres and separate balance weights |
| A | Remove any parts identified as containing mercury |
| **Put vehicle onto depollution frame or lifting device** | |
| B | Drain engine oil and remove oil filter for crushing or disposal |
| B | Drain transmission oil, including rear differential if applicable |
| A | De-gas air conditioning unit (if fitted) |
| B | Drain coolant |
| B | Drain brake fluid |
| B | Remove catalyst (if fitted) |
| A | Drain washer bottle |
| A | Drain brake/clutch reservoir(s) |
| A | Drain power steering reservoir (if fitted) |
| B | Drain fuel tank |
| B | Drain shock absorbers or remove suspension fluid |
| B | Replace drain plugs/fit plastic stoppers |
| **Remove vehicle from depollution frame or lifting device** | |
| A | Deploy airbags and other pyrotechnics in-situ (if fitted and able to conduct this operation) |
| A | Remove air bags and other pyrotechnics (if fitted, and can not be deployed in-situ) |

Although a number of the below-vehicle operations can be conducted in parallel, the sequence of operations shown in Table 1 maximises the time for gravity draining of the engine oil.

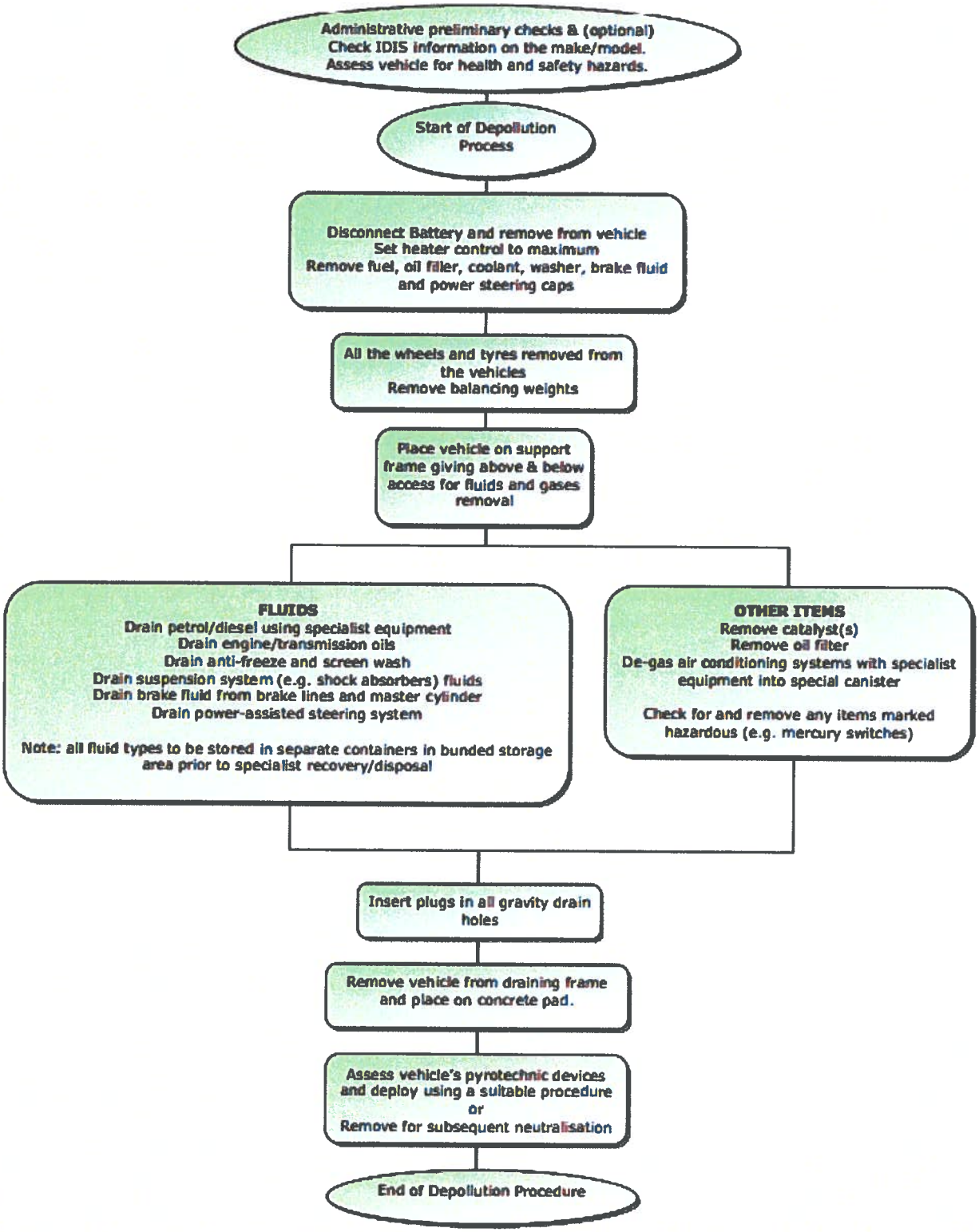
Removal of the wheels/tyres is not a depollution requirement (but removal of lead balancing weights is required). However, removal of the wheels will allow better access for draining of the shock absorbers; depending on the type of equipment being used, it may be easier to perform the above-vehicle depollution activities (such as removal of screen washer fluid) at ground level before the wheels are removed. Tyre removal depends on the individual shredder receiving the depolluted ELV hulks. Only if the shredder can guarantee the removal of tyre material by post shredder technology can tyres be left on the rims – since there has been a ban on the landfilling of shredded tyres since July 2006. Otherwise, tyres must be removed. Of course, tyres can provide a useful contribution of around 3% towards the 85% reuse, recycling and recovery target requirement, set down in the 2005 ELV Regulations.

The depollution sequence shown in Figure 1 and Table 1 can be represented as 3 stages:

- Preliminary activities
- Removal of fluids and other items
- Removal or deployment of air bags

The procedures required to complete each stage are described in the remaining sections of the manual.

After each depollution operation has been conducted, the fluid or item which is removed must be transferred to a suitable storage facility as soon as possible.




***Depollution Process Flow Diagram*** Page 12

# 3 Preliminary activities

These activities prepare the ELV for the next stage of the process (removal of fluids and other items). The activities which need to be conducted are:

3.1 Assess vehicle for health and safety hazards
3.2 Use IDIS or other manufacturer guidance to obtain depollution information on the ELV, if required
3.3 Determine if ELV has airbags
3.4 Remove battery
3.5 Remove fuel, oil, and other filler caps
3.6 Set heater control to maximum
3.7 Remove wheels/tyres
3.8 Remove balance weights from wheels
3.9 Prepare Electric/Hybrid Vehicles for treatment

All of these activities need to be conducted before the ELV is placed on a support frame or lifting device to enable the below-vehicle activities to be conducted.

All required administrative procedures should be completed before any of the preliminary activities are conducted.

## 3.1 CHECK FOR HAZARDS

Inspect the vehicle for presence of hazardous items such as glass, hypodermic needles and other biological contamination or fire damage, which might affect the way in which its treatment should be handled. Check for and remove any foreign material such as gas cylinders.

## 3.2 USE OF IDIS

IDIS (the International Dismantling Information System) has been developed by vehicle manufacturers and provides information on both the depollution and dismantling of ELVs. IDIS should be consulted to obtain information on any specific depollution procedures which may be required, and to obtain information on procedures for removal or in situ deployment of air bags.

The information provided in IDIS is regularly updated. Treatment facilities must ensure that they are using the latest version. (Check IDIS web site: www.idis2.com)

Note: IDIS is one method of obtaining depollution information but is not the only method. Appropriate information should be sought from wherever suitable.

## 3.3 DETERMINE BY INSPECTION IF THE ELV CONTAINS AIRBAGS

The number of air bags in an ELV can range from 1 (in the steering wheel) to more than 10. Some of these may have already been deployed if the vehicle has been classified as an ELV as a result of damage sustained during an accident.

If a visual inspection identifies that the ELV does contain one or more airbags, and these have not been deployed, then these will have to be either removed for subsequent detonation/disposal or deployed in situ.

It is recommended that, where possible, air bags are deployed in situ using suitable equipment and that all persons deploying airbags attend a suitable training course.

The removal and deployment of airbags are described in Section 5 of this guidance document.

## 3.4 REMOVE BATTERY

The SLI (starting, lighting, ignition) battery must be removed, for health and safety reasons (prevention of possible electrical discharge igniting fuel), before the fuel tank is depolluted. The battery is easily removed with standard tools.

**IMPORTANT NOTE:** If the vehicle is Electric Powered or a Hybrid, please refer to the additional guidance on page 13 and the manufacturer's instructions where available.

## 3.5 REMOVE OR OPEN FILLER CAPS

The fuel, oil filler and other caps should be either removed or opened. This enables the fuel, oil and other fluids to be drained more easily.

## 3.6 HEATER CONTROLS

In order to ensure that coolant in the heater unit can be drained, the heater controls must be set at the position which would provide the maximum amount of heat.

As there may be health and safety concerns regarding sitting in the vehicle to conduct this operation, it should be done by reaching into the vehicle.

## 3.7 REMOVE WHEELS AND TYRES

Removing the wheels and tyres will improve access to brakes and shock absorbers for depollution. When removing tyres from rims, the operatives' exposure to dust may be reduced by deflating the tyre first, either by removing the valve, or by piercing the sidewall with a suitable tool if the tyre is not intended for reuse or retreading.

## 3.8 REMOVE WHEEL BALANCING WEIGHTS

For all wheels, including the spare wheel, any balancing weights must be removed from the wheels and placed in a suitable storage container for recycling. There is a prohibition on the new fitment of lead weights, but there will continue to be a mixture of lead and other materials on wheels for some time as this provision works through, and they will be more easily sorted once removed.

## 3.9 ELECTRIC/HYBRID VEHICLES

These vehicles contain a High Voltage Electrical System and have particular dismantling requirements for the treatment of the high voltage system before the vehicle can be treated as a regular ELV. It is important to recognize and understand the High Voltage Electrical System and its specifications for safe handling of the ELV.

HYBRID components that have not been dismantled may present a significant risk of injury to people due to their highly energetic properties and because of the potentially hazardous materials they contain. They may also constitute an environmental hazard if their contents are accidentally released. When dismantling any HYBRID components from the vehicle it is essential to use utmost care and to comply with the important safety warnings listed in this document and in IDIS.

**Identifying a Hybrid Vehicle**

Each manufacturer has their specific identification method for Hybrid Vehicles. Please refer to the manufacturer specific information for further information where available.
There are several common ways for manufacturers to indicate a Hybrid Vehicle model:

- Vehicle Identification Number (VIN). This number is given by the manufacturer and may indicate model specifications such as the use of a High Voltage Electrical System. You must refer to manufacturer specific information to locate and read the information contained in the VIN;
- Logos/ trademarks located on the exterior or engine compartment of the vehicle indicating use of Hybrid Technology. Specific to each manufacturer;
- Instrument cluster (power meter/battery surveillance device) located in the dash.

### 3.9.1 General Safety Instructions for Dismantling of HYBRID Components

HYBRID components should only be disassembled by suitably qualified personnel who must follow appropriate procedures defined by the manufacturer, which may be found in IDIS. Care must be taken to ensure that the HYBRID components identified by the vehicle manufacturer are dismantled and recovered.

Vehicle dismantlers must ensure that all employees handling HYBRID components familiarise themselves with this generic guidance and any additional information that may be provided in the manufacturer specific documents. All relevant health and safety regulations together with the vehicle manufacturers' instructions for the handling and safe treatment of the vehicle itself and the HYBRID components must be observed.

High voltage electricity is contained in a battery pack (commonly referred to as an HV battery pack) and generally powers an electric motor, generator, electric inverter compressor (for air conditioner) and inverter, in today's hybrid electric vehicles. The voltage of the battery pack will vary according to the manufacturer. Current models may have up to several hundred volts. There is also a normal 12 volt car battery, which is used to power other low voltage electrical devices such as the radio, horn, headlamps, and instrument cluster gauges.

### 3.9.2 Turn off the vehicle

Hybrid Vehicles must be turned off in three separate steps:

a) Turn off the engine.

b) Disconnect the cables from the conventional 12V car battery.

c) Isolate the High Voltage Electrical System by removing the service plug or turning off the isolation switch (manufacturer specific). If the service plug/switch is not accessible or visible, please see manufacturer specific information or IDIS.

**By waiting for 10 minutes after removing the service plug or turning off the switch, the high voltage system is shut off or discharged so there is no high voltage outside the battery pack. However, the battery itself located inside the battery pack still keeps its voltage. After removing the HV battery, do not reinstall the service plug.**

### 3.9.3 Disconnection and Removal of the High Voltage Battery Pack

Before disconnecting the high voltage cable terminals, make sure that the voltage between the terminals is at 0 Volts with a voltmeter.

a) Disconnect the HV battery connection cables from the HV battery.

b) Insulate the vehicle HV battery connection cables using electrical insulation tape (to prevent short circuiting).

c) Consult the manufacturer specific information in IDIS for removal of the battery pack.

Once the battery pack has been removed, the vehicle can be dismantled in the normal way.

### 3.9.4 High Voltage Battery Storage

a) Store the Battery Pack where the batteries are kept dry and are not exposed to high temperatures
b) Protect batteries from being damaged (punctured or crushed).
c) Batteries should be stored by battery type (e.g. NiMH), according to national legislation (not mixed with lead acid batteries).

### 3.9.5 Recycling of Batteries

Waste propulsion batteries in Hybrid Vehicles are classified as "industrial" under the Waste Batteries and Accumulators Regulations 2009, which prohibit their disposal by landfilling or incineration, and require their recycling via Approved Battery Treatment Operators or Approved Battery Exporters. Details of the UK "producer responsibility" regime for industrial, and other types of batteries can be found on the BIS website at www.bis.gov.uk.

# 4 Removal of fluids and other items

The activities which need to be conducted are:

| Fluids | Other items |
|---|---|
| Drain engine oil and remove oil filter | Remove catalyst (if fitted) |
| Drain transmission oils | Drain air conditioning refrigerant (if fitted) |
| Drain coolant | Remove LPG tank (if fitted) |
| Drain hydraulic oils | Identify and remove items containing mercury |
| Drain screen-washing fluid | Identify and remove other hazardous items |
| Drain fuel tank | |
| Drain suspension system/shock absorbers | |

All fluids of differing types (e.g oils, water-based etc.) which are removed will need to be stored in separate containers in a bunded storage area prior to specialist recovery or disposal. As a minimum, separate containers will be required for fuels (petrol and diesel separate); oils (lubricating, transmission, power steering and shock absorber oils together); brake fluid (separate); and water based (coolant and screenwash together). (The Waste Oils Directive seeks to promote the regeneration of oils, and any mixing of other fluids with oils may restrict this possibility.)

The ELV will need to be placed on a support frame or lifting device, to allow easy access below the vehicle, before a number of these operations can be conducted. It is preferable that the device should be adjustable to suit the height of the operator. Although access to the underneath of a vehicle could be provided by placing it above a pit, there are health and safety issues with this approach, particularly with regard to possible build-up of fuel vapour in the pit (and hence risk of explosion/fire) during the depollution procedure. Consequently, the vehicle must be placed on a support frame which enables easy access to the underside of the vehicle at ground level. Care should also be taken to avoid any vapour build up in floor mounted drip trays.

The first activity to be conducted is to start draining of the engine oil. Other activities can be conducted in parallel, but the engine oil can typically take 20 minutes to reach the point where no further draining is visible.

It is recommended that depollution activities are conducted using equipment which has been specifically designed for carrying out the required depollution operations. The use of such equipment, while not essential, ensures that a high level of depollution can be achieved in a relatively short time frame (20-30 minutes per ELV).

The guidance presented in this section of the document describes the procedures which need to be conducted in order to achieve the required level of depollution. The instructions provided with any commercial equipment being used must also be followed in order to ensure that this level of depollution is achieved.

After depollution, all gravity-drained holes must be plugged, either with their own drain plug or a suitable plastic bung, to prevent any residual leakage.

## 4.1 ENGINE OIL

This is gravity-drained by removing the drain plug at the bottom of the sump and collecting the oil. If commercially available equipment for collecting the oil is not used, the oil should be collected in a suitable container which has a minimum volume of 10 litres.

***The oil must be allowed to drain for a minimum of 20 minutes from the engine, or until such time as no visible further draining of oil is occurring.***

### 4.1.1 Oil filter

The oil filter must be removed. This should be done by using a suitable spanner/tool which does not puncture the oil filter during removal.

The oil filter must be treated to remove residual oil. This can be achieved by crushing the filter and recovering the oil. Commercial equipment which performs this function is available. Alternatively, the oil filters can be sent to a suitable treatment facility using leakproof transit packaging.

## 4.2 TRANSMISSION OILS

Transmission oil is contained in both manual and automatic gearboxes, and in the rear axle differential of rear wheel drive vehicles.

### 4.2.1 Manual gearbox

If the gearbox has a drain plug, it can be gravity-drained by removing the drain plug and collecting the oil in a suitable container which has a minimum volume of 5 litres.

***The oil must be allowed to drain for a minimum of 10 minutes with no visible further draining occurring.***

Gearboxes which do not have a drain plug must be drained by drilling or piercing a suitably sized hole in the bottom of the gearbox. Commercial equipment includes a suitable drill or punch, provides suction to assist in draining the gearbox, and collects the oil without the need for a container underneath the gearbox.

Such commercial equipment can also be used to drain gearboxes that do have a drain plug.

### 4.2.2 Automatic gearbox

Oil has to be drained 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.

### 4.2.3 Rear differential

Most modern cars are front wheel drive and so do not have a rear differential unit. However, many small commercial vans and some larger cars have rear wheel drive.

The procedure for draining these is the same as for a manual gearbox. Those that do not have a drain plug may be drilled or, alternatively, the differential flange may be loosened and prised open to allow the oil to drain.

### 4.2.4 Power steering oil

If the ELV has power steering, fluid has to be extracted from both the reservoir and the connecting hose. Equipment similar to that used to extract brake fluid from the brake reservoir (see below) can be used to extract fluid from the power steering oil reservoir. Fluid is then removed by piercing the hose and sucking out the fluid or cutting it at the lowest point and allowing the fluid to gravity drain.

## 4.3 HYDRAULIC OILS

All ELVs contain brake fluid. A small number of older vehicles may also have a hydraulic clutch.

### 4.3.1 Brake fluid

Commercial equipment uses pressure and suction on both the reservoir and the brake pipes and cylinders (fluid is sucked from the bleed nipples) to remove the fluid. Brake fluid could also be removed from an ELV by opening the brake bleed nipples and then pumping the brake pedal until

the reservoir is emptied (the fluid would be discharged through the open nipples). However, there are health and safety concerns relating to an operative sitting in an ELV, and this approach removes a lower percentage of brake fluid than commercially-available equipment. Consequently, in order to achieve the required percentage of removal, brake fluid should be removed using equipment which uses suction and/or pressure on both the reservoir and the brake pipes and cylinders.

***Drainage time of 10 minutes, no visible fluid left in the reservoir and with no visible further drainage following removal of suction equipment.***

### 4.3.2 Clutch fluid

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

## 4.4 COOLANT (ANTIFREEZE)

Coolant can be gravity drained by removing the bottom hose from the radiator and collecting the liquid in a suitable container with a minimum volume of 10 litres. Commercial equipment enables the operator to make a hole in the bottom hose and suck the coolant out through this hole into a container. Either method can be used, but will only be able to achieve a high level of removal if the heater valve is set to maximum as part of the preliminary activities and the filler cap is removed.

***Drainage time of 10 minutes, with no visible further drainage occurring.***

## 4.5 SCREEN WASHING FLUID

This is removed by sucking fluid from the reservoir. The pipe placed in the reservoir has to be long enough to reach the bottom of the reservoir. Some models have fluid reservoirs with bent filler pipes in which it may be difficult to place a suction pipe to the required depth. In these cases, it may be preferable to drain them from below by removing the pump or piercing the reservoir.

Either commercially-available equipment or a simple pump can be used. If a simple pump is used, the reservoir must be inspected to determine that it has been completely emptied.

Most cars have one reservoir container that supplies fluid to both the front and rear windows, but some cars may have a separate container (in the

boot) for the rear window. If a vehicle has more than one reservoir, then all reservoirs must be drained.

***End point – no visible amounts of fluid in the reservoir/s.***

## 4.6 FUEL TANK (NOT LPG – SEE SECTION 4.10)

Fuel can be removed by suction or siphoning it from the tank with a tube entering the tank through the fuel filling pipe, but this procedure is unlikely to achieve the required level of depollution.

In order to ensure that the required level of depollution is achieved, a hole should be pierced or drilled into the lowest point of the fuel tank and suction is used to remove fuel. This ensures that no vapour is released during extraction.

The health and safety issues associated with fuel extraction mean that the drill or piercing tool should be made of suitable non-sparking material and be pneumatically powered, and an earthing connection must be made between the vehicle and the extraction equipment. Commercially available equipment should meet both these requirements.

The design of the tank (for example a saddle shaped tank will have two low points), may require more than one hole to be drilled or pierced in order to extract all of the fuel.

***End-point – no visible further removal of fluid observed in the (see-through) extraction tubing.***

There is no requirement to remove any residual fuel from the injector/carburettor inlet pipe in the engine compartment.

## 4.7 SUSPENSION SYSTEM

The suspension system on most vehicles is provided by 4 independent shock absorbers (one for each wheel). However, alternative systems are used in some vehicles.

### 4.7.1 Shock absorbers

The recommended approach is to drain the fluid from the shock absorber without removing it from the ELV. Shock absorbers contain fluid, usually oil, in both an inner and an outer cylinder. Consequently, in order to achieve the required level of depollution, fluid/oil needs to be removed from both the inner and the outer cylinder.

Commercially-available equipment can achieve the required level of depollution, but the time required for this operation will depend on the design of the equipment. The instructions provided by the manufacturer must be followed.

Shock absorber fluid/oil could be removed from an ELV by removing the shock absorbers, but the time required to conduct this operation may be considerable, and the shock absorbers would be classified as hazardous waste after they were removed from the ELV.

### 4.7.2 Gas shock absorbers

The equipment designed for fluid/oil based shock absorbers may be suitable for safely removing the gas from gas suspension systems. This must be confirmed with the manufacturer of the equipment before it is used for this purpose, and any additional safety requirements or other instructions provided by the manufacturer must be followed.

### 4.7.3 Sealed suspension systems

Equipment is available for both removing and recharging these, and thus can be used to drain them. An alternative approach is to fit a tyre valve adaptor to the filling/draining valve; this then enables the liquid to be gravity-drained in about 20-25 minutes. Care should be taken when attaching the adaptor to prevent the pressurised fluid causing injury to the operator.

Note that the unique hydrolastic supension fluid used in MG Rover Metro/100 models is a water based fluid containing methanol, and should therefore be stored together with coolant and screenwash, rather than with the oils.

***No visible further draining of fluids should occur after the above procedures.***

## 4.8 CATALYST

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. The catalyst can be identified by visual inspection of the exhaust system.

Note: although not strictly a depollution activity, this is a preparation for recycling activity, the financial benefits of which can generally be exploited to offset the costs of depollution.

The catalyst unit can easily be removed by cutting through the exhaust pipe, both in front of, and behind, the catalyst unit. The use of the correct

cutting equipment reduces the time which is required for this operation. Some vehicles may have more than one catalyst unit.

## 4.9 AIR CONDITIONING REFRIGERANT

The two types of refrigerant that are used in vehicle air conditioning systems are R12 and R134a. The type of refrigerant is marked on the vehicle.

The refrigerant must be removed using specialist equipment, and two collection cylinders are required; one for R12 (a CFC) and one for R134a (an HFC). The equipment is attached to the air conditioning filler valve, and takes about 10-12 minutes (the time depends on the system and the ambient air temperature) to remove all the fluid and transfer it to the collection cylinder.

**ATFs should note that new EU Regulations (EC 307/2008) concerning qualifications for persons dealing with "F Gases" such as vehicle air conditioning systems came into force in April 2008. These require relevant operatives to be formally trained and in possession of a duly accredited certificate of competence.**

## 4.10 LPG TANK

**Identifying an LPG Vehicle.** An LPG vehicle may or may not have identification badges, but can often be recognised by the presence of an additional filler connection valve, adjacent to the normal petrol filler. The absence of a spare wheel, or anywhere to put one, is another clue. In the engine compartment, there will normally be additional pipework and wiring from the control modules that handle the switching between petrol and LPG. If feasible, it is best to run the engine to empty as much fuel as possible from the tank before commencing removal, as this will reduce the weight of the tank and the risk of vapour loss. NOTE: Even after running to empty, the tank will still contain some residual gas vapour, and the full removal procedure must still be followed.

**IMPORTANT NOTE:** LPG, which is mainly used in some cars and light goods vehicles, should not be confused with Compressed Natural Gas (CNG), which has been used as original equipment in some commercial vehicle and PSV applications. CNG is equally hazardous, but is stored at a much higher pressure. Only fully qualified technicians should deal with CNG vehicles in accordance with the vehicle manufacturer's instructions.

Currently, very few ELVs in the UK have LPG tanks, but the number is expected to increase in the future. The usual procedure for removing these is to:

1. **Turn off the isolating valve**
2. **Cut through or disconnect the connecting pipes**
3. **Cut through or remove the retaining clamps or straps**
4. **Remove the tank to safe storage**

Given that there are health & safety issues involved with removal, handling and storage of LPG tanks, ATFs are recommended to check with the Health & Safety Executive (HSE) on current guidance. Only suitably trained personnel should be allowed to work on LPG vehicles before the LPG tank is removed. Some further generic guidance is now included in IDIS.

LPG liquid is a gas under pressure, which expands rapidly as it emerges causing a severe temperature drop in the vicinity of its release. Anyone attempting to disconnect the tank connections should therefore be equipped with hand and eye protection to avoid freezing.

The gas itself is highly inflammable and heavier than air, so can build up to dangerous levels in low places such as pits or drains, hence the requirement to treat the vehicle in the open air, where the gas can dissipate safely.

The vehicle should be quarantined in an open area, so that the tank can be isolated and removed for emptying, purging and separate disposal by suitably qualified personnel. The vehicle should be checked for gas leaks using proprietary detection equipment, especially in the vicinity of the tank connections and in the spare wheel well. If the battery is situated close to the LPG tank, for example in the boot, it should not be disconnected until it is certain there are no gas leaks to eliminate the risk of an electrical spark igniting the gas.

If there is a gas leak, this must be dealt with as a priority. If there are no qualified personnel on site, the urgent assistance of a local LPG installation company should be sought.

Under no circumstances should an LPG equipped vehicle be baled and/or sent to the shredder with the LPG tank still installed or intact, even if thought to be empty, as any residual gas in it would still be explosive. Neither should the tank, which is pressurised, be drilled or pierced to remove the LPG.

After the tank has been removed, the remainder of the vehicle can be processed as a normal ELV. The LPG injection equipment in the engine compartment and the pipes leading to it do not have to be removed. The tanks themselves are heavy and should be handled using appropriate lifting tools or supporting frames to avoid injury to personnel.

Information on the treatment of removed LPG tanks should be sought from authoritative sources (e.g. the LPG tank supplier or conversion company, the LPG Association, CARE Group etc.). ATFs may decide that subsequent emptying, purging and destruction of LPG tanks should be carried out by specialist third party decommissioners. Removed tanks should be stored in the open air in appropriate racks/cages until they can be collected or treated by the qualified disposal agents.

## 4.11 SWITCHES CONTAINING MERCURY

Some switches, such as tilt-based switches, may contain mercury. The ELV Directive requires switches which contain mercury to be removed. It would be a long (and hence costly) process to remove all switches in case they contain mercury.

An acceptable level of depollution will be achieved if any switches which are clearly marked as containing mercury are removed. A visual inspection of areas which contain this type of switch must be made during the depollution procedure, but only switches which are clearly identified as containing mercury need to be removed.

## 4.12 OTHER HAZARDOUS ITEMS

Some older ELVs may contain asbestos (e.g. certain brake pad linings). Regulations require the location of any components that may contain asbestos to be identified on the vehicle. A visual inspection of the vehicle must be made during the depollution procedure to identify if the ELV contains any notices indicating parts that contain asbestos. If any asbestos containing components are identified during this procedure, they must be removed. The procedure used to remove the asbestos containing components must follow all health and safety guidelines relating to asbestos.

ELVs also contain other hazardous items, such as the liquid crystal displays (LCDs) used in instrument panels in newer vehicles. There is currently no requirement to remove any of these items, but further guidance may be provided in due course.

# 5 Removal or deployment of air bags

The ELV Directive requires all pyrotechnic devices, such as airbags or pyrotechnic seat belt pre-tensioners, to be either removed or deployed because they are classed as explosive components. Pyrotechnic devices are deployed either mechanically or electrically depending on vehicle type and year. It is therefore necessary to assess every vehicle for airbag type and quantity, and any other pyrotechnic devices that may be present in order to adopt a safe procedure. Manufacturers' advice should be sought if not provided in IDIS.

Anyone attempting deployment of pyrotechnics needs 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.

Only appropriately trained personnel should carry out airbag deployment or removal. The CARE website lists a suitable airbag deployment training course, see www.caregroup.org.uk.

The majority of airbags are electrically deployed, either from a single direct connector or a Deployment Control Unit. Before any work is carried out on electrically deployed airbags they should be disabled by disconnecting the battery. Following battery disconnection, a minimum period of 30 minutes must be allowed before any work is carried out on airbags to allow any residual charge left in the system to dissipate. In some instances, a supplementary battery back-up system can be found, 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.

It is possible for undeployed air bags to be removed and stored. However, as they are classed as explosive devices, the storage facility would have to meet all relevant regulations and requirements for storage of explosive materials, including those relating to health and safety. Many modern cars contain at least two airbags, and some luxury cars may well have more than 10 air bags. Removal of all airbags would be a time consuming process. Consequently, the recommended procedure is to deploy the airbags within the vehicle where possible. If it is not possible to deploy the airbag within the vehicle, remove the airbag and deploy it immediately.

Commercial equipment for the deployment of all electrical pyrotechnics is available but, as different air bags use different connections, a number of adapters will be required. Manufacturers' advice should be sought, if not provided in IDIS.

Airbag deployment should be conducted outside in a secure non-hazardous area.

If air bags are deployed ***in situ***, measures must be implemented to ensure that neither the operator of the equipment, nor any other person, is within 10 metres of the vehicle when the air bags are detonated.

The level of noise produced during the deployment of air bags must be assessed, and may need to be discussed 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, doors should be opened to thoroughly ventilate the vehicle before re-entering the vehicle for any removal operations. Once deployed, pyrotechnic devices are neutralised and can be left within the vehicle.

The explosives used within 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; however if a generator is split open extreme care is needed; see Health and Safety guidelines, HSG184.

Although this guidance describes the general procedures, ATFs should ensure that risks have been assessed and any specific guidelines provided by vehicle manufacturers or tooling manufacturers are followed.

## 5.1 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. Pre-tensioners may contain explosive or have stored mechanical energy (large spring) that is deployed mechanically or electrically. If they contain explosive devices, they need to be deployed as part of the depollution procedure. Manufacturers' guidance on the identification, removal and deployment of seat belt pre-tensioners should be sought, if not in IDIS.

***Removal or deployment of air bags***

The use of a procedure that enables electrically deployed air bags to be detonated in-situ via the common connector will also detonate electrical seat belt pre-tensioners. Consequently, in-situ detonation at the same time as air bags is the recommended approach for these items, where possible.

***Removal or deployment of air bags***
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# 6 End of depollution procedure

When all of the depollution activities described in this guidance document have been conducted, the ELV is classified as non-hazardous waste. The ELV can then be recycled.

All fluids and other items which have been removed (apart from any air bags which have been deployed) will still be classified as hazardous waste. These will need to be stored in suitable storage facilities, which meet all regulations, until they are either treated or sent for recycling or disposal through a suitably licensed waste management contractor.

A system for recording the quantity of fluids and other items which have been removed should be in place. The information which is recorded will enable regular reports to be provided to waste regulators, and inform annual ELV target performance returns. A proforma table can be found on the BIS website at:

http://www.bis.gov.uk/policies/business-sectors/environmental-and-technical-regulations/environmental-regulations/end-of-life-vehicles



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