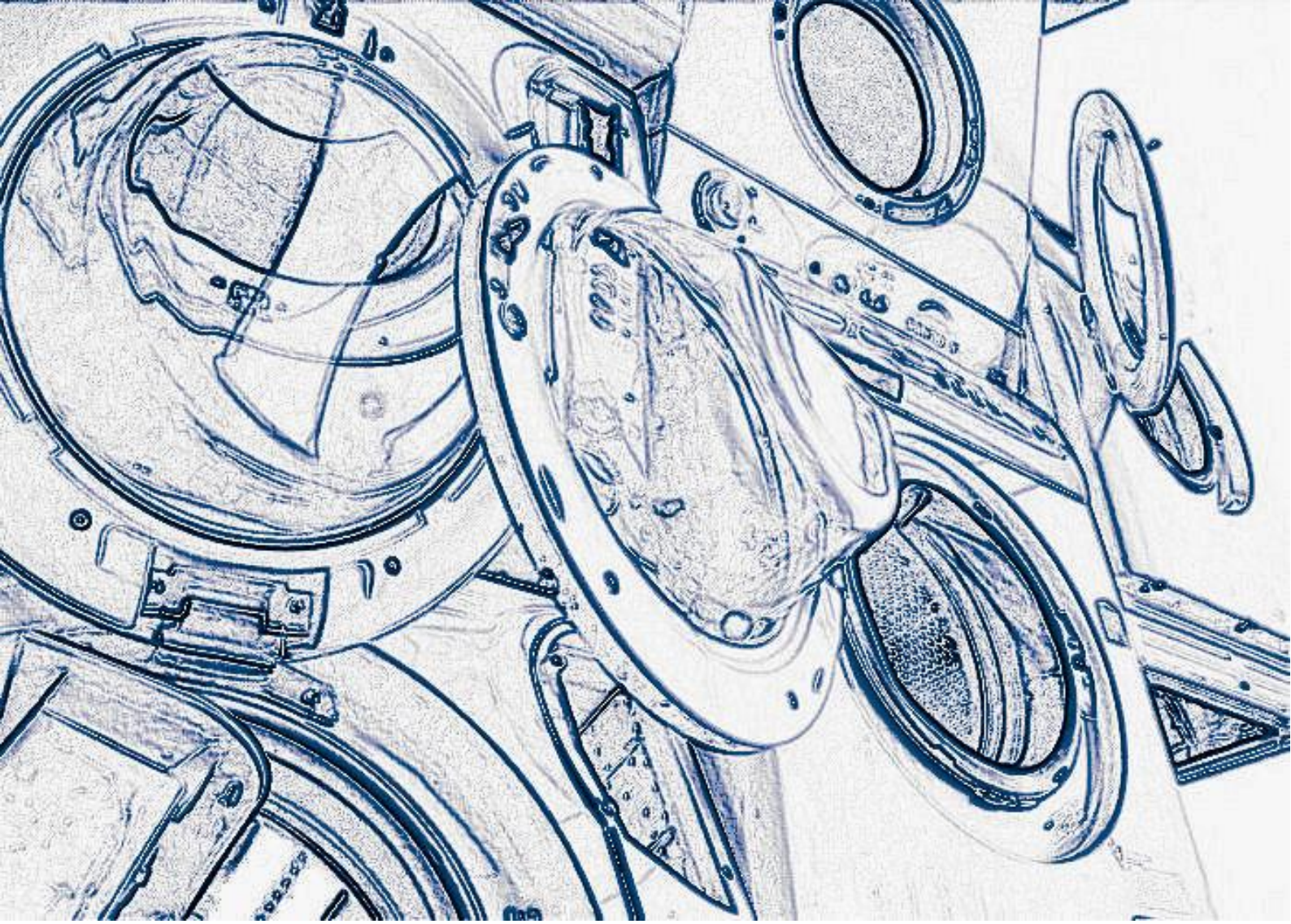

WEEELABEX in the Metals Recycling Sector

On the Way to Certification in Three Steps

Contents

Introduction

From 1 July 2015, it is legally mandatory in the Netherlands to process waste electrical and electronic equipment (hereafter WEEE or appliances) according to the WEEELABEX standards. This means that every recycler who processes discarded appliances must be WEEELABEX certified. This obligation has consequences for operators in the recycling sector who currently include discarded appliances in their recycling process.

Although introductory meetings have been organised, there are operators in the recycling sector who do not yet have a complete picture of what WEEELABEX certification actually includes.
On the initiative of the NVMP Association (collective advocate of seven product foundations), it was decided to prepare this manual.

What is WEEELABEX?

WEEELABEX stands for *Waste Electrical and Electronic Equipment LABel of EXcellence*. It presents standards for the collection, storage, transport, processing (treatment), recycling and reuse of appliances (equipment).

The WEEELABEX standards have been drafted to ensure that:

- discarded appliances are processed and disposed of effectively, efficiently and in the right way;
- the products from recycling are of a high quality and this quality constantly improves;
- public health, safety and the environment are protected;
- no cross-border transportation of discarded appliances takes place to parties whose activities do not comply with the standards;
- there is fair competition for all market participants in the waste chain.

WEEELABEX therefore imposes standards with regard to:

- the way in which appliances must be treated, stored and processed;
- the infrastructure of the recycling business;
- the administrative and organisational setup of the recycling business;
- the training and instruction of the personnel to allow them to carry out their tasks properly;
- the supervision and registration of the origin and destination of appliances;
- the results that must be achieved as a minimum from the recycling of appliances;
- the methods to demonstrate that the recycling results are actually achieved.

Purpose of this manual

This manual has been prepared especially for the recyclers of metals and ICT appliances. The manual serves as a guideline for:

1. the making of a decision of whether or not to opt for WEEELABEX certification;
2. the preparation of the organisation for WEEELABEX certification;
3. the procedure to be followed to become WEEELABEX certified.

This manual is a guideline and not a do-it-yourself instruction to get your organisation 'WEEELABEX proven' yourself. It will be explained what is necessary to comply with the WEEELABEX standard, but not how you can realise this.

Terminology

In this manual, use is made of specific terms. Although it is the intention to use language that is as simple and comprehensible as possible, the use of specific terms is unavoidable.

A list is included in the annexes in which specific concepts are explained.

The terms WEEE and appliances are both used in this manual. WEEE is used if reference is made to the WEEELABEX standard and European legislation; in other cases, the term appliances is used.

Disclaimer

This manual has been prepared with the greatest care; however, the author does not guarantee that the information is complete and/or accurate. Neither the NVMP Association nor the author accept any liability for direct or indirect damage arising from use of the information.

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Making the decision: certify or not

Before a certification process is initiated, a decision must be made on whether or not you intend to have your business WEEELABEX certified.

- Not being WEEELABEX certified means that your business will soon not be allowed to process any more appliances. You would thus lose income.

- Being certified, however, has costs associated with it. It could also have consequences for the way you run your business. Because WEEELABEX stipulates strict standards as regards the management, implementation and registration of the recycling process for discarded appliances.

- It is logical that the costs of being certified must weigh up against the benefits you would lose if your business was not certified.

◆ The initial consideration

Factors that play a role in the initial consideration of whether or not to become certified include at least:

- whether WEEELABEX can be properly linked up with your current operations. If this is not the case, whether you are prepared to adapt your operations.
- whether the benefits counterbalance the costs that are associated with becoming certified.

It is entirely conceivable that you have other reasons to either become certified or not. These may be included in the decision-making process.

◆ Can WEEELABEX be linked up simply with current operations?

Whether WEEELABEX can be linked up simply depends heavily on how you now run your business.

Important roles are played by how:

- the infrastructure of your business is currently set up;
- business operations are currently conducted;
- administrative and management systems are presently set up.

These do need to connect up with a number of requirements imposed by WEEELABEX. Examples of the requirements are listed below in broad terms. The specific WEEELABEX requirements will be gone into further in Step 1.

- *Requirements are imposed on the infrastructure*
  One of the requirements is that there must be protection against damage to or theft of appliances. Appliances with hazardous waste must be stored under weatherproof coverings and on an impermeable surface.

- *There are rules that apply to the handling and storage of appliances*
  Appliances must be handled and stored in such a way that no hazardous waste can be released and that the removal of hazardous waste is not detrimentally affected. Maximum quantities apply to the appliances that may be stored.

- *The recycling process must comply with requirements*
  Appliances must first have hazardous waste removed before they are allowed to be processed further. If necessary, the hazardous waste must be processed by a third party. The removal of hazardous waste must be monitored and the results of the removal must be demonstrated.

- *Minimum results apply to the recycling process and their achievement must be demonstrated*
  It must be demonstrated that the target figures for recycling and beneficial application are achieved. To determine recycling and recovery percentages, a batch test must be conducted at least once every two years at each site and for each product category.

- *Recipients must be monitored*
  As long as processed appliances have not reached the final waste status, the recycler must document their destination. The origin of appliances must also be registered.

- *Administrative and organisational conditions apply*
  Administrative records must be maintained which prove compliance with legislation.
  Management systems must also be present, such as for the operations, HSQE and risk management. These do not need to be certified systems, but it must be possible to demonstrate their operation.
  A mass balance must be maintained of all incoming appliances and outgoing material streams.

- *A documentation obligation applies*
  It must be possible to present documents, such as procedures and processes, emergency plans, risk evaluations, supervision of training courses and maintenance data. It must also be possible to present specific registrations, such as for internal inspections of waste, reuse, recycling percentages achieved and results of batch tests.

What costs are associated with being certified?

The level of the costs will be different for each operator. It will seldom be straightforward to make a good estimate of these costs in advance. Account will have to be taken of at least the following types of cost:

- *Costs that arise from the changed operating process*
  There will be cases where activities have to be conducted differently. For example, an appliance will have to have hazardous waste removed before it is allowed to be processed further. If this did not happen before, it will now involve extra work.
  But registrations too demand extra effort and systems that were not present before will also have to be maintained. These costs have a permanent nature.

- *Costs that have to be incurred for modifications*
  Where the operations do not yet comply with the WEEELABEX standard, modifications will have to be done. These will incur costs.
  The level of the costs depends on the number of modifications and whether they can be done internally or require external support.
  These costs are only incurred once and may be written off over a number of years.

- *Costs of certification*
  To become certified, audits will have to be conducted. Also, an annual sum must be paid to WEEELABEX for the registration of the certification.

- *Costs for batch test*
  A batch test must be conducted at least once every two years. Depending on the situation, production may have to be suspended. This could be at the cost of production and thus involve a loss of income.

It is advisable to go through Step 1 first, before you make the final choice of whether to opt for certification or not.

→ Your business opts for certification

- Then, the organisation will have to comply with the WEEELABEX standards.
- You will first have to see to what extent your organisation already complies with the requirements.
- To the extent that parts do not yet comply with the standards, modifications will have to be done.

In Step 1, a questionnaire follows to determine how far from WEEELABEX certification your organisation is.

→ Your business opts for non-certification

- As of 1 July 2015, your business may not under any circumstances continue to process appliances.
- Appliances that end up in your waste stream after 1 July 2015 will have to be offered for treatment to a party who is WEEELABEX-certified.
- The storage of appliances that your business is going to offer to third parties will have to comply with the legal requirements as included in Annex VIII of Directive 2012/19/EU.

If your business should not follow these rules, it would run the risk of the government imposing a sanction.

Step 1: Inventory of conformity

The first step is to carry out a survey to determine whether your organization meets the WEEELABEX requirements.

By filling out questions on a checklist, a survey can be performed. By using a catalogue of initiatives, any shortcomings can be identified and measures to be taken can be defined. Both checklist and catalogue of initiatives are included in the appendices.

This questionnaire refers to the most relevant articles from the WEEELABEX normative document, hence not all articles are summarized. Therefore, the WEEELABEX normative document should be used as a reference in addition to the questionnaire.

The 'Directive 2012/19/EU on waste electrical and electronic equipment (WEEE)' should also be used as a reference. If processing appliances, one is indeed expected to be acquainted with all the relevant legal regulations regarding e-waste.

The WEEELABEX normative document can be found at the WEEELABEX website:
http://www.weeelabex.org/#!standards/component_41229

Directive 2012/19/EU can be found at the website:
http://eur-lex.europa.eu/legal-content/NL/ALL/?uri=CELEX:32012L0019

The questionnaire focuses on the requirements set by WEEELABEX regarding:

- General and legal matters and document management;
- Down stream monitoring and inherent documents;
- The infrastructure of the treatment plant;
- Reaching recycling targets and performing batches;
- Operating processes;
- Monitoring de-pollution;
- Training & Facility safety.

◆ General and Legal requirements and document management

Legal obligations & Authorisations

'The operator shall comply with European Community legislation and its corresponding transposition. The operator shall maintain a record documenting compliance with legal and regulatory obligations applying to all activities undertaken on site.' WEEELABEX 4.1.1

1.

a) Do you hold all necessary permits and/or licenses in compliance with National laws and European Community legislation?
b) Do you keep and update a record showing compliance?
c) Can you demonstrate that all of the conditions and requirements set down in the permits are respected?
d) Are all the necessary and required permits, licenses, and authorizations available for inspection?

2. Is there a living procedure to identify the applicable legal requirements? WEEELABEX 4.1.2

Management system

3. Is there a documented management system in place for health, safety, environment and quality? WEEELABEX 4.2.1

4. Can continuous improvement (and regular updates) of the management system be demonstrated? WEEELABEX 4.2.2

5. Regarding the disposal options, priority shall be set to avoid long-term emissions from landfills. Can you demonstrate how your company consider the waste hierarchy for disposal of fractions? WEEELABEX 5.8.1

Insurance or other financial resources

6. Do you have insurance or other financial resources in place to cover all risks and liabilities arising from the operations of the facility? WEEELABEX 4.3.5

   The insurances or financial resources shall accommodate legal and regulatory requirements, but as a minimum cover risks and liabilities of:
   - bodily injury to employees, contractors, visitors or neighbours of the plant,
   - damages to neighbouring facilities,
   - damages due to accidental pollutant release to the environment where the owner of the property is liable, and
   - closure of the facility assuring proper cleanup of the site and any WEEE.

◆ Downstream monitoring and documents

Document controls

"The operator shall document the origin of the WEEE treated and the downstream treatment chain of WEEE and fractions thereof as long as they have not reached the end–of-waste status. Documentation shall record treatment in accordance with Clause 5 of this normative document. If downstream operators comply with this normative document, special documentation shall not be necessary." WEEELABEX standard 4.5.1

7.

a) Are the logistics operators' legal authorizations available? (for the first step of the chain)
b) Is there a structured document available showing the whole downstream chain (for whole appliances/fractions etc.) as long as they have not reached the end-of-waste status?
c) Can you demonstrate where all of the appliances arising at your facility have originated from?
d) Can you prove where all of the whole appliances and fractions leaving your facility have been delivered to?
e) If you transfer any unprocessed whole appliances or appliances partially de-polluted from your facility to another treatment facility, can you ascertain that this particular facility is compliant with the WEEELABEX Standard?

f) Can you provide evidence of the legal authorizations (licenses; permits etc.) for downstream routes of non-pure/hazardous waste?
g) For every output and each step of the chain, can you demonstrate the description of the fractions (% in mass, purity), the final acceptor, the treatment technology and the recycling quotas available?

8. Can you provide evidence that the incoming deliveries of appliances and outgoing deliveries of untreated whole appliances/fractions is balanced in an annual overview (including considerations of stock in hand)? WEEELABEX 5.9.2

9. Can you exhibit that all directly exported fractions are correctly shipped in line with the Waste Shipment Regulations? WEEELABEX standard 4.7.1

◆ Infrastructure

Access and Egress

10.
a) Is your facility designed, organised, and maintained to provide safe access to and egress from the site?
b) Is the site secured against access by unauthorised persons?
c) Are the treatment facilities secured to prevent damage to and theft of appliances and components thereof? WEEELABEX 4.3.3 & 4.3.4

Storage facilities (WEEE in input)

11. Do storage areas for appliances have impermeable surfaces and with sealed drainage that has a spillage collection facility within the drainage system? WEEELABEX 5.2.2

12. Is there weatherproof covering in storage areas for appliances suitable for reuse and/or appliances containing regulated and/or hazardous fractions (CRTs; flat panels; batteries etc.)? WEEELABEX5.2.2, 5.2.3 & 5.2.5.

"Substances, preparations and components to be removed or fractions containing these in accordance with clause 5.3.1 shall be kept separate to ensure wholesomeness (integrity) of the material stream. They shall be clearly identified, labelled and forwarded with related documentation."

13. Are all the storage areas/bunkers and containers, clearly identified and labelled with the description of the fractions? WEEELABEX 5.3.5

14. Are all fractions containing hazardous substances kept separated from other wastes and stored in a manner that prevents dispersal of the hazardous material to the environment? WEEELABEX5.6.1 & 5.3.5

15. Are the components and fractions listed in WEEELABEX clause 5.6.2 stored under weatherproof covering and do the storage areas meet any additional storage conditions or requirements as set out in permits or licences and/or legislation? WEEELABEX 5.6.2

◆ Recycling targets and batches

Recycling & recovery achievements

If processing appliances, as an operator, you are legally bound to achieve the targets for recycling and recovery. These targets are listed in Annex V of Directive 2012/19/ EU. Targets are summarized in the table below.

WEEEE Category	***Category includes***	***Reuse and recycling targets***	**Recovery targets**
1, 10	*Large household appliances, temperature exchange equipment, automatic dispensers*	*75%*	*80%*
3, 4	*IT, telecommunication and consumer equipment*	*65%*	*75%*
2, 5, 6, 7, 9	*Small household appliances, lighting equipment, tools, toys leisure and sports equipment, monitoring and control instruments*	*50%*	*70%*
5	*Lamps*	*80%*	-

16. Are operations arranged such and is work carried out in a way that mandatory recycling results can be achieved?

17. Are systems set such and is registered in a manner that the results of recycling can be calculated in accordance with Annex D of the WEEELABEX standard?

18. Can you demonstrate, by means of documents, reaching the minimum targets for each WEEE category treated?

"*The determination process of the recycling and recovery rates starts with the untreated WEEE and ends when the end-of-waste status for fractions is achieved or with the final recovery or disposal of fractions, produced by treatment of the appliances. Therefore the whole treatment and processing chain of WEEE shall be considered."*

"The determination of the recycling and recovery rates shall follow all fractions until final technologies are reached."

"The determination of the recycling and recovery rates shall be:
- *based on the input/output analysis of every single step within the treatment chain;*
- *completed for each of WEEE treatment categories, for each WEEE treatment operator, and for each treatment facility."*

WEEELABEX 4.5.1 & D2

19. For every output and each step of the chain, is the description of the fractions (% in mass, purity), the final acceptor, the treatment technology and the recycling quotas available?

Batch Tests

Batch Tests shall be performed at least once every two years per site and per category.
A batch test is manual or mechanical processing of a definite and well-defined amount of appliances or fractions thereof to determine the yields and compositions of the resulting output fractions.
Batch tests are performed in order to determine whether:
- *recycling and recovery targets are achieved;*
- *de-pollution was carried out effectively;*
- *the presence of polychlorinated biphenyl, cadmium, copper, and brominated flame retardants in output fractions is below limit values;*
- *target values for the removal of printed circuit boards, batteries, capacitors are reached.*

The Batch Test may be performed by a WEEELABEX Auditor, a (candidate) WEEELABEX Operator or his/her appointed contractor. Nonetheless, a Batch Test is only valid if performed or witnessed by a WEEELABEX auditor.

The Batch Test shall be performed according to the requirements given in Annex C (Requirements concerning batches).

"Batch results shall be representative compared with normal day-to-day conditions, especially with respect to the composition of the input material and processing operations. WEEE shall not be prepared or selected in order to change original composition. The operator shall document the manner in which the batch input material has been collected." WEEELABEX C1.2

20. Can you demonstrate, by means of a monitoring system, that the day-to-day de-pollution process is comparable to the batch?

A downstream Batch Test is necessary if:
- *a fraction represents more than 20 percent of the total input of any WEEE treatment category according to Annex C;*
- *an external operator performs the next separation step.*

** Metallic fractions with less than 2 weight percent non-metallic shares (plastics, inorganic material) shall be considered as pure fractions.*

If an downstream operator complies with WEEELABEX, a downstream Batch Test shall not be necessary.

21.
a) Is a method present to analyse the composition of every output fraction?
b) For every output fraction, is the composition analysed in order to determine the purity and de-pollution performance?

◆ Operating Processes

Material reception, sorting, handling and storage

"WEEE shall be handled and stored with due care in order to avoid release of hazardous substances into air, water, or soil, as a result of damage and/or leakage."

"*During handling and storage, special attention shall be given to WEEE containing hazardous components as summarised in Annex II Directive 2012/19/EU".*

"All handling of WEEE including the loading, unloading and transport shall be carried out with appropriate tools, containers and fixing to avoid damage to WEEE."

"Uncontrolled tipping of containers with CRT display appliances, flat panel displays, temperature exchange equipment, and lamps shall not be permitted."

"WEEE shall not be handled in a way that subsequent preparation for re-use, de-pollution or recovery is adversely affected or inhibited."

WEEELABEX5.1.1-5.1.5

22.

a) Are operations arranged such and is work carried out in a manner that preparation for re-use, de-pollution or recovery is not adversely affected or inhibited?
b) Is work performed in such a manner that the release of hazardous substances into air, water, or soil, as a result of damage and/or leakage is avoided?

CRT display appliances, flat panel displays, temperature exchange equipment and lamps are subject to specific requirements. Therefore appliances must be sorted, stored and processed separately. WEEELABEX Part II Specific requirements.

23. Are appliances received correctly sorted into separate treatment streams?

"Maximum storage amounts of WEEE shall respect legal and regulatory requirements. Where such provisions are not available, the maximum amount of WEEE stored shall not exceed the amount of WEEE that can be treated within six months." WEEELABEX5.2.1

"The quantity of WEEE stored prior to treatment without weatherproof covering shall not exceed the average quantity of WEEE supplied per month." WEEELABEX 5.2.4

24. Are operations arranged such and monitored in a manner to prevent exceeding of the maximum admissible storage?

"The treatment operator shall remove all liquids, substances, preparations, and components from WEEE according to Article 8 (2) and Annex II (Selective treatment of materials and components of WEEE) of Directive 2002/96/EC." WEEELABEX 5.3.1&Part II

"Substances, preparations and components may be removed manually, mechanically or chemically, metallurgically with the result that hazardous substances, preparations, and components are contained as an identifiable stream or identifiable part of a stream at the end of the treatment process."

"A substance, preparation or component is identifiable if it can be monitored to prove environmentally safe treatment."

Two different categories are distinguished. Substances, preparations and components which have to be removed either as:

- *a first step in the treatment process; or*
- *an identifiable (part of a) stream during the treatment process.*

According to Article 8, paragraph 2 of Directive 2012/19/EU all fluids shall be removed. Also external batteries (batteries readily accessible in appliance), capacitors, mercury switches, beryllium oxide components, asbestos and ceramic fibre parts.

Examples of substances, preparations and components which "have to be removed" as an identifiable (part of a) stream in the next steps of the treatment process may include: plastics containing brominated flame retardants, printed circuit boards, and internal batteries.

25. Is work carried out in such way that hazardous substances, preparations and components are removed in accordance with regulation?

De-pollution

"Removal practices shall not damage or destroy components in a way that hazardous substances are released to the environment or distributed to fractions, unless subsequent treatment of the hazardous substances is secured." WEEELABEX 5.3.2

26. Are operations arranged such and is work carried out in way that hazardous substances are not released to the environment or distributed to fractions?

"To fractions or substances classified as hazardous wastes no other types of waste or non-waste materials shall be added to make overall waste volume fall below the limit of hazardous waste classification (ban on dilution)." WEEELABEX 5.3.4

27. Are operations arranged such and is work carried out in a way that hazardous wastes are not diluted?

"Substances, preparations and components to be removed or fractions containing these in accordance with clause 5.3.1 shall be kept separate to ensure wholesomeness (integrity) of the material stream. They shall be clearly identified, labelled and forwarded with related documentation.." WEEELABEX 5.3.5

28. Are all the fractions thereof containing regulated substances, mixtures and components identified and managed in the correct way?

"If it is uncertain that hazardous substances are present in WEEE or components, the WEEE or components shall be treated as if they contain the substances." For example:
- *All temperature exchange equipment (as if they contain VFC/VHC - e.g. cooling appliances)*
- *All flat panel displays, LCD screens and plasma screens (as if they contain backlight lamps)*
- *All Lamps and lamps containing equipment (as if they contain mercury)*

WEEELABEX 5.3.6

29. Is work carried out in such way that if there is no sorting/segregation procedure or no clear identification on the equipment to determine the nature of the incoming appliances, they are treated as "regulated" appliances regardless of their actual nature?

De-pollution monitoring

Monitoring of de-pollution performance can be determined by the following methodologies:
- *quantification of the outgoing stream and comparison with a target value or assessment of progress,*
- *analysis of representative samples of relevant fractions.*

Note: Regarding cooling/freezing appliances, a third method is used, i.e. a method establishing a mass balance between incoming and outgoing streams. Processing cooling/freezing appliances is specialized work and cannot be performed by an average metal recycler. For convenience sake, in this guide is assumed that your company does not process cooling/freezing equipment. Therefore the method is not explained.

Quantification and comparison with a target value (benchmarks)
Using this method, by means of a Batch Test, removed batteries, capacitors and printed circuit boards are weighed separately. The weights are expressed as a percentage of the total input weight. Actual percentage values are compared with the target values.
To meet the required quality objectives of de-pollution, the minimum targets removed batteries, capacitors and circuit boards are to be achieved. Target values are laid down by WEEELABEX.

Category	Components to remove	Target value
Large Household Appliances	Capacitors	1.3 kg/tonne
	Circuit boards	1.0 kg/tonne
Small Household Appliances & Mixed Appliances	Capacitors	0.9 kg/tonne
	Circuit boards	19 kg/tonne
	Batteries	1.8 kg/tonne
CRT screens	Capacitors	1.0 kg/tonne
	Circuit boards	56 kg/tonne
FPD screens	Capacitors	1.0 kg/tonne

Output fractions analysis
Under this method, a representative mixed sample is be taken and analysed by a specialist laboratory.
- *The light shredder fraction is examined for the presence of polychlorinated biphenyl, cadmium and copper.*
- *Plastic fractions are tested for the presence of brominated flame retardants.*

At least once every two years a representative mixed sample shall be taken and examined.

To verify the quality of mechanical de-pollution, the following preliminary limit values in the light shredder fraction of the first mechanical treatment operation shall apply:

Category	Fraction examined	Substance	Limit value
Large Household Appliances, Small Household Appliances& Mixed Appliances	Light shredder fraction	Copper Cadmium Polychlorinated Biphenyls	10,000 mg/kg 100 mg/kg 50 mg/kg
CRT screens	Mixed CRT glass	Sulphur	50 mg/kg
FPD screens	Mixed fractions	Mercury	0.5 mg/kg
All appliances	Mixed plastic fractions	Brominated Flame Retardants	700 mg/kg

30. Are operations arranged such and is work carried out in a way that the batch test and analysis of shredder fraction can be executed effectively?

Materials containing mercury, halogenated compounds, and beryllium shall not be destroyed by incineration, waste to energy or be disposed of in landfill except if the law mandates these methods of disposal, or prohibits their use in electrical and electronic equipment sold after 31 December 2012.

31. Can you demonstrate, by means of documents, that these substances are not destroyed?

Note: This seems a paradoxical requirement, since these substances thus may be recycled only and the use in electrical and electronic equipment is prohibited after 31 December 2012.

◆ Training & Facility safety

Training

"All persons at the treatment facility shall be familiar with the environmental, health and safety policy of the facility. Employees and contractors involved in operations shall be instructed and trained to perform the tasks assigned to them."

Training shall include:
- *emergency response planning,*
- *occupational health and safety measures,*
- *training for the relevant operations performed on site."*

"The effectiveness and suitability of training shall be checked regularly. Training programmes shall be delivered at a level suitable to the trainee in form, manner and language."

"Employee training materials and information including technical guidance documents, risk assessments, safety statements, information charts, information tables, photos or examples of components of WEEE, and safety data sheets for hazardous chemical components shall be available at the work place and be easily accessible to employees at all times."

WEEELABEX 4.4.1 -4.4.3

32.

a) Can you demonstrate that employees and contractors working at the treatment facility are provided with appropriate training and information?
b) Are training materials easily accessible to all employees at all times?
c) Are all employees at the treatment facility in fact familiar with the safety procedures?

Safety

"The operator shall possess infrastructure in terms of size, technologies installed, and characteristics of the operations that are suitable for the activities performed on site.
Suitability of site shall be assessed by an operational risk management process for all tasks performed on site and include the identification of hazards, the assessment of risk and, where appropriate, the elimination or reduction of the risk, and documentation of the process."
WEEELABEX 4.3.1

33. Is a documented emergency plan available and is this plan regularly updated?

34.

a) Is a documented risk assessment available which addresses all the WEEE related activities performed on site? Are provisions of the risk assessment actually respected?

b) Is personal protective equipment (as determined by the risk assessment) provided by the operator and used by the employees correctly?

Step 2: The removal of deficiencies

By completing the checklist, you have obtained a picture of the extent to which your business complies with the WEEELABEX standards.

Based on this, and by making an outline calculation, you can make the decision about whether you want to or are able to become WEEELABEX certified.

If you opt to have your business certified, you will have to remove any deficiencies that exist. You can state and enter the measures to be taken in the action point list. Based on this, you can make a plan.

◆ Do it yourself or contract out?

For removal of the deficiencies, you will have to make a choice of whether you can do this yourself, or it would be better to contract it out.

- If the time, expertise and capacity are available, it is logical to address the action points yourself.
- A number of action points could, however, demand special knowledge and it would be sensible to have these handled by an external party.

You may request a list of external parties you can approach for advice and support from the NVMP Association: info@nvmp.nl.

You might be able to reduce the costs by cooperating with other recycling companies. You could exchange your knowledge and/or form a purchasing cooperative in order to achieve as attractive a price as possible. The sector organisation could very possibly facilitate matters here.

- If you deal with all the action points yourself, it would be reasonable, prior to the WEEELABEX audit, to have an orienting audit conducted. Then, you would not face any surprises.
- It is also advisable to have a batch test conducted beforehand, as you can then establish in advance whether your production process complies with the standards.

A list of WEEELABEX-certified auditors may be found via the WEEELABEX website:
http://www.weeelabex.org/#!auditors/coxh

If the WEEELABEX auditor provides you with advice, this particular auditor may not carry out the official audit of your organisation.

Step 3: Following the procedure to become certified

Once you are sure that your organisation complies with the WEEELABEX standards, you can initiate the certification process. The following steps will be gone through:

- Submission of declaration of intention
- Selection of WEEELABEX auditors
- Receipt of audit plan
- Undergoing the audit
- Receipt of reports
- WEEELABEX certification.

The procedure is also explained in the document 'WEEELABEX Guidance Document for Treatment Operators' on the WEEELABEX website http://www.weeelabex.org/#!operators/c5oj.

◆ Submission of declaration of intention

The submission of the declaration of intention is the start of the certification procedure. By means of the form 'B01 Declaration of Intent', you declare that you are ready to undergo one or more processes for WEEELABEX certification. The form must be completed in English.

The information that needs to be entered is as follows:

- On the front sheet and the first page, you enter the general details of your business.
- In Table 1.1, you state all the categories of appliance that are processed by your installation. Because, according to Dutch legislation, you must be WEEELABEX-certified for all the appliances you process, you will need to enter 'Yes' against all of these categories.
- You indicate in Table 1.2 in which category of processor your business comes. Explanation of the category classification is included in Appendix 'B02 Eligibility for Operators'. You also explain succinctly how processing activities are conducted there.
- In Table 1.3, you indicate roughly how many appliances your business processes annually in each category. You may use the information for the last full year.
- In Table 1.4, you indicate all the licences and permits your business must legally possess. The auditor will assess all these documents fully. You are requested to enclose copies of all these licences and permits. A (full) copy of your site licence must be enclosed with the application to the WEEELABEX office.
- If you have a certified management system (such as ISO 9001 or 14001), then you enter the details of this system in Table 1.5. It is not mandatory to have a certified system.
- In Part 2, you confirm that you are enclosing a diagram of the process stream. The auditor requires this to prepare the audit. A digital version is preferred, but it may also be hand-written if it is clear enough.
  The diagram must provide clear information about:
  - the input material you receive;
  - the treatment process (e.g. manual separation, magnetic separation of ferrous metals etc.);
  - all output (that arises during the treatment process);
  - and its following destination.
- In Part 3, you state that you are ready for the audit.
  - Insofar as batch tests have been done, you may enter the data from these batch tests here.
  - Insofar as batch tests have not yet been done, you declare that you will plan these in and carry them out (or have this done).
  - You declare that monitoring of the removal of hazardous waste is done.

- You indicate or possess all necessary information about your recipients. This concerns copies or information on waste permits, export licences, information about the treatment in the next treatment plant and the final end destination of all output fractions once these have reached final waste status.

You can find the form 'B01 Declaration of Intent' on the WEEELABEX website:
http://www.weeelabex.org/#!operators/c5oj

Within ten days of receipt of the form, the WEEELABEX Office will confirm the request for certification and arrange compliance with WEEELABEX formalities.

◆ Selection of WEEELABEX auditors

You select an audit bureau or lead auditor and make an appointment. Only accredited WEEELABEX auditors may conduct the audit.

A list of accredited auditors in maintained by the WEEELABEX Office and is available on the website: http://www.weeelabex.org/#!auditors/coxh.
If required, the WEEELABEX Office can make the selection.

The lead auditor composes an audit team that possesses the necessary expertise and is appropriate to the extent of audit activities. You will receive confirmation of this.

The lead auditor will supervise the audit team and ensure that all phases of the audit are planned, implemented and formally reported to you and the WEEELABEX office. The lead auditor must (in every case) conduct the general auditor and the later surveillance audit (the following year).

◆ Receipt of audit plan

A least one month prior to the audit, you will receive the audit plan from the lead auditor. The audit plan includes information about the composition of the audit team, the audit process, the employees to be interviewed and the criteria that will be applied. The scope of the WEEELABEX audit will also be defined in the audit plan.

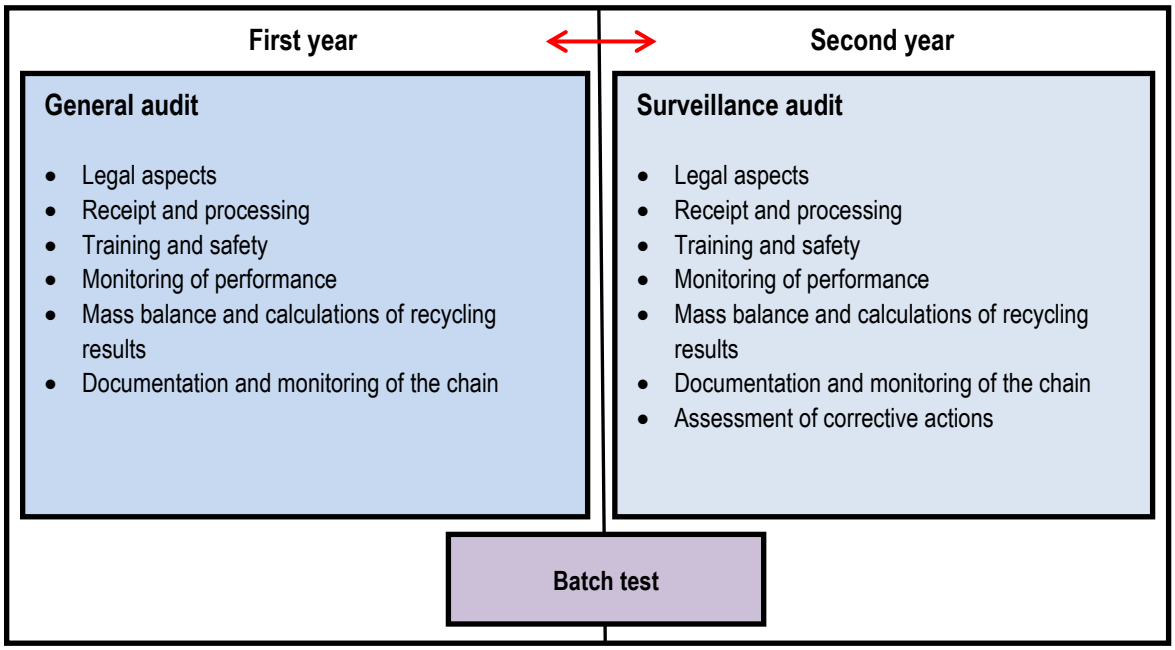
The audit plan is intended to support you in your preparation and planning for the various parts of your operation that are to be assessed. It helps you to determine which of your operation's employees will have to be available for interviews during the audit.

You sign this in approval and send it back to the lead auditor.

◆ Undergoing the audit

On the arranged day, the lead auditor and other members of the audit team check whether your business complies with the stipulations in the WEEELABEX standard.
Upon leaving your business, the auditor will sign the 'Audit statement'. It is defined in this statement what type of audit was conducted and for which product categories.

There are different audits that together form an audit cycle. The audit cycle is presented schematically in the table below.



General audit
The general audit is carried out in the first year of the cycle. It is the formal and primary evaluation of whether your operations comply with the WEEELABEX standard. The existence and operation of all requirements are thoroughly investigated. The recycling process is extensively investigated on site.

Surveillance audit
The surveillance audit is conducted by the lead auditor in the following year. The purpose is to determine whether you have effectively remedied the non-conformity that was observed in the general audit by means of corrective actions.

Batch test
A batch test must take place for each treatment stream, before the audit can be completed and certification can take place. The test must be implemented within six months of the general audit. The extent of the batch test depends on the capacity of the plant.
The batch test must comply with the conditions of Annex C of the WEEELABEX standard for treatment. Samples are taken from the output. These are sent to a recognised laboratory, where they are tested against the limit values.
The batch test is only valid if it is conducted or supervised by a WEEELABEX auditor. You may conduct the test yourself (or have it carried out), but a WEEELABEX auditor must always be witness to the correct conduct of a batch test.

Receipt of reports

- You will receive a copy of the draft audit report from the WEEELABEX lead auditor within ten working days after the completion of the general audit. You will be given the opportunity to comment on the draft audit report within two working days of its receipt.
- Once the batch test has been done, its results are added to the audit report and the lead auditor completes this report. You will receive a version of the final audit report and, again, you may submit comments within two working days of its receipt.
- As well as the audit report, you will receive an audit summary report in which (insofar as applicable) the non-conformity is recorded that you will have to remedy before the audit can be terminated.

WEEELABEX certification

If you comply with the WEEELABEX requirements, the WEEELABEX office records the outcome for a certain process. Conformity with the WEEELABEX requirements leads to the process becoming a 'WEEELABEX process' and your business becomes a 'WEEELABEX operator' for the process concerned.
Once you make an agreement with the WEEELABEX office and pay the registration costs (€300 one-off and €500 annually), a listing on the WEEELABEX website follows. As part of this, you receive an attestation of conformity.
Your business is included in the list 'Registered WEEELABEX Operators' on the WEEELABEX website: http://www.weeelabex.org/#!operators/c5oj.

Submission of appeal

If you disagree with the results of the audit, you have the right (within fifteen days of receipt of the decision) to appeal against the decision.
The grounds of the appeal will be restricted to the results of the WEEELABEX verification of conformity.
The WEEELABEX Office will provide you with the names of at most four independent Appeal Auditors. You appoint (and pay) two Appeal Auditors, who receive a copy of the file, to determine whether or not formal and/or material errors have been made.
If at least one auditor considers that errors were made, or no conclusion can be reached by means of a desktop study of the case, the two Appeal Auditors will have to conduct a new audit. After completion of their investigation, they will supply their decision and a report to the WEEELABEX Office.
The Board of Appeal's definition is final.

Annex 1 Terms and definitions

Terms & definitions

Batch
Manual or mechanical processing of a definite and well-defined amount of WEEE or fractions thereof to determine the yields and compositions of the resulting output fractions and de-pollution performance.

Component
Element of an appliance with a distinct proper function as part of a device as a larger unit.
NOTE Typical components of WEEE are batteries, capacitors, printed circuit boards, CRT and hard disks.

CRT (Cathode Ray Tube)
Vacuum tube containing an electron gun and a fluorescent screen used to create images in the form of light emitted from the fluorescent screen.
NOTE The CRT vacuum tube consists of a screen, cone, frit glass, shadow mask (only for colour CRTs), anti-implosive metal frame, and an electron gun.

CRT display appliance
Complete TV set or whole computer monitor containing a cathode ray tube (CRT) or CRT with related deflection coil.

De-pollution
Selective treatment during which hazardous wastes and other components are removed from appliances.
NOTE The term "de-pollution" describes the selective treatment for materials and components of appliances as per Annex II of Directive 2002/96/EC.

Disposal
Any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy.
NOTE The term "disposal" is defined in Directive 2008/98/EC; Annex I of the Directive 2008/98/EC sets out a non-exhaustive list of disposal operations.

End-of-waste
Fractions may cease to become waste and be regarded as a secondary product following a recovery or recycling operation in compliance with specific criteria according to Article 6 of Directive 2008/98/EC.
NOTE The term "end-of-waste status" is described in Directive 2008/98/EC.

Energy recovery
Use principally as a fuel or other means to generate energy; including reprocessing into materials that are to be used as fuels.
NOTE Energy recovery is defined in accordance with Annex II (Selective treatment of materials and components of WEEE) of Directive 2008/98/EC.

Flat panel display
Thin screen equipment, larger than 100 square centimetres (cm^2), using technologies that produce and display an image without the use of cathode ray tubes
NOTE Examples of flat panel displays include LCD TV, Plasma TV, LCD screens and monitors, and notebooks.

Fraction
Separate material stream generated by treatment of appliances, including de-pollution, dismantling or any other treatment process.

Hazardous waste
Waste which displays one or more hazardous properties.
NOTE The properties of hazardous waste are described in Annex III of Directive 2008/98/EC

Lamps
Gas discharge lamps and retrofit LED lamps within the scope of Directive 2002/96/EC.
NOTE Retrofit LED lamps are LED lamps used in exchange for CFL or GLS lamps and fit in sockets for these applications

Logistics
Process of planning, implementing, and controlling the efficient and effective flow of appliances in order to achieve appropriate treatment. Logistics involves sorting, handling, storage, and preparation for transport with the intention to deliver to treatment facilities.

Material recovery
Any recovery operation excluding energy recovery and reprocessing into materials which are to be used as fuel.

Flat panel module
Part of the flat panel display containing the components that produces images, including the lighting and the diffusive elements and excluding the casings, printed circuit boards and speakers.

Operator
Entity performing operations with appliances in accordance with the WEEELABEX normative document.
NOTE Operations with WEEE may include collection, handling, shipping, sorting, storage, transport, trading, treatment, or preparing for re-use.

Recovery
Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.
NOTE In accordance with Directive 2008/98/EC; Annex II of Directive 2008/98/EC sets out a non-exhaustive list of recovery operations.

Recycling
Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.
NOTE The term "recycling" is defined in Directive 2008/98/EC.

Removal
manual, mechanical or metallurgic handling with the result that hazardous substances, preparations and components are contained as an identifiable (part of a) stream at the end of the treatment process.
NOTE A substance, preparation or component is identifiable if it can be monitored to prove environmentally safe treatment, in accordance with Directive 2002/96/EC.

Treatment
Recovery or disposal operations, including any preparation prior to recovery or disposal.
NOTE The term "treatment" is defined in Directive 2008/98/EC.

Treatment facility
Location where appliances undergo treatment.

Waste
Any substance or object that the holder discards or intends or is required to discard.
NOTE The term "waste" is defined in Directive 2008/98/EC.

WEEE (Waste Electrical and Electronic Equipment)
Electrical or electronic equipment which is waste, including all components, subassemblies and consumables which are part of the product at the time of discarding.
NOTE The term "WEEE" is defined in Directive 2002/96/EC.

Annex 2 Selective treatment of WEEE

(Annex VII Directive 2012/19/EU)

ANNEX VII

Selective treatment for materials and components of waste electrical and electronic equipment referred to in Article 8(2)

1. As a minimum the following substances, mixtures and components have to be removed from any separately collected WEEE:

- polychlorinated biphenyls (PCB) containing capacitors in accordance with Council Directive 96/59/EC of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT) (1),
- mercury containing components, such as switches or backlighting lamps,
- batteries,
- printed circuit boards of mobile phones generally, and of other devices if the surface of the printed circuit board is greater than 10 square centimetres,
- toner cartridges, liquid and paste, as well as colour toner,
- plastic containing brominated flame retardants,
- asbestos waste and components which contain asbestos,
- cathode ray tubes,
- chlorofluorocarbons (CFC), hydrochlorofluorocarbons (HCFC) or hydrofluorocarbons (HFC), hydrocarbons (HC),
- gas discharge lamps,
- liquid crystal displays (together with their casing where appropriate) of a surface greater than 100 square centimetres and all those back-lighted with gas discharge lamps,
- external electric cables,
- components containing refractory ceramic fibres as described in Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (2),
- components containing radioactive substances with the exception of components that are below the exemption thresholds set in Article 3 of and Annex I to Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation (3),
- electrolyte capacitors containing substances of concern (height > 25 mm, diameter > 25 mm or proportionately similar volume).

These substances, mixtures and components shall be disposed of or recovered in compliance with Directive 2008/98/EC.

2. The following components of WEEE that is separately collected have to be treated as indicated:

- cathode ray tubes: the fluorescent coating has to be removed,

(1) OJ L 243, 24.9.1996, p. 31.
(2) OJ L 343, 13.12.1997, p. 19.
(3) OJ L 159, 29.6.1996, p. 1.

- equipment containing gases that are ozone depleting or have a global warming potential (GWP) above 15, such as those contained in foams and refrigeration circuits: the gases must be properly extracted and properly treated. Ozone-depleting gases must be treated in accordance with Regulation (EC) No 1005/2009,
- gas discharge lamps: the mercury shall be removed.

3. Taking into account environmental considerations and the desirability of preparation for re-use and recycling, points 1 and 2 shall be applied in such a way that environmentally-sound preparation for re-use and recycling of components or whole appliances is not hindered.

Annex 3 Checklist Inventory of Conformity

	General and Legal requirements and document management	
1	a) Do you hold all necessary permits and/or licenses in compliance with National laws and European Community legislation? b) Do you keep and update a record showing compliance? c) Can you demonstrate that all of the conditions and requirements set down in the permits are respected? d) Are all the necessary and required permits, licenses, and authorizations available for inspection?	
2	Is there a living procedure to identify the applicable legal requirements?	
3	Is there a documented management system in place for health, safety, environment and quality?	
4	Can continuous improvement (and regular updates) of the management system be demonstrated?	
5	Regarding the disposal options, priority shall be set to avoid long-term emissions from landfills. Can you demonstrate you consider the waste hierarchy for disposal of fractions?	
6	Do you have insurance or other financial resources in place to cover all risks and liabilities arising from the operations of the facility?	
	Downstream monitoring and documents	
7	a) Are the logistics operators' legal authorizations available? (for the first step of the chain) b) Is there a structured document available showing the whole downstream chain (for whole appliances/fractions etc.) as long as they have not reach the end-of-waste status? c) Can you demonstrate where all of the appliances arising at your facility has originated from? d) Can you prove where all of the whole appliances and fractions leaving your facility has been delivered to? e) If you transfer any unprocessed whole appliances or appliances partially de-polluted from your facility to another treatment facility, can you ascertain that this particular facility is compliant with the WEEELABEX Standard? f) Can you provide evidence of the legal authorizations (licenses; permits etc.) for downstream routes of non-pure/hazardous waste? g) For every output and each step of the chain, can you demonstrate the description of the fractions (% in mass, purity), the final acceptor, the treatment technology and the recycling quotas available?	
8	Can you provide evidence that the incoming deliveries of appliances and outgoing deliveries of untreated whole appliances/fractions is balanced in an annual overview (including considerations of stock in hand)?	
9	Can you exhibit that all directly exported fractions are correctly shipped in line with the Waste Shipment Regulations?	

	Infrastructure	
10	a) Is your facility designed, organised, and maintained to provide safe access to and egress from the site? b) Is the site secured against access by unauthorised persons? c) Are the treatment facilities secured to prevent damage to and theft of APPLIANCES and components thereof?	
11	Do storage areas for appliances have impermeable surfaces and with sealed drainage that has a spillage collection facility within the drainage system?	
12	Is there weatherproof covering in storage areas for appliances suitable for reuse and / or appliances containing regulated and/or hazardous fractions (CRTs; flat panels; batteries etc.)?	
13	Are all the storage areas/bunkers and containers, clearly identified and labelled with the description of the fractions?	
14	Are all fractions containing hazardous substances kept separated from other wastes and stored in a manner that prevents dispersal of the hazardous material to the environment?	
15	Are the components and fractions listed in WEEELABEX clause 5.6.2 stored under weatherproof covering and do the storage areas meet any additional storage conditions or requirements as set out in permits or licenses and / or legislation?	
	Recycling targets and batches	
16	Are operations arranged such and is work carried out in a way that mandatory recycling results can be achieved?	
17	Are systems set such and is registered in a manner that the results of recycling can be calculated in accordance with Annex D of the WEEELABEX standard?	
18	Can you demonstrate, by means of documents, reaching the minimum targets for each WEEE category treated?	
19	For every output and each step of the chain, is the description of the fractions (% in mass, purity), the final acceptor, the treatment technology and the recycling quotas available?	
20	Can you demonstrate, by means of a monitoring system, that the day-to-day de-pollution process is comparable to the batch?	
21	a) Is a method present to analyse the composition of every output fraction? b) For every output fraction, is the composition analysed in order to determine the purity and de-pollution performance?	
	Operating Processes	
22	a) Are operations arranged such and is work carried out in a manner that preparation for re-use, de-pollution or recovery is not adversely affected or inhibited? b) Is work performed in such a manner that release of hazardous substances into air, water, or soil, as a result of damage and/or leakage is avoided?	
23	Are appliances received correctly sorted into separate treatment streams?	
24	Are operations arranged such that and monitored in a manner to prevent exceeding of the maximum admissible storage?	
25	Is work carried out in such way that hazardous substances, preparations and components are removed in accordance with regulation?	

	De-pollution monitoring	
26	Are operations arranged such and is work carried out in way that hazardous substances are not released to the environment or distributed to fractions?	
27	Are operations arranged such andis work carried out in a way that hazardous wastes are not diluted?	
28	Are all the fractions thereof containing regulated substances, mixtures and components identified and managed in the correct way?	
29	Is work carried out in such way that if there is no sorting/segregation procedure or no clear identification on the equipment to determine the nature of the incoming appliances are treated as "regulated" appliances regardless of actual nature?	
30	Are operations arranged such and is work carried out in a way that the batch test and analysis of shredder fraction can be executed effectively?	
31	Can you demonstrate, by means of documents, that these substances are not destroyed?	
	Training & Facility safety	
32	a) Can you demonstrate that employees and contractors working at the treatment facility are provided with appropriate training and information? b) Are training materials easily accessible to all employees at all times? c) Are all employees at the treatment facility in fact familiar with the safety procedures?	
33	Is a documented emergency plan available and is this plan regularly updated?	
34	a) Is a documented risk assessment available which addresses all the APPLIANCES related activities performed on site? Are provisions of the risk assessment actually respected? b) Is personal protective equipment (as determined by the risk assessment) provided by the operator and used by the employees correctly?	

Catalogue of initiatives

General and Legal requirements and document management		
Checklist no.	**Comments**	**Actions**
Downstream monitoring and documents		
Checklist no.	**Comments**	**Actions**
Infrastructure		
Checklist no.	**Comments**	**Actions**

Recycling targets and batches		
Checklist no.	**Comments**	**Actions**

Operating Processes		
Checklist no.	**Comments**	**Actions**

De-pollution monitoring		
Checklist no.	**Comments**	**Actions**
Training & Facility safety		
Checklist no.	**Comments**	**Actions**