Waste Electrical and Electronic Equipment Treatment Guide

Maintain robust services at an authorised treatment facility
This guide focuses on treatment of Waste Electrical and Electronic Equipment (WEEE) at Approved Authorised Treatment Facilities (AATFs)/Authorised Treatment Facilities (ATFs) and re-use organisations. It is structured to allow users to focus on specific areas of interest or to read as whole chapters.

This guide:
• Documents procedures considered good practice to help and improve WEEE treatment.
• Builds on statutory guidance from central Government and assumes compliance with the WEEE Regulations as ad minimus.
• Identifies good practice choices, allowing adoption of those most suitable.

The guide does not replace relevant statutory guidance or the Best Available Treatment, Recovery and Recycling Techniques (BATRRT) and will not be applicable in all situations.

Further guidance and research on the collections, re-use, recycling and recovery of WEEE is available on the WRAP website at www.wrap.org.uk/sustainable-electricals

Please note links in this guidance are to English only content, unless otherwise stated.
## Acronyms and terminology

### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AATF</td>
<td>Approved Authorised Treatment Facility</td>
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<tr>
<td>AE</td>
<td>Approved Exporter</td>
</tr>
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<td>ATF</td>
<td>Authorised Treatment Facility</td>
</tr>
<tr>
<td>BATRRT</td>
<td>Best Available Treatment, Recovery and Recycling Techniques</td>
</tr>
<tr>
<td>CFCs</td>
<td>Chlorofluorocarbons</td>
</tr>
<tr>
<td>DCF</td>
<td>Designated Collection Facility</td>
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<tr>
<td>EA</td>
<td>Environment Agency</td>
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<td>EEE</td>
<td>Electrical and Electronic Equipment</td>
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<td>EfW</td>
<td>Energy from Waste</td>
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<td>EWC</td>
<td>European Waste Catalogue</td>
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<td>H&amp;S</td>
<td>Health and Safety</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>LDAs</td>
<td>Large Domestic Appliances</td>
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<td>NRW</td>
<td>Natural Resources Wales</td>
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<td>NIEA</td>
<td>Northern Ireland Environment Agency</td>
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<td>OECD</td>
<td>Organisation of Economic Co-operation and Development</td>
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<td>PCBs</td>
<td>Polychlorinated Biphenyls</td>
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<tr>
<td>PCTs</td>
<td>Polychlorinated Terphenyls</td>
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<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
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<td>SEPA</td>
<td>Scottish Environment Protection Agency</td>
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<td>SOPs</td>
<td>Safe Operating Procedures</td>
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<td>SMW</td>
<td>Small Mixed WEEE</td>
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<td>WEEE</td>
<td>Waste Electrical and Electronic Equipment</td>
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<td>WSR</td>
<td>Waste Shipment Regulations</td>
</tr>
<tr>
<td>WTN</td>
<td>Waste Transfer Note</td>
</tr>
</tbody>
</table>
**Terminology**

**B2B**
Business to business is a common term used for supplies of EEE for which the end-user is a business.

**B2C**
Business to consumer is a common term used for supplies of EEE for which the end-user is a consumer.

**Collection**
Waste gathering, preliminary sorting and storage for the purposes of transport to a waste treatment facility.

**Competence**
A person capable of carrying out a defined task, with the necessary training, experience and access to tools, equipment and information.

**Disposal**
Refers to the handling, storage and treatment of waste that excludes waste which is re-used, recovered or recycled.

**Hazardous waste**
Waste that is harmful to human health or the environment, either immediately or over an extended period of time.

**Non-household WEEE**
WEEE arising from sources other than householders, e.g. businesses.

**Non-obligated WEEE**
WEEE received by an AATF and/or AE not attributed to a producer compliance scheme.

**Recovery**
An operation which results in the use of materials which would have been disposed of, in place of non-waste materials.

**Recycling**
Reprocessing of waste materials for original purpose or for other purposes with the exception of energy recovery.

**Repair**
Correcting a technical fault to return an item to re-use; this may involve adding missing or replacing faulty parts by equivalent parts.

**Re-use**
Whole items or parts used again for the same purpose.

**Separate collection**
Collection of WEEE separately from unsorted municipal waste, a requirement of the EU WEEE Directive.

**Source**
A supplier of WEEE for treatment.

**Stakeholder**
A person or organisation with an interest (or “stake”) in the success or failure of a particular issue.

**Treatment**
Any activity after EEE/WEEE has been handed over to re-use, recovery or disposal operations including preparation prior to re-use, recovery or disposal.

**Waste**
Any substance or object which the holder discards, intends to or is required to discard. Items may be waste even if they have a positive financial value.

**WEEE Directive**

**WEEE Regulations**
Means the UK Waste Electrical and Electronic Equipment Regulation 2013 and amendments.
### Waste management

#### General wastes

This guide focuses on WEEE treatment. However a treatment facility (‘facility’ hereafter) must also ensure it properly handles and disposes of any general waste (food, paper, film and wood).

Good practice examples in treating general waste include:

- Review waste to help identify routes for disposal and recycling.
- Assess recycling choices for the waste before disposal.
- Use only licensed waste carriers and sites for onward treatment or disposal.
- Keep up with advances in treatment technologies. These may provide new downstream opportunities for recycling materials historically sent to landfill.
- Work with WEEE sources to ensure best practice collection and transport.
- Collect only target materials.

### Case study:

**RDC: IT re-use and recycling zero waste philosophy**

RDC is a computer re-use and recycling specialist. They offer end of life IT asset management services. They focus on re-use of whole items and parts, creating environmental benefits and maximum potential revenue. When items are not repairable they recycle them to recover the greatest quantity of material as well as the highest value.

Gary Griffiths, Head of Sustainable Development at RDC stated: “RDC exceeds the EU targets of 75% recovery of WEEE with a mass balance of the weight of the 100% of materials recovered from the waste stream”.

Since 2002, RDC has reported zero landfill on IT waste some of which is hazardous to human health and the environment.

Gary adds: “Over 98% of packaging and general waste is recycled. Material disposed to landfill accounts for less than 1% of overall material handled by RDC” (Source: www.rdc.co.uk).
Contamination
A facility needs procedures that identify and remove ‘non-target’ wastes as early as possible to increase the quality of WEEE collected.

Good practice examples in contamination identification include:

• Set up of several points in the treatment process to identify and remove contamination.
• Train staff both at source and on site to identify and remove items which can contaminate the load or pose a hazard.
• Take photographic evidence of contaminated loads and show to source to avoid further issues.

Hazardous wastes
A facility must store hazardous items until an end market or disposal route is identified. See www.gov.uk/dispose-hazardous-waste.

Risk management procedures should assess, mitigate and seek to minimise hazardous items and substances used.

See BATRRT on treatment and storage of hazardous waste.

Good practice examples in managing hazardous waste include:

• Set up procedures to identify and remove hazards from items.
• Perform risk assessments and mitigation of hazardous items.
• Record and document hazardous items and report to source.
• Ensure availability of suitable containment (with signage) for storing hazardous items.
• Ensure organisations contracted to treat or dispose of the hazardous waste, hold the necessary transport and site licenses.
• Enforce policies and procedures.

Identifying contamination offers opportunities for improvement which may lead to cost savings.
Site management

Traffic management
Where possible, a facility should schedule regular deliveries. This ensures a constant and manageable flow of materials. Scheduling also ensures that vehicles do not have to wait for long periods of time on site.

Good practice examples in traffic management include:

- Schedule of deliveries to manage flow of vehicles and constant flow of material.
- Provide contractors with on site instructions on delivery.
- Ensure turnaround time for offloading and collection is as quick as possible to maximise vehicle use.
- Use suitable vehicles for the size of site and load.
- Ensure movement around the site does not interrupt or hinder other work.

Site infrastructure
Sites should have enough space to allow for proper unloading or loading of materials. A weighbridge should be put in place for weighing and vehicles should be scheduled to avoid congestion.

The site should have enough storage, in a secure licensed premises, under cover and on hard standing flooring.

Delivery staff on arrival should give the correct paperwork and unload according to the procedures in place. The procedures could take the form of information packs containing the following information:

- Unloading information such as; assigned location, time slot in the schedule, reporting to site contact and weighing.
- Site procedures in unloading either manually or by using equipment.
- Ways of unloading to prevent release of dangerous substances and keep value of the items.
- Checks and removal of contamination and dangerous items.

Emergency planning
Emergency plans must be in place.

Good practice examples in emergency planning include:

- Staff training in emergency procedures.
- Regular update of the plans.
- Testing the plans against practical conditions.
- Lessons learned incorporated into a new plan.
- Sufficient staff cover in place so absence doesn't present risk.

- Continuity planning which includes alternative facilities with competence to treat WEEE.
- Contact clients to tell them of any emergency or sudden change which affects their service.

Emergency planning and training for staff helps improve their safety.
Health, safety and environmental procedures

Health and safety policies

A facility should set up health and safety procedures for a safe working environment and comply with all relevant legislation.

Staff should not be allowed to perform a task without safe operating procedures (SOPs) in place. SOPs set out clear safety procedures for staff to follow and can also identify staff training needs.

A H&S manager or officer should be in place to ensure compliance with all relevant H&S legislation. He or she should report any deviations to management.

Examples of good practice as a result of risk assessments include:
• Perform risk assessments early, preferably at collection.
• Identify safe handling of dangerous items until disposed of or sent for further treatment.
• Put in place mitigation measures such as training, personal protective equipment (PPE), signage, marked walkways and barriers.
• Seek advice from the H&S manager to help reduce risks and improve mitigation techniques.
• Train staff on the identification, recording and safe handling of items such as spills, cylinders, sharps and syringes.

Risk assessments

The principal way to manage the health and safety of employees, identify, evaluate and manage any risks, is by performing risk assessments.

Risk assessments include examining all points of the treatment to identify where risks might arise. The main stages of a risk assessment include:
• Identifying risks and how they may arise.
• Assessing likelihood and impact of the risk.
• Identifying risks mitigation.

Examples of good practice as a result of risk assessments include:
• Perform risk assessments early, preferably at collection.
• Identify safe handling of dangerous items until disposed of or sent for further treatment.
• Put in place mitigation measures such as training, personal protective equipment (PPE), signage, marked walkways and barriers.
• Seek advice from the H&S manager to help reduce risks and improve mitigation techniques.
• Train staff on the identification, recording and safe handling of items such as spills, cylinders, sharps and syringes.

Health and Safety (H&S) of staff is a priority. Put in place safe operating procedures (SOPs) to identify and assess safe working procedures.

Remove items such as petrol powered equipment, loose batteries, gas cylinders and aerosols from small mixed WEEE (SMW) as they can pose an explosion hazard during transport and on site.
Staff training

Staff training is an integral part of any H&S policy as hazards arise at many points along the treatment line. From simple manual handling (i.e. poor lifting techniques when unloading from vehicles, cages or containers) to trip hazards from trailing cables.

Hazards can also come from inhalation of toxins contained within items such as fluorescent tubes. Larger scale hazards can arise from gas cylinders, petrol lawnmowers or loose batteries, which can cause a fire or explosion.

Environmental Permitting (England and Wales) Regulations 2016, the Pollution Prevention and Control (Scotland) Regulations 2012 and the Pollution Prevention and Control Regulations (Northern Ireland) 2003 all require that operators are competent.

To ensure good practice technically a competent person must hold a Level 4 Certificate on Technical Competence in Waste Management (where applicable). This requires that relevant staff show competence in H&S measures, emergency procedures and team working. It is recommended that all on-site supervisors and workers should hold a suitable NVQ (e.g. Waste Management Operations Level 2 or Recycling Operations Level 2).

There are organisations such as WAMITAB, (an awarding organisation that develops qualifications and certificates for those working in the waste sector) that have developed a training or diplomas specifically for those work in re-use and refurbishment of products1.

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Case study: Good practice in enforcement of H&S at an AATF

Provide staff with rigorous H&S training, all necessary PPE and clear and easy to understand signage at all relevant locations of operational facilities.

Set up a strict policy of undertaking spot checks to ensure health and safety adherence. Use enforcement measures such as verbal or written warnings to uphold standards.

Ensure staff wear gloves, steel toe capped boots, ear defenders and eye protectors where needed.

Invest in equipment which improves H&S. For example a high powered air extraction for removing phosphorus dusts and other dangerous airborne particles from the working environment.

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1 www.wamitab.org.uk
Environmental policies

Treatment facilities should have some form of environmental policy or procedure in place. A policy of this nature reflects a commitment to ensure minimal impact to the environment.

Typically a facility performs an assessment to identify impact and put in place mitigation measures. Staff then receive training on environmental policies and procedures as part of their overall training.

Good practice examples in environmental policies include:
- Train staff to ensure they work in a way that limits their impact on the environment. For example, they only run noisy equipment during normal working hours.
- Train staff to use transport routes which avoid congestion times by organising shifts to allow this. Avoid unnecessary emissions to the environment from vehicles standing stationary for long periods of time.
- Invite neighbouring businesses and residents to the site. Show them the treatment and procedures in place to prevent any threats to the environment and community.

Communication

Communication to ensure delivery of a good standard of service links is important. Facilities must engage with other AATFs, ATFs, AEs, DCFs, PCSs, businesses and relevant authorities.

Regular communications to prioritise re-use of whole appliances also helps to ensure early removal.

Good practice examples in communication include:
- Provide customers (DCFs and businesses) with information packs. These should show requirements for storage, handling, collection and managing of hazardous items.
- Set communication lines with the relevant stakeholders at the start of any contract e.g. a face-to-face meeting would establish links and speed up future communications.
- Encourage direct lines of communication between the facility and source.
- Arrange exchange visits between staff at source and the site. This encourages positive communication and highlights issues experienced in their roles.

Encourage direct lines of communication between the facility and source of WEEE. This helps to create good working relationships and encourages a smooth service delivery.
Treatment of WEEE

Collection

A facility may directly collect or subcontract a haulier to collect from different locations. A haulage company must be licensed.

Good practice examples in collection include:

• Ensure collections maximise the quantity of WEEE at pick up and use routes which best perform this aim.
• Provide customers with information packs, on best storage and handling.
• Protect equipment and parts by using packaging. This should prevent vibration, electrical contact, collision and damage to insulation of refrigerant in freezers or air conditioners.
• Protect against water. Water can damage internal electrical circuitry making equipment liable to short circuit and therefore unsafe to connect to power. Water can also cause cosmetic damage to external surfaces.
• Set up direct working links between the site and sources to help a quick and efficient collection service.
• Set up site specific collection booking. This can ensure staff have information which can aid them on site and help resolve any collection issues.
• Put in place Service Level Agreements with subcontractors to ensure complete visibility and understanding of the services.
• Check for contamination and dangerous items (gas cylinders, petrol lawn mowers, batteries, syringes and vacuum cleaner bags) at the earliest possible opportunity.
• Co-operate with the source organisation to prioritise re-use of whole appliances. Remove these at the earliest opportunity.

Case study:

S. Norton & Co Ltd: benefits from liaising direct with source

S. Norton show good practice by informing sources when hazardous items are found. They try to educate them to identify and remove these to prevent any potential accidents occurring on site.

The image shows a steel container which stores gas cylinders until removed by a specialist treatment organisation.

This helps show duty of care and ensures proper treatment of items. The benefits are; they work together to reduce the number of unsafe items entering their site, while strengthening client relations and ensuring items are treated or disposed of safely.

S. Norton & Co Ltd treats LDAs and SMW. They operate a batch process which separates metals and plastics.

They state that although they work with producer compliance schemes they have direct lines of communication with their sources. This allows better working. It also helps to educate staff on how to identify and handle potentially dangerous items.
Treatment

WEEE treatment varies according to the category and technology used. For example, a facility can use shredding or disassembly technologies, either manual or automated. Disassembly must comply with minimum requirements in BATRRT.

BATRRT outlines the removal of certain substances or parts including:
- Batteries.
- Toner cartridges.
- Plastics containing brominated flame.
- Retardants.
- Asbestos.
- Cathode ray tubes.
- Fluids (refrigerants).
- Parts containing radioactive substances.
- Gas discharge lamps.
- External electrical cables.
- Printed circuit boards of mobile phones greater than 10 cm.
- Parts containing mercury such as switches or back-lighting lamps.
- Lead.
- Parts containing refractory ceramic fibres.

For shredding, facilities may not remove these parts and substances. However, dependent on size and technology used, remove some in advance to avoid risks and damage to equipment, recording those items removed.

Good practice involves checking and removing dangerous items, treating and sending the remaining items or derived materials for further treatment or recycling.

Examples to consider include:
- Ensure further treatment is conducted by an ATF.
- Set staff to safely identify and remove any dangerous items.
- Staff must put identified items in a suitable container, clearly marked and stored until disposal or sent for further treatment.
- Document the hazard and report to source to help reduce the risk reoccurring.
- Focus to produce high quality derived materials. This ensures the quantity recycled and net value increased.

WRAP’s website includes guidance on collecting and treating waste electricals. This includes a study ‘The Value of Re-using Household WEEE’. It suggests 23% of items collected separately at HWRCs is resalable following repair.
### WEEE sent for further treatment in the UK

Facilities used for onward (or downstream) treatment of materials also need to be working to industry standards. You will want to:

- Ensure any obligated WEEE treatment is carried out by an ATF and AE (if applicable).
- Issue a letter or contract to downstream ATFs/AEs. The letter or contract should seek proof of compliance (e.g. permits, proof of sale) on treatment.
- Seek supporting evidence on efficiency and percentage of items recycled. This improves the accuracy in reporting and avoids ‘double counting’.
- Site visit and audit the downstream treatment and end markets. This allows work with reputable companies handling the material satisfactorily.
- Agree quarterly returns with total number of WEEE and WEEE for re-use.

### Quality control

**Collection**

Collection is the first stage of quality check. This check allows staff to identify and remove any contamination and/or items which can pose a hazard.

The price paid for items or materials sold to end markets is often dependent on the quality. Therefore maximise quality and prioritise re-use of whole appliances.

**Good practice examples in quality control include:**

- Focus on high quality materials rather than sell whatever is produced.
- Undertake proper checks to identify the quantity and quality of items received from each source.
- Remove items which can affect the quality of products.
- Conduct further checks along treatment to identify and remove contamination as well as items which pose a hazard.
- Set up a quality control test for the treated materials (where suitable).
- Identify problematic sites where the quality of items received is poor. This allows suggestions on improvements.
- Seek feedback on quality and possible improvements of material from end markets.
Protocols

Protocols help to promote auditing, tracking and reporting. Defra has developed protocols for LDAs and SMW. You can use these protocols or develop your own. The latter needs EA, SEPA, NRW or NIEA approval.

Good practice examples in protocols include:

- Setting up an electronic system which automatically applies protocols to WEEE arriving on site. This is useful for managing the material and providing an audit trail. It also allows tracking of WEEE derived materials which will need end markets.
- Using a hard copy when electronic systems are not available. The format used for both electronic and hard copies should be transparent and simple to understand and allow for easy auditing.

The WRAP website (www.wrap.org.uk/sustainable-electricals) has latest research supporting treatment. This includes good practice around the recovery of precious metals, critical raw materials, and WEEE plastics.
Treatment for re-use

Sourcing

Treatment facilities should have procedures at source in particular at DCFs supplying incoming materials. These should incorporate identification, separation, storage, loading, off-loading and transport.

Good practice sourcing examples include:

- Develop a ‘selection sheet’ to help show staff which items are acceptable or suitable for re-use.
- Encourage staff to ask the public if an item is working and has all accessories and then label and treat products accordingly.
- Liaise with source to overcome concerns on H&S such as, cables causing trip hazards and the removal of fridge or freezer sealer surrounds.
- Introduce incentives at source to improve the care on site of re-useable items.

Disassembly

Parts recovered from items unsuitable for re-use can be stored for use as spares, to facilitate cost effective repairs and increase the volume of products suitable for re-use. Any test and results should be documented, and items that pass, should be handled and stored properly. Proper disassembly and storage will minimise potential damage to spare parts.

Treat items not suitable for re-use responsibly. Good practice examples on disassembly include:

- Examine all items not fit for re-use to identify parts to help refurbish other items.
- Separate unwanted or failed items and clearly mark for further treatment or onward processing.
- Ensure records are updated so there is a clear audit trail.
- Avoid double counting of items by proper monitoring and reporting.
**Testing**

Facilities which refurbish for re-use should have qualification tests. These include:

- Documented methods for separating items and/or parts for re-use.
- Separated and suitably equipped locations for carrying out tests for re-use.
- Procedural tests such as ‘PASS/FAIL’ or ‘GO/NO GO’.

Tests carried out for re-use are described opposite.

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<th>Visual inspection test</th>
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<td>A visual inspection test performed to assess the health and safety and cosmetic condition of items should be completed at collection and arrival. Tests should be documented and as a minimum meet industry standards. The inspection should identify any:</td>
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<tr>
<td>- Cosmetic damage.</td>
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<td>- Corrosion of metal parts.</td>
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<td>- Exposed electrical parts (including wires).</td>
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<td>- Missing parts.</td>
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<td>- Excessive wear.</td>
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<th>Electrical safety test</th>
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<tr>
<td>Electrical safety tests to identify the potential risk from electric shocks should be conducted for a suitable amount of time. This provides enough confidence that the item does not pose a risk. Results should be added to the items label or bar code. As a minimum and to meet industry standards, tests should:</td>
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<tr>
<td>- Comply with the International Electrotechnical Commission's – ‘Code of Practice for In-service Inspection and Testing of Electrical Equipment’. This includes tests such as: earth bond continuity tests and insulation resistance tests.</td>
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<tr>
<td>- Use calibrated test equipment and show identification and testing of parts.</td>
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<th>Functionality test</th>
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<td>Functionality test identifies whether WEEE is ‘fit for purpose’ to meet its intended use. When items are not ‘fit for purpose’ they must be tested and components replaced. Then the item can be repaired where necessary to ensure it works.</td>
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Data eradication

Data erasure procedures are carried out on EEE at end-of-life to ensure all confidential data has been eradicated. This is typically done using copyrighted non-transferable software. The data eradication can also be combined with equipment testing procedures.

Good practice examples in data eradication include:

• Setting up a high-level security (such as anti-ram gates, CCTV, staff spot checks) to ensure no removal of items with sensitive data before data eradication.

• Ensuring data eradication is per Data Protection Act 1998, the General Data Protection Regulations 2016 (see ico.org.uk).

• Ensuring eradication is done with software that meets the UK Government Security Services requirements.

• Shredding all hard-drives that are unsuitable for re-use before smelting and metal recovery.

• Recording document evidence of the data eradication. Adding results added to the item’s label or bar code for traceability and auditing purposes.

Case study: Computer Remarketing Services (CRS): minimising returns of re-used items

CRS is an asset management organisation specialising in IT equipment. They are a commercial company handling non-obligated WEEE. They state that over 95% of the equipment they handle is put to re-use.

They use several processes to ensure the IT equipment they handle is fit for re-use. In the first instance, they only source items from businesses and do not accept items from DCF sites.

They have rigorous inspection and testing procedures to ensure that items are of a suitable quality for resale and in a safe working order.

External marks on items are recorded and given to the client to manage product expectation, reducing returns.

They also perform internal checks to ensure the item is clean inside and that no excess dust is present which can damage parts, such as cooling fans.

CRS commits to quality and traceable re-use items. They record where everything in their warehouse originated and its final destination. This ensures they review tests conducted on items returned to improve the testing procedures. This continual improvement ensures CRS is striving to reduce the quantity of returns.

They offer a warranty and money back guarantee on their equipment.

Guidance on secure data eradication is available from BS EN 15713:2009 Secure Destruction of Confidential Material Code of Practice.
Packaging

Packaging items for re-use provides protection in transit and prevents damage. Packaging should consider the handling and transport methods used. Enough packaging between items (whether packaged individually or as a bundle to reduce movement and prevent damage) is necessary. Items such as TV and display screens should be wrapped in cushioned packaging e.g. bubble wrap. Fragile items should be individually wrapped or boxed, then palletised using shrink-wrap to minimise movement during transit. However, consideration should be given to re-useable packaging, avoiding single use, disposable packaging where possible.

Staff should be trained on packaging to minimise risk of damage. Any items returned should be checked to identify how the damage happened during transit, and if necessary, review and improve packaging materials used.

WEEE re-use in the UK

Good practice examples of how you can increase re-use in the UK include:

- Give priority to community, local or national end markets for re-used EEE, e.g. selling directly to end users via shops, the Internet or to businesses. This allows traceability.
- If your facility does not refurbish or re-use items, consider working with UK based re-use facilities or organisations such as a charity retailer or social enterprise.
- Conduct audits or spot checks to confirm the end destination of re-used products.

Case study: Aquaforce Ltd prioritising re-use in the UK

Aquaforce is a small AATF that only allows its re-use items to be used within local and national markets. This helps them to control and track the items they sell for re-use, and ensure re-use.

They source their WEEE from both DCFs and businesses. They do not provide test and repair on site.

Instead they supply clients with items for re-use selected according to set criteria. The clients apply their own test and repair.

They select re-use partners by visiting their sites, making sure they only sell within the UK, and that they carry out the suitable tests and repair.

Aquaforce manages and tracks to ensure re-use. Aquaforce ask for items not re-useable to be returned to them for treatment.
Treatment for export

Export procedures


The WSR sets out a two stage process before export. The first stage categorises the types of waste as annexes (Annex III and IV of the WSR). This helps identify whether the item is prohibited or allowed for export.

If the item is eligible you should follow the second stage requirements within Annexes III and IV of the WSR. If not categorised within Annex III, export will be subject to written consent referred in WSR. For items listed in Annex III, the specific requirements will depend on the waste category and the country of destination.

Legal requirements from the destination countries are found in the EC 1418/2007, EC 740/2008 and EC 967/2009.

Export of non-obligated WEEE through conventional export procedures

Good practice for all exports will ensure valid overseas treatment routes are used.

Evidence is required for items exported. Under WEEE Regulations only AEs can issue evidence of treatment or recovery. Regulatory Authorities must approve the AEs.

At the end of every compliance period, AEs must conduct independent audits to certify the evidence (only if more than 400 tonnes). Evidence notes should confirm the amount and item received for treatment and passed through customs for export. If treated before export, then the original AATF will issue the evidence.

Only use registered AEs. Check for registration on the public register or with the relevant enforcement body. The check provides confidence that materials or items are exported legally. Where practical, take site visits to identify what happens to the WEEE.
Hazardous WEEE is banned from export for recovery to countries outside the OECD. Examples include those classified as hazardous under the European Waste Catalogue (EWC) list, such as the following:

- Polychlorinated biphenyls.
- Ozone depleting substances (e.g. fridges and freezers).
- Asbestos.
- Cadmium.
- Lead.
- Cathode ray tubes found in televisions and older computers.

The exporter should also ensure they comply with the national legislation in destination countries. Each destination country may need a different procedure, depending on waste it receives.

When exporting, AEs should ensure the overseas facility performs:

- To standards equal to a UK ATF or AATF.
- In accordance with any permits required in that country.

If an item is treated before export, then the original AATF issues the WEEE evidence which an AE uses to export the WEEE. Exports or imports of waste for disposal are prohibited, with a few exceptions described in the UK plan for waste shipments. More information can be found here.

AATFs issue evidence on the tonnages of WEEE received (by category) and the recovery, recycling or re-use achieved. AEs can only issue evidence on whole items of equipment going for re-use, they cannot issue evidence on items exported for recycling.

Good practice examples in export include:

- Track items and materials to their final destination. This may include site audits (where practical). Keep records to enable assessment bodies to verify.
- Seek recycling percentage (where possible) and final destination evidence from AEs. This ensures reported recycling percentages are accurate.
- Work with a manageable number of AEs to ensure traceability.
Export for re-use

Priority should be given to UK markets for re-use items. However where these don’t exist, other export markets should be considered. An example are items fit for re-use but which are not desirable in the UK such as CRT televisions.

The benefits of exporting re-use items include:

- Re-use is higher in the waste hierarchy than recycling;
- A market for re-use items not possible in the UK; and
- Affordable items sold in export destinations.

Pitfalls of exporting items for re-use include:

- Lack of waste management in export destination;
- WEEE items illegally exported as EEE;
- Life expectancy of item may be short; and
- Potential for damage in transit, which results in waste.

A facility should consider the following to help prevent the illegal export of re-useable items:

- Where end markets for whole re-useable appliances do not exist within the UK, export to countries within the EU. This ensures items stay in countries covered by the WEEE Directive, whereby treatment is regulated better than those countries outside the EU.

A facility exporting WEEE or parts for re-use must ensure compliance with all applicable UK legislation, such as technical standards, labelling, and health and safety requirements.

A facility should (where appropriate) fully consider and satisfy themselves of the following good practice initiatives:

- Packaging, handling and preparing whole WEEE for re-use abroad in a way that adequately protects it during transit.
- Track items and parts to final destination. Undertake the following to ensure export legitimacy:
  - Get a copy of the invoice or contract of sale in the destination country. The invoice or contract should state sale is for re-use purposes and document the recipient.
  - Obtain Bills of Landing (issued by the shipping line as documents of title for the cargo). This shows the facility as the shipper, and the first buyer in the destination country as the Consignee.
  - Ensuring WEEE or components are ‘fit for purpose’ as some regions or countries require different electric power supplies (such as 110 or 240 volts).
- Offer warranties on items tested and refurbished for re-use.
- Set up returns of items to the UK if necessary.
- If exporting to developing countries, raise the level of re-use in the countries by undertaking a programme of knowledge transfer between the facility and the country.
Case study: RDC Arrow: international re-use and knowledge transfer

RDC, part of Arrow Electronics Inc, ensures computers prepared for re-use comply with applicable export and import requirements, leading to the export of millions of computers to more than 70 countries in recent years.

However, RDC and Arrow also share knowledge and best practice competencies with developing countries to enable in-country development of computer refurbishment skills. Many developing countries now use refurbished computers as affordable technology in education projects, helping schoolchildren and adult learners ‘bridge the digital divide’.

RDC and Arrow have worked with Microsoft and the United Nations to supply tools, workbenches, test equipment and training manuals to help set up PC service centres in Uganda, Namibia and South Africa.

Charities set up to provide computers to developing countries – such as Digital Pipeline, In Kind Direct and Close the Gap – have worked with RDC and Arrow. They use RDC and Arrow technicians and facilities to ensure that large quantities of working, safe and data-free IT items reach developing countries. Unwanted equipment is sold for funds and audited recyclers recycle their failed equipment.

RDC and Arrow have built an international network of approved partners in developed and developing countries. Providing secure, environmentally responsible and compliant IT re-use services to customers in more than 120 countries across the globe.
WRAP’s vision is a world in which resources are used sustainably.

Our mission is to accelerate the move to a sustainable resource-efficient economy through re-inventing how we design, produce and sell products; re-thinking how we use and consume products; and re-defining what is possible through re-use and recycling.