

**Conference of the Parties to the Basel Convention
on the Control of Transboundary Movements of
Hazardous Wastes and Their Disposal
Twelfth meeting**

Geneva, 4–15 May 2015

Agenda item 4 (b) (i)

**Matters related to the implementation of the Convention:
scientific and technical matters: technical guidelines**

**Technical guidelines on transboundary movements of electrical and
electronic waste and used electrical and electronic equipment, in
particular regarding the distinction between waste and non-waste
under the Basel Convention**

Submission by the contact group on technical matters

Note by the Secretariat

The annex to the present note contains a revised version of the annex to document UNEP/CHW.12/5/Add.1 on the technical guidelines on transboundary movements of electrical and electronic waste and used electrical and electronic equipment, in particular regarding the distinction between waste and non-waste under the Basel Convention as submitted by the contact group on technical matters for adoption by the Conference of the Parties. The submission is reproduced as received, without formal editing.

Annex

Draft technical guidelines on transboundary movements of electrical and electronic waste and used electrical and electronic equipment, in particular regarding the distinction between waste and non-waste under the Basel Convention

(Draft of 14 May 2015)

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Acronyms and abbreviations

AQSIQ	Administration of Quality Supervision, Inspection and Quarantine of China
BAN	Basel Action Network
BC	Basel Convention
BCRC-SEA	Basel Convention Regional Centre for South-East Asia
BFR	Brominated flame retardant
CCIC	China Certification & Inspection Group
CFCs	Chlorofluorocarbons
CMR	Convention relative au contrat de transport international de marchandises par route (Convention on the Contract for the International Carriage of Goods by Road)
CRT	Cathode ray tubes
EC	European Community
ESM	Environmentally sound management
EU	European Union
HS	Harmonized Commodity Description and Coding System (or short form Harmonized System)
HSA	Health and Safety Authority
ICT	Information and communications technologies
ILO	International Labour Organization
kg	Kilogram
LCD	Liquid crystal display
mg	Milligram
MPPI	Mobile Phone Partnership Initiative
OECD	Organization for Economic Cooperation and Development
OHS	Occupational health and safety
OHSAS	Occupational health and safety assessment series
PACE	Partnership for Action on Computing Equipment
PBBs	Polybrominated biphenyls
PCBs	Polychlorinated biphenyls
PCNs	Polychlorinated naphthalenes
PCTs	Polychlorinated terphenyls
PVC	Polyvinylchloride
RCA	Root Cause Analysis
RoHS	Restrictions of the use of certain Hazardous Substances in electrical and electronic equipment
StEP	Solving the e-waste problem
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNU	United Nations University
TBM	Transboundary movement
WCO	World Customs Organization

I. Introduction

A. Scope

1. The present technical guidelines provide guidance on transboundary movements of waste electrical and electronic equipment (e-waste) and used electrical and electronic equipment (used equipment) that may or may not be e-waste, in particular on the distinction between waste and non-waste, pursuant to decisions IX/6, BC-10/5, BC-11/4 and BC-12/... of the Conference of the Parties to the Basel Convention on the control of Transboundary Movement of Hazardous Wastes and Their Disposal (the Convention).
2. These guidelines focus on clarifying aspects related to transboundary movements of e-waste and used equipment that may or may not be waste. Countries define and evaluate the distinction between waste and non-waste in different manners when considering used equipment destined e.g. for direct reuse, or extended use by the original owner, for the purpose for which it was conceived or for failure analysis, repair and refurbishment. Certain Parties may consider used equipment destined for failure analysis, repair, or refurbishment to be waste, while others may not. Further these guidelines consider which e-waste is hazardous waste or "other waste" and therefore would fall under the provisions of the Convention. Such distinctions will be helpful for enforcement agencies to assess if the provisions of the Basel Convention for transboundary movements apply, as the Convention only applies to hazardous wastes and other wastes.
3. Only the transboundary transport of whole used equipment and components that can be removed from equipment, be tested for functionality, and either be subsequently directly reused, sent for failure analysis, or reused after repair or refurbishment, is considered in these guidelines. For the purpose of these guidelines, the term equipment also covers such components¹. The transboundary movement of materials e.g. metals, plastics, PVC-coated cables or activated glass, removed or derived from the dismantling or recycling of e-waste that are waste is not addressed in these guidelines, whether or not it falls under the provisions of the Convention.
4. These guidelines provide:
 - (a) Information on the relevant provisions of the Convention applicable to transboundary movements of e-waste;
 - (b) Guidance on the distinction between waste and non-waste when used equipment is moved across borders;
 - (c) Guidance on the distinction between hazardous waste and non-hazardous waste when used equipment is moved across borders;
 - (d) General guidance on transboundary movements of hazardous e-waste and used equipment and enforcement of the control provisions of the Convention.
5. These guidelines are intended for government agencies including enforcement agencies that wish to implement, control and enforce legislation and provide training regarding transboundary movements. They are also intended to inform all actors involved in the management of e-waste and used equipment so they can be aware of the application of the Basel Convention and other considerations when preparing or arranging for transboundary movements of such items.
6. Their application should help reduce transboundary movements of e-waste in the scope of the Convention to the minimum consistent with the environmentally sound and efficient management of such wastes and reduce the environmental burden of e-waste that currently may be exported to countries and facilities that cannot handle it in an environmentally sound manner.
7. These guidelines do not address other aspects of environmentally sound management of e-wastes such as collection, treatment and disposal. These aspects may be covered where appropriate in other guidance documents. In particular a series of guidelines were developed in the context of the following public-private partnership initiatives under the Basel Convention (on the decisions of the Conference of the Parties regarding these guidelines, see decisions BC-10/20, BC-10/21 and BC-11/15):
 - (a) Mobile Phone Partnership Initiative (MPPI):

¹ Definitions and explanations regarding the terms used in these guidelines are included in a glossary of terms in appendix I to the present document.

- (i) Revised guidance document on the environmentally sound management of used and end-of-life mobile phones (UNEP/CHW.10/INF/27/Rev.1);
 - (ii) Awareness-raising and design considerations (MPPI, 2009a);
 - (iii) Collection (MPPI, 2009b);
 - (iv) Transboundary movement (MPPI, 2009 c);
 - (v) Refurbishment (MPPI, 2009 d);
 - (vi) Material recovery and recycling (MPPI, 2009 e);
- (b) Partnership for Action on Computing Equipment (PACE):
- (i) Sections 1, 2, 4 and 5 of the guidance document on the environmentally sound management of used and end-of-life computing equipment (UNEP/CHW.11/6/Add.1/Rev.1);
 - (ii) Environmentally sound management criteria recommendations;
 - (iii) Guidelines on environmentally sound testing, refurbishment, and repair of used computing equipment;
 - (iv) Guidelines on environmentally sound material recovery and recycling of end-of-life computing equipment;
 - (v) Guidelines on transboundary movement (TBM) of used and end-of-life computing equipment.

B. About e-waste

8. The volume of e-waste being generated is growing rapidly, due to the wide use of equipment, both in developed countries and in developing countries. The total amount of global e-waste generated in 2005 was estimated to be 40 million tonnes (StEP, 2009). The latest estimates indicate that in 2012 an amount of 48.9 million tonnes of e-waste was generated globally (Huisman, 2012). The amount of e-waste in the European Union was estimated at between 8.3 and 9.1 million tonnes in 2005 and expected to reach some 12.3 million tonnes in 2020 (United Nations University, 2007). Currently e-waste is exported to countries that are not likely to possess the infrastructure and societal safety nets to prevent harm to human health and the environment, due to factors such as exports being less expensive than managing the waste domestically, the availability of markets for raw materials or recycling facilities and the location of manufacturers of electrical and electronic equipment. However, there are also examples of formal recycling facilities in developing countries and economies in transition that are repairing, refurbishing and recycling used equipment and e-waste in an environmentally sound manner. However, in some cases the conditions outside the facility, e.g. the downstream waste management may not provide environmentally sound management.

9. As a result of the EU Directive on Restrictions of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS)² and similar national legislation elsewhere, the use of hazardous substances in various electrical and electronic equipment has been greatly reduced or eliminated in recent years. However, certain types of e-waste may still contain hazardous substances such as lead, cadmium, mercury, POPs, asbestos and CFCs that pose risks to human health and the environment when improperly disposed of or recycled and that require specific attention as to their environmentally sound waste management. In most developing countries and countries with economies in transition, the capacity to manage the hazardous substances in e-waste is lacking. As an example, as regards the informal recovery industry in Asia there is clear evidence that the practice exploits women and child labourers who cook circuit boards, burn cables and submerge equipment in toxic acids to extract precious metals such as gold (Schmidt, 2006) and subjects them and their communities to damaged health and a degraded environment. Moreover, the techniques used by the informal sector are not only damaging human health and the environment, often they also perform poorly in recovering valuable resources, squandering precious resources such as critical metals for future use. Even management of non-hazardous wastes can cause significant harm to human health and the environment if not undertaken in an environmentally sound manner.

² Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. OJ L 174, 1.7.2011, p 88-110.

10. E-waste contains valuable materials that can be recovered for recycling including iron, aluminium, copper, gold, silver, platinum, palladium, indium, gallium and rare earth metals, thus contributing to sustainable resource management. The extraction of all of these metals from the Earth has a significant environmental impact. The recovery and use of such materials as raw materials after they have become waste can increase the efficiency of their use and lead to conservation of energy and reduction in greenhouse gas emissions when adequate technologies and methods are applied.

11. Direct reuse or reuse after repair or refurbishment can contribute even more to sustainable development. Reuse extends the life of equipment, which reduces the environmental footprint of the resource-intensive production processes of the equipment. It may also provide access to such equipment for groups in society that otherwise would not have access to it due to reduced costs of second-hand equipment. In many instances, there are regional facilities that are specialized and have trained personnel in order to properly repair or refurbish used equipment. As these facilities are not present in all countries, used equipment destined for repair or refurbishment may need to be moved across borders prior to reuse.

12. Failure to handle equipment properly can have negative impacts and often entail disposal when parts are replaced and discarded. The lack of clarity in defining when used equipment is waste and when it is not has led to a number of situations where such equipment is exported to, in particular, developing countries ostensibly for reuse but where a large percentage of these goods are in fact not suitable for further use or are not marketable and must be disposed of in the developing country as waste.

II. Relevant provisions of the Basel Convention

A. General provisions of the Basel Convention

13. The Basel Convention aims to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements and disposal of hazardous and other wastes.

14. Paragraph 1 of Article 2 (“Definitions”) of the Basel Convention defines wastes as “substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law”. In paragraph 4 of that Article, it defines disposal as “any operation specified in Annex IV” to the Convention. In paragraph 8, it defines the environmentally sound management of hazardous wastes or other wastes as “taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes”.

15. Article 4 (“General obligations”), paragraph 1, establishes the procedure by which parties exercising their right to prohibit the import of hazardous wastes or other wastes for disposal shall inform the other parties of their decision. Paragraph 1 (a) states: “Parties exercising their right to prohibit the import of hazardous or other wastes for disposal shall inform the other parties of their decision pursuant to Article 13”. Paragraph 1 (b) states: “Parties shall prohibit or shall not permit the export of hazardous or other wastes to the parties which have prohibited the import of such waste when notified pursuant to subparagraph (a) above”.

16. Article 4, paragraphs 2 (a) to (e) and 2 (g), contain key provisions of the Basel Convention pertaining to environmentally sound management, transboundary movement, waste minimization and waste disposal practices that mitigate adverse effects on human health and the environment:

“Each party shall take the appropriate measures to:

- (a) Ensure that the generation of hazardous wastes and other wastes within it is reduced to a minimum, taking into account social, technological and economic aspects;
- (b) Ensure the availability of adequate disposal facilities, for the environmentally sound management of hazardous wastes and other wastes, that shall be located, to the extent possible, within it, whatever the place of their disposal;
- (c) Ensure that persons involved in the management of hazardous wastes or other wastes within it take such steps as are necessary to prevent pollution due to hazardous wastes and other wastes arising from such management and, if such pollution occurs, to minimize the consequences thereof for human health and the environment;
- (d) Ensure that the transboundary movement of hazardous wastes and other wastes is reduced to the minimum consistent with the environmentally sound and efficient management

of such wastes, and is conducted in a manner which will protect human health and the environment against the adverse effects which may result from such movement”.

(e) Not allow the export of hazardous wastes or other wastes to a State or group of States belonging to an economic and/or political integration organization that are parties, particularly developing countries, which have prohibited by their legislation all imports, or if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner, according to criteria to be decided on by the parties at their first meeting;

(f) Prevent the import of hazardous wastes and other wastes if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner.”

17. Hazardous wastes and other wastes should, as far as is compatible with environmentally sound and efficient management, be disposed of in the country where they were generated (preambular paragraph 8). Transboundary movements of such wastes from the State of their generation to any other State should be permitted only when conducted under conditions which do not endanger human health and the environment (preambular paragraph 9). In addition, transboundary movements of such wastes are permitted only if:

(a) Such wastes, if exported, are managed in an environmentally sound manner in the country of import or elsewhere (Article 4, paragraph 8);

(b) One of the following conditions is met (Article 4, paragraph 9):

(i) If the country of export does not have the technical capacity and the necessary facilities to dispose of the wastes in question in an environmentally sound and efficient manner; or

(ii) If the wastes in question are required as a raw material for recycling or recovery industries in the country of import; or,

(iii) If the transboundary movement in question is in accordance with other criteria decided by the parties.

B. Control procedure for transboundary movements of waste

18. Any transboundary movements of hazardous and other wastes are subject to prior written notification from the exporting country and prior written consent from the importing and, if appropriate, transit countries (Article 6, paragraphs 1 to 4). Parties shall prohibit the export of hazardous wastes and other wastes if the country of import prohibits the import of such wastes (Article 4, paragraph 1 (b)). Some countries have implemented national prohibitions, inter alia following Decision III/1 including an amendment to the Convention banning the export of hazardous wastes from OECD/EU countries and Liechtenstein (proposed Annex VII) to non-Annex VII countries that has not entered into force. The Basel Convention also requires that information regarding any proposed transboundary movement is provided using the accepted notification form (Article 4, paragraph 2 (f)) and that the approved consignment is accompanied by a movement document from the point where the transboundary movement commences to the point of disposal (Article 4, paragraph 7 (c)).

19. Furthermore, hazardous wastes and other wastes subject to transboundary movements should be packaged, labelled and transported in conformity with international rules and standards (Article 4, paragraph 7 (b)).³

20. When transboundary movement of hazardous and other wastes to which consent of the countries concerned has been given cannot be completed, the country of export shall ensure that the wastes in question are taken back into the country of export if alternative arrangements cannot be made for their disposal in an environmentally sound manner (Article 8, first sentence). In the case of illegal traffic (as defined in Article 9, paragraph 1) as the result of the conduct on part of the exporter or generator, the country of export shall ensure that the wastes in question are

(a) Taken back by the exporter or the generator or, if necessary, by itself into the State of export; or if impracticable;

(b) Otherwise disposed of in accordance with the provisions of the Convention (Article 9, paragraph 2).

³In this connection, the United Nations Recommendations on the Transport of Dangerous Goods (Model Regulations) (ECE, 2003a – see annex V, Bibliography) or later versions should be used.

21. No transboundary movements of hazardous wastes and other wastes are permitted between a party and a non-party to the Convention (Article 4, paragraph 5) unless a bilateral, multilateral or regional arrangement exists, as required under Article 11 of the Convention.

C. Definitions of waste and hazardous waste

22. The Convention defines waste as “substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law” (Article 2, paragraph 1). It defines disposal in article 2, paragraph 4, as “any operation specified in Annex IV to this Convention”. It is important to note that national provisions concerning the definition of waste may differ and, therefore, the same material may be regarded as waste in one country but as non-waste in another country.

23. Hazardous waste is defined in the Convention as “wastes that belong to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex III; (definition in article 1, paragraph 1(a)) and wastes that are not covered under paragraph 1(a) but are defined as, or considered to be, hazardous wastes by the domestic legislation of the party of export, import or transit” (definition in article 1, paragraph 1(b)). The definition of hazardous waste therefore incorporates domestic law such that material regarded as a hazardous waste in one country but not in another country is defined as hazardous waste under the Convention. The Convention also requires that parties inform the other parties, through the Secretariat of the Convention, of their national definitions (article 3). Providing detailed and specific information on the national definitions of hazardous waste can promote compliance and avoid ambiguity concerning the applicability of national definitions.

24. To aid in distinguishing hazardous wastes from non-hazardous wastes for the purpose of Article 1, paragraph 1 (a), two annexes have been inserted into the Convention. Annex VIII includes wastes considered to be hazardous according to Article 1, paragraph 1 (a), of the Convention unless they do not possess any of the characteristics of Annex III. Annex IX includes wastes that are not covered by Article 1, paragraph 1 (a), unless they contain Annex I material to an extent causing them to exhibit an Annex III characteristic. Both Annex VIII and Annex IX include listings for various types of e-waste. More information on the distinction between hazardous and non-hazardous e-waste is included in section IV. B of these guidelines.

III. Guidance on the distinction between waste and non-waste

A. General considerations

25. To determine if used equipment is waste it may be necessary to examine all circumstances including the history of an item and its proposed fate on a case-by-case basis. However, there are characteristics of the used equipment that are likely to indicate whether it is waste or not.

26. Without prejudice to paragraph 30 below, where the person who arranges the transport of used equipment, claims that this is intended to be or is a transboundary transport of used equipment intended for direct reuse, or extended use by the original owner, for the purpose for which it was conceived (30a) or for failure analysis, repair and refurbishment (30b) and not e-waste, the evidence as required in paragraph 30 should be provided or be in place to support this claim to an authority on its request (prior to and further during the transport).

27. A Party not wishing to allow the import or export of used electrical and electronic equipment destined for failure analysis, repair or refurbishment is fully entitled to do so in compliance with international, regional and national legal instruments, and should notify the Secretariat of the Basel Convention with reference to Articles 3 and 13.2, as appropriate.

27 bis Where a party considers used electrical and electronic equipment to be hazardous waste, both the exporting and importing parties should comply with the Basel Convention including the prior-informed-consent (PIC) procedure.

28. Without prejudice to paragraph 30 below, a Party wishing the import of used electrical and electronic equipment destined for failure analysis, repair or refurbishment should notify the Secretariat of the Basel Convention with reference to Articles 3 and 13.2, as appropriate, that they do not consider such used equipment to be waste when destined for:

- any facility in their country that performs such operations or;

- facilities they have specifically identified, but not to any other facilities.

B. Situations where used equipment should normally be considered waste, or not be considered waste

29. Used equipment is waste in a country if it is defined or considered as waste under the provisions of its national legislation. Without prejudice to paragraph 30, used equipment should normally be considered waste if:

- (a) The equipment is destined for disposal or recycling, instead of failure analysis or reuse, or its fate is uncertain;
- (b) The equipment is not complete - essential parts are missing and the equipment cannot perform its key functions;
- (c) It shows a defect that materially affects its functionality and fails relevant functionality tests;
- (d) It shows physical damage that impairs its functionality or safety, as defined in relevant standards, and cannot be repaired at reasonable cost;
- (e) The protection against damage during transport, loading and unloading operations is inappropriate, e.g. the packaging or stacking of the load is insufficient;
- (f) The appearance is particularly worn or damaged, thus reducing the marketability of the item(s);
- (g) The item has among its constituent part(s) hazardous components that are required to be disposed of under national legislation or are prohibited to be exported or prohibited for use in such equipment under national legislation;⁴
- (h) There is no regular market for the equipment;
- (i) It is destined for disassembly and cannibalization (to gain spare parts); or
- (j) The price paid for the items is significantly lower than would be expected from fully functional equipment intended for reuse;

30. Used equipment should normally not be considered waste:

- (a) Where used equipment is not destined for any of the operations listed in Annex IV of the Convention (recovery or disposal operations) and is destined for **direct reuse, or extended use by the original owner**, for the purpose for which it was conceived the following should be provided or be in place prior to, and further, during the transport:
 - (i) A copy of the invoice and contract relating to the sale and/or transfer of ownership of the used equipment, and documentation accompanying the transport according to paragraph 36 and Appendix II, including inter alia a signed declaration that indicates that the used equipment has been tested and is destined for direct reuse and fully functional and includes information on the further user or, where this is not possible, the retailer or distributor;
 - (ii) Evidence of evaluation or testing⁵ in the form of a copy of the records (certificate of testing – proof of functionality) on every item within the consignment and a protocol containing all record information (see section III C below);
 - (iii) A declaration made by the person who arranges the transport of the equipment that none of the equipment within the consignment is defined as or considered to be waste in any of the countries involved in the transport (countries of export and import, and, if applicable countries of transit);
 - (iv) Each piece of equipment is individually protected against damage and to prevent hazards during transportation, loading and unloading, in particular through sufficient packaging and stacking of the load.

⁴ E.g. asbestos, PCBs, CFCs. The use of these substances is phased out or prohibited in the context of multilateral environmental agreements or in national legislation of certain countries for certain applications.

⁵ Testing of used equipment should be performed before shipment in the country of export.

(b) When the person who arranges the transport of used equipment that is destined for **failure analysis, or for repair and refurbishment** with the intention of reuse or extended use by the original owner for the same purpose for which it was conceived where the criteria in sub- paragraph a (iii) and (iv) above and all of the following conditions are met:

- (i) Documentation according to paragraph 31 accompanies the transport;
- (ii) A valid contract exists¹² between the person who arranges the transport and the legal representative of the facility where the equipment is to be repaired or refurbished, or is intended to undergo failure analysis. The contract should contain a minimum set of provisions, including the following:
 - the intention of the transboundary transport (failure analysis, repair or refurbishment);
 - adhering to the principles of ESM for the treatment of any residual hazardous waste that may have been generated through the failure analysis, repair or refurbishment activities;
 - a provision that states the responsibility of the person who arranges the transport to comply with applicable national legislation and international rules, standards and Basel Convention guidelines. To ensure it, provisions below should be included.
 - allocation of the responsibility throughout the whole processes from the export until they are either analyzed or repaired or refurbished to be fully-functional, including the case the equipment is not accepted by the facility and has to be taken back.
 - a provision engaging the facility to provide the person who arranges the transport a feedback report on the failure analysis, repair or refurbishment activities that were applied to the equipment and on the management of any residual hazardous waste that may have been generated from these activities. If appropriate the contract may include the possibility of the review of the report by the person who arranged the transport or a third party

31. The documentation accompanying the transport of used equipment falling under paragraph 30 (a) should contain the information referred to in paragraphs 30(a) and 36. The documentation accompanying the transport of used equipment falling under paragraph 30(b) should contain the following information¹⁴: A recommended form for the documentation according to paragraph 30 (b) is contained in Appendix III.

- (a) Name (including contact details) of the person who arranges the transport, and of the receiving facility;
- (b) Description of the equipment (e.g. name);
- (c) Quantity of equipment;
- (d) Purpose of the transboundary transport (e.g. failure analysis, repair, refurbishment)
- (e) Start date of the transport;
- (f) Countries concerned;
- (g) Signed declaration by the person who arranges the transport of the equipment on the existence of a contract according to paragraph 30(b)(ii) and that this person will provide additional information to authorities on request, and including the declaration according to paragraph 30(a) (iii).

31 bis. Upon receipt of the transport, the receiving facility should provide a signed declaration of receipt.

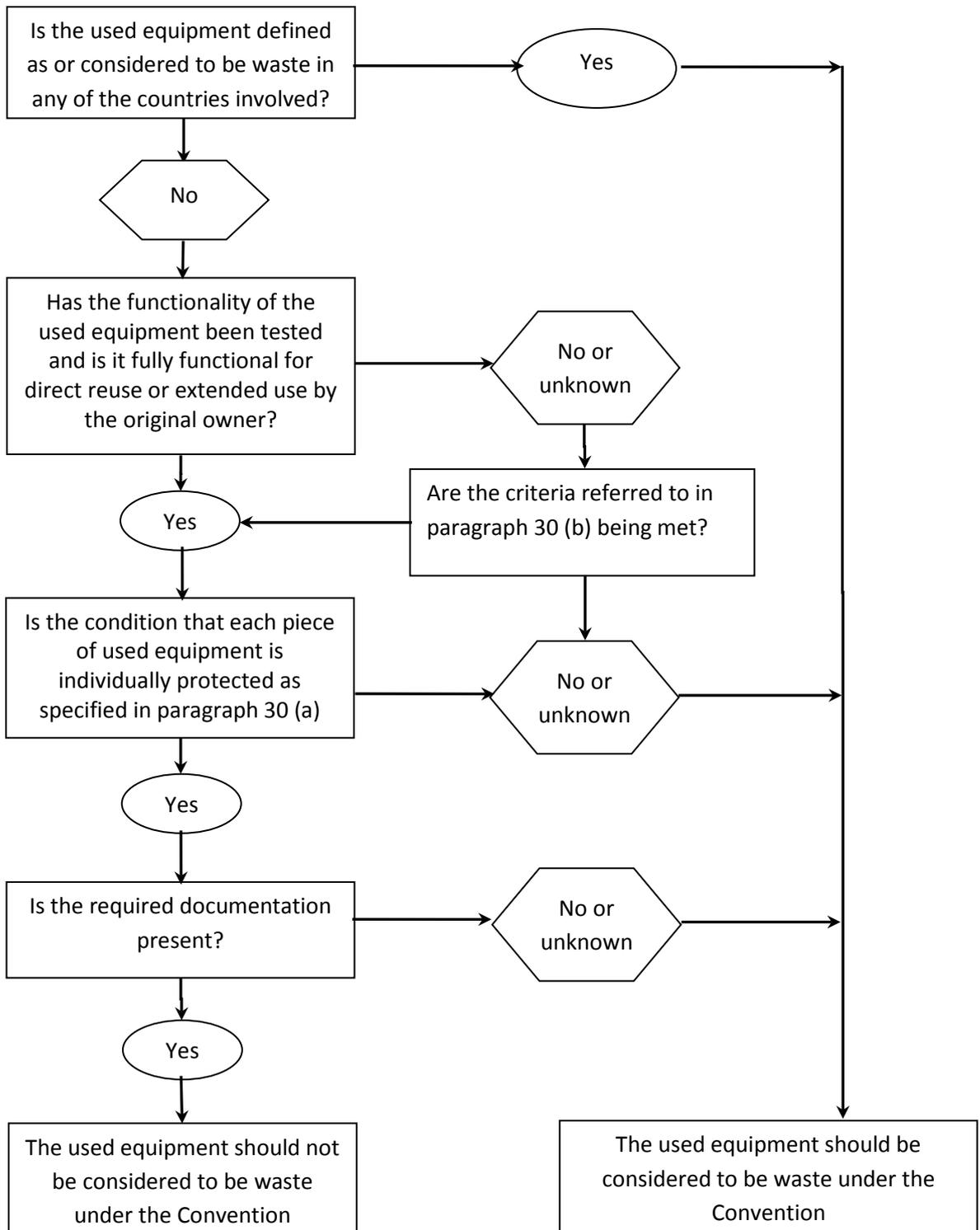
31 ter. Persons who arrange the transport should retain the documentation referred to in this paragraph for a period of one year following the date a transboundary transport commences.

¹² Or equivalent document in cases where there is no change of ownership of the equipment.

¹⁴ Insofar the information (except for subparagraph (c)) is identical for all equipment in the same transport, the information may be provided covering all equipment in a transport.

31 quat. Figure 1 summarizes the decision steps as described in Section II.A and this section.

Figure 1 Decision steps according to paragraph 30(a) and (b)



C. Evaluation and testing of used equipment destined for direct reuse

32. When preparing a transboundary transport of used equipment destined for direct reuse covered by paragraph 30 (a) rather than e-waste, the person who arranges for the transport should take the following steps:

Step 1: evaluation and testing

33. The tests to be conducted depend on the kind of equipment. Functionality should be tested and the presence of hazardous substances or components should be evaluated. The completion of a visual inspection without testing functionality is unlikely to be sufficient. For most of the equipment, a functionality test of the key functions is sufficient. Section IV. B of these guidelines provides guidance on the evaluation for the presence of hazardous substances and components. A list of references to examples of functionality tests for certain categories of used equipment is provided in appendix IV to the present document.

34. The testing should be conducted by a qualified, certified or trained technician.

Step 2: recording

35. Results of evaluation and testing should be recorded. The record should contain the following information:

- (a) Name of the item;
- (b) Name of the producer (if available)
- (c) Identification number of the item (type no.), where applicable;
- (d) Year of production (if available);
- (e) Name and address of the company responsible for evidence of functionality;
- (f) Result of tests as described in step 1 (e. g. Naming defective parts and defect or indication of full functionality) including date of the functionality test;
- (g) Kind of tests performed;
- (h) Signed declaration by the company responsible for evidence of functionality.

36. The record should accompany the transport and should be fixed securely but not permanently on either the used equipment itself (if not packed) or on the packaging so it can be read without unpacking the equipment. A recommended form for the record on the results of evaluation and testing, including the declaration according to paragraph 30(a)(i), is contained in appendix II.

IV. Guidance on transboundary movements of e-waste

A. General considerations

37. When e-waste is considered to be hazardous waste according to Article 1, paragraph 1 (a) of the Convention or by national legislation (Article 1, paragraph 1 (b)), national import or export prohibitions must be respected. Where no such national prohibitions apply, the control procedure as mentioned in section II. B of these guidelines applies. For e-waste that is not considered to be hazardous, the Basel Convention does not contain a specific procedure. However, certain parties have implemented procedures in those cases, such as those applicable for transboundary movements of “green-listed” waste under European Union legislation,¹⁵ or the procedure for pre-movement inspection of recycling materials as applicable for China.¹⁶

38. In a case where a competent authority involved in transboundary movements of e-waste considers a specific item to be hazardous waste according to its national law, while other authorities

¹⁵ Regulation (EC) No. 1013/2006 on shipments of waste and Regulation (EC) No. 1418/2007 concerning the export for recovery of certain waste listed in annex III or IIIA to Regulation (EC) No. 1013/2006 to certain countries to which the OECD decision on the control of transboundary movements of wastes does not apply (see: <http://ec.europa.eu/environment/waste/shipments/legis.htm>).

¹⁶ Pre-movement inspections for recycling materials are established by the General Administration of Quality Supervision, Inspection and Quarantine of China (AQSIQ). Information on the procedure can be found on the web-site of the China Certification & Inspection Group (CCIC), which is authorized to handle this procedure in various countries worldwide, e.g in Europe at <http://www.ccic-europe.com>.

would not, the control procedure in Article 6(5) for hazardous waste would apply. The same mechanism is suggested for differences of opinion between competent authorities on the assessment as to whether the equipment constitutes a waste or not. In those cases, the applicable procedures for transboundary movements of waste would be applied. If this approach is taken and the applicable procedures are not followed, the movement would be regarded as illegal.

39. Certain parties may consider used equipment destined for failure analysis, repair, or refurbishment to be waste, while others may not. In accordance with the principles of the Convention, if one of the countries concerned considers this used equipment to be waste the procedures on transboundary movement of e-waste as indicated in section IV A of this guidance should be followed. Note that in some cases, the decision to classify used equipment destined for failure analysis, repair or refurbishment as a hazardous waste could result in the imposition of a ban on the export or import of such equipment under national legislation or pursuant to the Convention's prohibition on trade with non-parties.

B. Distinction of hazardous waste and non-hazardous waste

40. E-waste is included in Annex VIII to the Convention with the following entry for hazardous wastes:

“A1180 Waste electrical and electronic assemblies or scrap¹⁷ containing components such as accumulators and other batteries included on list A, mercury-switches, glass from cathode-ray tubes and other activated glass and PCB capacitors, or contaminated with Annex I constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they possess any of the characteristics contained in Annex III (note the related entry on list B, B1110).”¹⁸

41. E-waste is also included in Annex IX to the Convention with the following entry for non-hazardous wastes:

“B1110 Electrical and electronic assemblies:

- Electronic assemblies consisting only of metals or alloys;
- Waste electrical and electronic assemblies or scrap¹⁹ (including printed circuit boards) not containing components such as accumulators and other batteries included on list A, mercury-switches, glass from cathode-ray tubes and other activated glass and PCB-capacitors, or not contaminated with Annex I constituents (e.g., cadmium, mercury, lead, polychlorinated biphenyl) or from which these have been removed, to an extent that they do not possess any of the characteristics contained in Annex III (note the related entry on list A A1180);
- Electrical and electronic assemblies (including printed circuit boards, electronic components and wires) destined for direct reuse,²⁰ and not for recycling or final disposal.”²¹

42. Equipment will often contain hazardous components or substances, examples of which are indicated in entry A1180 of Annex VIII. E-waste containing such components or substances may qualify as hazardous wastes if the waste exhibits hazardous characteristics contained in Annex III. However, the presence of such a component or substance in equipment should not necessarily cause the equipment as a whole to be deemed hazardous waste under the Convention.

E-waste should therefore be presumed to be hazardous waste unless it can be shown either that it does not exhibit hazardous characteristics or that it does not contain such components or substances and in particular:²²

(a) Lead-containing glass from cathode ray tubes (CRTs) and imaging lenses, which are assigned to Annex VIII entries A1180 or A2010 “glass from cathode ray tubes and other activated

¹⁷ This entry does not include scrap assemblies from electric power generation.

¹⁸ PCBs are at a concentration level of 50 mg/kg or more.

¹⁹ This entry does not include scrap from electrical power generation.

²⁰ Reuse can include repair, refurbishment or upgrading, but not major reassembly.

²¹ In some countries these materials destined for direct reuse are not considered wastes.

²² The following list of components or constituents are non-exhaustive examples.

glass". This waste also belongs to category Y31 in Annex I, "Lead; lead compounds" and is likely to possess hazard characteristics H6.1, H11, H12 and H13 included in Annex III;

(b) Nickel-cadmium batteries and batteries containing mercury, which are assigned to Annex VIII entry A1170 "unsorted waste batteries...". This waste also belongs to category Y26 in Annex I, "Cadmium; cadmium compounds" or Y29 "Mercury, mercury compounds" and is likely to possess hazard characteristics H6.1, H11, H12 and H13;

(c) Selenium drums, which are assigned to Annex VIII entry A1020 "selenium; selenium compounds". This waste also belongs to category Y25 in Annex I, "Selenium; selenium compounds" and is likely to possess hazard characteristics H6.1, H11, H12 and H13;

(d) Printed circuit boards, which are assigned to Annex VIII entry A1180 "waste electrical and electronic assemblies.....", and entry A1020 "antimony; antimony compounds" and "beryllium; beryllium compounds". These assemblies contain brominated compounds and antimony oxides as flame retardants, lead in solder and beryllium in copper alloy connectors. They also belong in Annex I, to categories Y31, "Lead; lead compounds", Y20, "Beryllium, beryllium compounds" and Y27 "Antimony, antimony compounds" and Y45, organohalogen compounds other than substances referred to elsewhere in Annex I. They are likely to possess hazard characteristics H6.1, H11, H12 and H13;

(e) Fluorescent tubes and backlight lamps from liquid crystal displays (LCD), which contain mercury and are assigned to Annex VIII entry A1030 "Mercury; mercury compounds". This waste also belongs to category Y29 in Annex I, "Mercury; mercury compounds" and is likely to possess hazard characteristics H6.1, H11, H12 and H13;

(f) Plastic components containing Brominated Flame Retardants (BFRs), in particular BFRs that are persistent organic pollutants according to the Stockholm Convention, may - where appropriate - be assigned to Annex VIII entry A3180 "Wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or polybrominated biphenyl (PBB), or any other polybrominated analogues of these compounds, at a concentration of 50 mg/kg or more". In general, waste containing brominated flame retardants also belongs to category Y45 in Annex I, organohalogen compounds other than substances referred to elsewhere in Annex I. If antimony compounds are used as synergist for these brominated flame retardants, in addition category Y27 "Antimony, antimony compounds" can be assigned. Depending on the concentration and the chemical properties of the brominated flame retardants and their synergists such waste may possess hazard characteristics H6.1, H11, H12 and H13.

(g) Other components containing or contaminated with mercury, such as mercury switches, contacts and thermometers, which are assigned to Annex VIII entry A 1010, A1030 or A1180. This waste also belongs to category Y29 in Annex I, "Mercury; mercury compounds" and is likely to possess hazard characteristics H6.1, H11, H12 and H13;

(h) Oils/liquids, which are assigned to annex VIII entry A 4060 "Waste oil/water, hydrocarbons/water mixtures, emulsions". The waste belongs to category Y8 in Annex I, "Waste mineral oils unfit for their originally intended use" or Y9 in Annex I, "Waste oil/water, hydrocarbons/water mixtures, emulsions", and is likely to possess hazardous characteristics H3, H11, H12 and H13;

(i) Components containing asbestos, such as in wires, cooking stoves and heaters, which are assigned to annex VIII entry A 2050. This waste also belongs to category Y 36 in Annex I, "Asbestos (dust and fibres)" and is likely to possess hazardous characteristic H 11.

43. Further guidance and examples of hazardous and non-hazardous equipment and on hazardous components that can be found in electrical and electronic equipment is contained in appendix IV to the present document.

V. Guidance on the enforcement of transboundary movements of e-waste and used equipment

44. Inspections should be undertaken by competent bodies of State authorities (e.g. police, customs and (environmental) inspectors) at facilities and during the movement.

45. Persons who arrange the transport of used equipment should ensure that it is accompanied by appropriate documentation according to paragraphs 30, 31, 35, 36 and 46 of those guidelines and that it is appropriately protected against damage during transportation, loading and unloading, in particular through sufficient packaging or appropriate stacking of the load in order to demonstrate that the items

concerned are not e-waste. Sample photographs of illegal shipments⁶ and examples of documentation could be used and/or developed to help educate officers at borders, ports, or other inspection points to identify illegal shipments.

46. For practical reasons of control, every load of used equipment should also be accompanied by a declaration of the liable person on its responsibility and by a relevant transport document, e.g. by a waybill or a CMR document where applicable.²⁴ This document contains a description of the goods transported using the Harmonized Commodity Description and Coding System (normally referred to as the “Harmonized System”) developed by the World Customs Organization (WCO).

47. In the absence of proof that an item is used equipment and not e-waste through appropriate documentation according to paragraphs 30, 31, 35, 36 and 46 and appropriate protection against damage during transportation, loading and unloading, in particular through sufficient packaging and appropriate stacking of the load which should be the obligations of the person who arranges the transport, the relevant State authorities (e. g. customs, police or environmental agencies) should consider an item to be (potentially hazardous) e-waste and, in the absence of consents in accordance with the requirements of the Basel Convention, should presume that the export comprises a case of illegal traffic as specified in Article 9 of the Convention. In these circumstances the relevant competent authorities are obliged to abide with the provisions of Article 9. The Parties consider that illegal traffic in hazardous wastes or other wastes is criminal (Article 4.3).

48. When e-waste is exported as hazardous waste, the documentation required under the control procedure of the Convention should accompany the consignment.

49. The Secretariat of the Basel Convention has cooperated with the WCO to establish a table providing an overview of which codes of the Harmonized System contain materials that can be found in Annexes VII and IX to the Basel Convention⁷. This table can facilitate comparison of the CMR documents with the documents that should accompany the transport of used equipment or e-waste according to the procedures in these guidelines. While this tool may be useful for such comparisons, transboundary transports should be evaluated on a case-by-case basis and a hazardous waste determination should be based on all of the information that is available.

50. Health and safety issues and potential risks for enforcement agents (such as customs officers) are important for any inspection of transports of e-waste or used equipment. Enforcement officers should have specific training before doing such inspections. Particular care should be applied when opening containers. In particular, if the transport consists of waste, the items may not have been stacked in a stable way and items may fall out of the container when it is opened it for inspection. The load may also contain hazardous substances that could be released when inspecting the load. Further information regarding health and safety aspects for inspections is contained in appendix IV to the present document.

VI. Guidance on facilities for failure analysis, repair and refurbishment

51. At facilities receiving used equipment that is not waste and is intended for failure analysis, repair and refurbishment, inspections should be undertaken to verify if the relevant national provisions for environmental protection, including waste-related provisions, and any environmental permits or licenses are complied with. PACE developed the Guidelines on Environmentally Sound Testing, Refurbishment & Repair of Use Computing Equipment that can be used by countries to help ensure any such operation is environmentally sound. In addition, the compliance with the criteria in paragraph 30(b) should be checked.

⁶ Examples of sample photographs are e.g. available in manuals developed in Austria that are available at http://www.bundesabfallwirtschaftsplan.at/dms/bawp/Handbuch-Leitfaden-Abfall-versus-Gebrauchtware---de-eng_end_2014-06-24_eBook/Handbuch%20Leitfaden%20Abfall%20versus%20Gebrauchtware%20-%20de-eng_end_2014-06-24_eBook.pdf (in English and German) and <http://www.bundesabfallwirtschaftsplan.at/dms/bawp/Manual-Abfallverbringung-2012neu/Manual%20Abfallverbringung%202012neu.pdf> (only in German)

²⁴ Document containing the information as required under the Convention on the Contract for the International Carriage of Goods by Road (CMR Convention). Although the form in which the information should be presented is not mandatory, it is recommended that the standard CMR forms be used to facilitate communication in case of a control.

⁷ The latest version of the table can be found on the web-site of the WCO under <http://www.wcoomd.org/en/topics/nomenclature/instrument-and-tools/interconnection-table.aspx>. The table contains a correlation with goods covered by a number of international conventions, including the Basel Convention.

52. For example, some developing countries⁸ where such activities take place have implemented policies that require these facilities to assure that none of the used equipment that is transported to these facilities may remain in the country after failure analysis, repair or refurbishment and that all the waste generated by these activities has to be exported⁹ as well to facilities that meet ESM standards. These requirements are part of the operations environmental permit of these facilities. This assures that the activities will not result in unwanted imports of equipment into their country that would need to be managed as e-waste. It also assures that the waste generated by these activities do not take up capacity of the national waste management infrastructure and will be managed according to ESM standards.

VII. Concluding remarks

53. It is acknowledged that on certain issues in the-guidelines further consideration is required and relevant information should be obtained. Appendix V contains an overview of the issues that were discussed during COP12 but for which no agreement was reached on any of the text presented. Further work will be undertaken according to decision BC-12/....

⁸ The current example is based on the practices in Malaysia and China.

⁹ As per the provisions of the contract.

Appendix I: Glossary of terms

Note: Some of these terms were developed for the purpose of the present guidelines and should not be considered as having been agreed to internationally. Their purpose is to assist readers to better understand these guidelines. Insofar as appropriate, the use of these terms has been aligned with terms used in other guidelines and guidance documents developed under the Basel Convention.

Terminology	Description
Basel Convention	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, adopted on March 22, 1989 and entered into force in 1992.
Component	Element with electrical or electronic functionality designed to be connected together with other components, including by soldering to a printed circuit board, to create an electric or electronic circuit with a particular function (for example, an amplifier, radio receiver, monitor, hard-drive, motherboard, battery).
Direct reuse	The using again of fully functional equipment that is not waste, for the same purpose for which it was conceived, without the necessity of repair or refurbishment.
Disposal	Any operation specified in Annex IV of the Basel Convention (Article 2, paragraph 4, of the Convention).
Environmentally sound management	Taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes (Article 2, paragraph 8, of the Convention).
Equipment	Electrical and electronic equipment that is dependent on electric currents or electromagnetic fields in order to work properly, including components that can be removed from equipment and can be tested for functionality and either be subsequently directly reused or reused after repair or refurbishment.
Key function	The essential function of a unit of equipment that will satisfactorily enable the equipment to be used as originally intended.
Failure analysis	Failure analysis is a test performed by the original manufacturer or a party on his behalf, of collecting and analyzing data to determine the cause of a failure. Root cause analysis (RCA) is a particular case of failure analysis.
Fully functional	Equipment is fully functional if it was tested and demonstrated to be capable of performing the key functions that it was designed to perform.
Other waste	Wastes included in Annex II of the Convention.
Non-waste	A substance or object that does not meet the definition of “waste”.
Person who arranges the transport	The natural or legal person that assumes the responsibility to ensure that the conditions to be met when this equipment should normally not be considered waste mentioned in paragraph 30 are met.
Recycling	Relevant operations specified in Annex IV B to the Basel Convention.
Recovery	Relevant operations specified in Annex IV B of the Basel Convention.
Refurbishment	Modification of used equipment to increase or restore its performance and/or functionality or to meet applicable technical standards or

	regulatory requirements, with the result of making a fully functional product to be used for a purpose that is at least the one that was originally intended, including through such activities as cleaning, data sanitization
Repair	Fixing a specified fault in used equipment that is a waste or a product and/or replacing defective components of equipment a fully functional product to be used for its originally intended purpose.
Reuse	The using again, of fully functional equipment that is not waste for the same purpose for which it was conceived, possibly after repair or refurbishment.
Wastes	Substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law (Article 2, paragraph 1, of the Basel Convention).
Waste electrical and electronic equipment	Electrical or electronic equipment that is waste, including all components, sub-assemblies and consumables which are part of the equipment at the time the equipment becomes waste.

Appendix II: Information accompanying transboundary transports of used equipment falling under paragraph 30 (a), including on recording the results of evaluation and testing of used equipment

<p>1. Person who arranges the transport (responsible for testing): Name: Address: Contact person: Tel: E-mail:</p>	<p>2. Company responsible for evidence of functionality (if different than person who arranges for the transport): Name: Address: Contact person: Tel: E-mail:</p>	<p>3. User or retailer or distributor: Name: Address: Contact person: Tel: E-mail:</p>
<p>4. Declaration: I, the person that conducted the evaluation and testing declare that the results of evaluation and testing are complete and correct to the best of my knowledge.</p> <p>Name: _____ Date: _____ Signature: _____</p> <p>I, the person who arranges the transport of the equipment listed below, hereby declare that prior to export the used equipment listed below was tested and is fully functional.²⁹ I confirm that this equipment is not defined as or considered to be waste in any of the countries involved in the transport and is destined for direct reuse³⁰ and not for recovery or disposal operations.</p> <p>Name: _____ Date: _____ Signature: _____</p>		

²⁹ Equipment is “fully functional” when it has been tested and demonstrated to be capable of performing at least the key functions it was designed to perform.

A key function is an originally intended function of a unit of equipment that will satisfactorily enable the equipment to be used as originally intended.

³⁰ The using again of fully functional equipment that is not waste for the same purpose for which it was conceived without the necessity of repair or refurbishment.

5. Name of the item of equipment ³¹	6. Name of the producer (if available)	7. Identification number (type no.) (if applicable)	8. Year of production (if available)	9. Date of functionality testing	10. Kind of tests performed and results of test (e.g. indication of full functionality or indication of defective parts and defect) ³²

³¹ List the equipment for which the information in the boxes 1 to 3 is the same and that is intended to be moved together and identify the names of the equipment such as: PC, refrigerator, printer, TV, etc.

³² Attach details if necessary.

Appendix III: Information accompanying transboundary transports of used equipment falling under paragraph 30 (b)

1. Person who arranges the transport Name: Address: Contact person: Tel.: Fax: E-mail:	2. Receiving facility Name: Address: Contact person: Tel.: Fax: E-mail:	3. Description of the equipment (e.g. name):
4. Purpose of the transport:²⁸ <input type="checkbox"/> Failure analysis <input type="checkbox"/> Repair <input type="checkbox"/> Refurbishment		5. Start date of the transport:
6. Actual quantity:		
7. Countries/States concerned:		
Export/dispatch	Transit	Import/destination
8. Declaration of the person who arranges the transport of the equipment: I declare that I am entitled to represent my company legally and that: <ul style="list-style-type: none"> a) The equipment in this transport is equipment that is not defined as or considered to be waste in any of the countries involved in the transport. b) A contract according to paragraph 30(b) (ii) is in place. c) Upon request from the authorities I will make available underlying documentation (e.g. contracts or equivalent documents) that can be used to verify these statements. d) The above information is complete and correct to the best of my knowledge. Name: _____ Function: _____ Date: _____ Signature: _____		
TO BE COMPLETED BY THE RECEIVING FACILITY		
9. Movement received at the receiving facility: <input type="checkbox"/>		Quantity/volume received:
Name:	Date:	Signature:

²⁸ If multiple options apply to the equipment, please indicate them all.

Appendix IV: Reference material

This appendix contains references to information on functionality testing for certain categories of used equipment (paragraph 33), hazardous and non-hazardous equipment and hazardous components that can be found in such equipment (paragraph 43) and information regarding health and safety aspects for inspections (paragraph 50).

1. Functionality testing or evaluation

This section contains references to tests and procedures for functionality tests of electrical and electronic equipment. The examples are not meant to be exhaustive but illustrate procedures as they are applied by some parties or recommended in other guidance documents under the Basel Convention. Testing procedures and protocols for other categories of used equipment are not yet available.

References from parties

Australia

Criteria for the export and import of used electronic equipment (DEH, 2005). Available on <http://pandora.nla.gov.au/pan/51666/20050902-0000/www.deh.gov.au/settlements/publications/chemicals/hazardous-waste/electronic-paper.html>

Annex B of the document contains parameters that may be used when testing functionality of certain types of equipment.

European Union

Revised Correspondents' Guidelines No. 1 on shipments of waste electrical and electronic equipment (WEEE) (2007). Available on <http://ec.europa.eu/environment/waste/shipments/guidance.htm>

Appendix 1 to these guidelines contains parameters that may be used when testing functionality of certain types of equipment.

Malaysia

Guidelines for the classification of used electrical and electronic equipment in Malaysia. (DOE, 2008). Available on http://www.doe.gov.my/portal/wp-content/uploads/2010/07/ELECTRICAL_AND_ELECTRONIC_EQUIPMENTIN_MALAYSIA.pdf

Paragraph 7 of these guidelines contains parameters that may be used when testing functionality of certain types of equipment.

Norway

A guide for exporters of used goods (Klif, 2009) by the Norwegian Climate and Pollution Agency. Available on <http://www.klif.no/publikasjoner/2516/ta2516.pdf>

Example images of criteria on pages 4-8 can be used when evaluating functionality of used goods.

References from the guidance documents under the Basel Convention

MPPI - Mobile phones

The guidance document on the environmentally sound management of used and end-of-life mobile phones that was adopted at the tenth session of the Conference of the Parties (UNEP/CHW.10/INF/27/Rev.1 contains a number of proposed tests on functionality for mobile phones in its section 5.2.1.4

PACE - Computing equipment

The guidance document on environmentally sound management of used and end-of-life computing equipment that was adopted at the eleventh session of the Conference of the Parties (UNEP/CHW.11/6/Add.1/Rev.1) contains in appendix 5 to the annex a set of functionality tests for used computing equipment.

PACE - Laptop batteries

The guidance document on environmentally sound management of used and end-of-life computing equipment that was adopted at the eleventh session of the Conference of the Parties (UNEP/CHW.11/15) contains in appendix 6 to the annex a set of functionality tests for laptop batteries.

Basel Convention regional centre for South-East Asia (BCRC-SEA)

Technical Guidelines for 3 R (Reduce, Reuse, Recycle) of End-of-Life Electrical and Electronic Products contains a number of functionality tests for different types of equipment in its annexes. These provide for specific tests for refrigeration systems, twin-tub washing machines, automatic washing machines, TVs and audio systems and PCs. The guidelines can be found at <http://www.bcrc-sea.org/?content=publication&cat=2>

2. Hazardous and non-hazardous equipment and hazardous components that can be found in such equipment

Section IV B of the guidelines contains information about the distinction between hazardous and non-hazardous e-waste. Additional guidance and examples of hazardous and non-hazardous equipment and on hazardous components that can be found in equipment can be found in the following reference material.

Switzerland

The e-waste guide developed as part of the “Global Knowledge Partnerships in e-Waste Recycling” programme, initiated by the Swiss State Secretariat for Economic Affairs (SECO) and implemented by the Swiss Federal Laboratories for Materials Science and Technology (EMPA) contains a section on hazardous substances in e-waste: <http://ewasteguide.info/node/219>

Sweden

“Recycling and disposal of electronic waste – health hazards and environmental impacts”, report no. 6417, March 2011, Swedish Environmental Protection Agency: <http://www.naturvardsverket.se/Documents/publikationer6400/978-91-620-6417-4.pdf>

3. Health and safety aspects for inspections

Section V of the guidelines provides information for control of transboundary movements of used equipment and e-waste. One of the aspects to be taken into account when carrying out controls is the health and safety of the enforcement agents. Additional information on how to take into account these aspects can be found in the following reference material.

Standardization bodies

OHSAS 18001 Standards for Occupational Health and Safety Management Systems is usually available from national standards institutions, e.g. the British Standards Institution: www.bsigroup.com

International Labour Organization (ILO)

The ILO guidelines on occupational safety and health management systems (ILO-OSH 2001) is available on: http://www.ilo.org/safework/info/standards-and-instruments/WCMS_107727/lang--en/index.htm

ILO has also developed an electronic tool kit on occupational health and safety which includes standards and advice but has to be purchased at a cost of \$395 via:

<http://www.ohsas-18001-occupational-health-and-safety.com/ohsas-18001-kit.htm>

Basel Convention Regional Centre for South-East Asia (BCRC-SEA)

A guidance on occupational safety and health aspects specifically developed as guidance for hazardous materials/waste inspection “Panduan Singkat Pengelolaan Limbah B3 Dalam Rangka Pelaksanaan Konvensi Basel - Segi Keselamatan Dalam Inspeksi Bahan Berbahaya” (“Brief guidance for hazardous waste management under the Basel Convention implementation – safety aspects in hazardous materials inspection”) written by D. Wardhana Hasanuddin Suraadiningrat, former Senior Technical Advisor to the BCRC-SEA, in 2008. Since it was initially prepared for the Customs & Excise

Authority in Indonesia, it was written in Bahasa Indonesia (Malay language)³³ and may need translation. Contact: basejakarta@bcr-sea.org.

Ireland

Ireland's Health and Safety Authority has on-line advice on developing an occupational health and safety (OHS) management system for a number of different occupations/industries. While waste management is not yet included in its directory, the site contains some useful general videos covering the elements of an OHS system (as per Irish legislation) and risk assessment – see these links:

<http://vimeo.com/19383449> - about the online system

<http://vimeo.com/19971075> - risk assessment

<http://vimeo.com/19970831> - safety statement

The guidance on risk assessment and the development of safety policy and a safety statement could be adapted for use by enforcement agents

United Kingdom of Great Britain and Northern Ireland

The United Kingdom Health and Safety Executive has online guidance on occupational health and safety relating to the waste industry and specifically to waste electrical and electronic equipment. See these links:

<http://www.hse.gov.uk/waste/index.htm>

<http://www.hse.gov.uk/waste/waste-electrical.htm>.

³³ EU questions if a document that is not available in an official UN language is useful as reference.

Appendix V: Issues for further work

It is acknowledged that on certain issues in the guidelines further consideration is required and relevant information should be obtained. This Appendix contains an overview of the issues that were discussed during COP12 but for which no agreement was reached on any of the text presented. Further work will be undertaken according to decision BC-12/....

The tables below include the relevant texts from the discussions during COP12. They also contain a reference to the part of the guidelines to which they relate.

1. Party notifications as per paragraphs 27 and 28

Paragraph 27 and 28 of these guidelines address the issue that countries may or may not allow imports or exports of used electrical and electronic equipment destined for failure analysis, repair or refurbishment. The paragraphs indicate that Parties should notify the Secretariat of the Basel Convention with reference to Articles 3 and 13.2, as appropriate of their wishes on that issue.

Further work is needed to address the case of Parties that did not notify the Secretariat.

Reference guidelines	Text used during the discussions in the COP
27, 28	[In case a country has not communicated any such information, exports to that country are only allowed if the person who arranges the transport has obtained written confirmation from the authorities in the country of destination that the equipment is not considered to be waste.]

Further work is needed to address the issue how to reflect the information contained in the notification from countries in the declaration made by the person who arranges the transport.

Reference guidelines	Text used during the discussions in the COP
Appendix III box 8	[the receiving facility is covered by a notification by the authorities of the country of import indicating it may receive equipment as non-waste as published by the Secretariat of the Basel Convention];

2. Residual life time and age of used equipment

Three texts that were discussed relate to this subject.

a). When equipment normally should be considered waste:

Reference guidelines	Text used during the discussions in the COP
29	[The residual life of the equipment is no longer than 1/3 of the normal life-span of this kind of new equipment.]

b) Requirements for transport of used equipment for root cause analysis, repair and refurbishment

Reference guidelines	Text used during the discussions in the COP
30 (b)	[and that the residual life of the equipment is more than 1/3 of the normal life

	span of this kind of equipment]
--	---------------------------------

c). Documentation to be provided by the person who arranges the transport

Reference guidelines	Text used during the discussions in the COP
31	[date of production of every piece (age) (excluding for spare parts or components)

3. Obsolete technologies, including cathode ray tubes

Requirements for transport of used equipment for failure analysis, repair and refurbishment

Reference guidelines	Text used during the discussions in the COP
30 (b)	[Used equipment transported across borders is compliant with applicable national legislation and relevant international rules, standards and guidelines on restrictions of the use of hazardous substances [, do not contain cathode ray tubes (CRTs)]]

4. Identification of relevant actors in the documentation

Further work is needed to assess if some additional actors should be added in paragraph 31 (a) and Appendix III

Reference guidelines	Text used during the discussions in the COP
31 (a)	[Name of Original Equipment Manufacturer, (name and contacts of importer)]
Appendix III	<ul style="list-style-type: none"> • [Carrier] • [Importer] • [Country of export[/dispatch] • [Country of import[/destination]

5. Specific exemption for medical devices

Specific conditional exemption for medical equipment in the context of transports for failure analysis, repair and refurbishment.

Reference guidelines	Text used during the discussions in the COP
30 (b)	<p>[Where used medical devices and their components¹⁰ are sent by and to the manufacturer or a third party acting on behalf of the manufacturer, for any of the following purposes:</p> <ul style="list-style-type: none"> (i) failure analysis, diagnostic testing, (ii) refurbishment, or (iii) repair, <p>under a valid agreement¹¹; and hazardous wastes resulting from these operations are shipped for environmentally sound management [to Annex VII Countries]</p>

¹⁰ As per definition in GHTF in SG1(PD)/N71R04.

¹¹ 'Valid agreement': a long term contract between the manufacturer and the third party shipping or performing the refurbishment, repair or failure analysis identifying responsibilities and procedures for the correct handling of used EEE.

	[or to non-Annex VII countries as long as systems are in place to achieve the equivalent level of environmental protection].]
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6. Specific exemption for used parts

Specific conditional exemption for used parts in the context of transports for failure analysis, repair and refurbishment.

Reference guidelines	Text used during the discussions in the COP
30	[Used parts for service and maintenance of equipment which may contain electrical or electronic components, handled in a closed circular economy for remanufacturing ¹² .]

7. Waste from failure analysis, repair and refurbishment activities

Reference guidelines	Text used during the discussions in the COP
30 (a)	[[All equipment that after [failure analysis] [root cause analysis] ¹³ , repair and refurbishment is still unusable will be taken back to the country of export]. All residual waste generated from the [failure analysis] [root cause analysis], repair and refurbishment operation which is hazardous according to the Basel Convention definitions (Article 1, 1(a) and 1(b)) or its hazardous characteristics are unknown, shall be disposed of [in an environmentally sound manner (ESM) in accordance with the Basel Convention][in an Annex VII country][in [the export country or] an Annex VII country unless accompanied by a conclusive proof that the residual hazardous waste can be treated at a facility in the importing country is ESM]. Any transboundary movements necessary shall be accomplished in accordance with the Basel Convention;]
30(a)	[[All equipment that after failure analysis repair and refurbishment is still unusable [must be managed in an environmentally sound manner. If the equipment cannot be repaired or refurbished [, and was exported by an AnnexVII country] it should be returned[, under the full responsibility of the country of export,] to the [country of export] [exporter] [person] [if the country of export is a non-Annex VII country, it should be dealt with in an ESM and according to the principle of proximity] [or another country where an appropriate ESM facility exists in accordance with the Basel Convention.] [will be taken back to the country of export.] All residual waste generated from the failure analysis, repair and refurbishment operation which is hazardous according to the Basel Convention definitions (Article 1, 1(a) and 1(b)) or its hazardous characteristics are unknown, shall be disposed of [in an environmentally sound manner (ESM) in accordance with the Basel Convention][in an Annex VII country][in [the export country or] an Annex VII country unless accompanied by a conclusive proof that the residual hazardous waste can be treated at a facility in the importing country is ESM]. Any transboundary movements necessary shall be accomplished in accordance with the Basel Convention;]
Section VI	[It is recommended to facilities receiving used equipment that is not waste and is intended for failure analysis, repair and refurbishment to, as appropriate, include provisions in the contract with the person who arranges the transport that

¹² Remanufacturing is a standardized industrial process that restores used parts to fulfil a function which is at least equivalent compared to the original part.

¹³ For the guidelines it was agreed to use the term ‘failure analysis’ and to delete the term ‘root cause analysis’ which is a specific form of failure analysis as explained in the glossary.

	<p>a) used equipment that was destined for failure analysis, repair or refurbishment, but for which no failure analysis, repair or refurbishment has been conducted,</p> <p>b) waste generated during failure analysis, repair or refurbishment; is returned to the person who arranges the transport or disposed of in an environmentally sound manner in another country]</p>
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Appendix VI: References

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