

**DRAFT TECHNICAL GUIDELINES ON TRANSBOUNDARY MOVEMENT
OF E-WASTE, IN PARTICULAR REGARDING THE DISTINCTION
BETWEEN WASTE AND NON-WASTE**

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Acronyms and Abbreviations

AQSIQ	Administration of Quality Supervision, Inspection and Quarantine of People's Republic of China
BFR	Brominated Flame Retardant
CCIC	China Certification & Inspection Group
CFC	Chlorofluorcarbon
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
HS	Harmonized Commodity Description and Coding System (or short: Harmonized System)
kg	Kilogram
LCD	Liquid Crystal Display
Mg	Milligram
MPPI	Mobile Phone Partnership Initiative
PBB	Polybrominated biphenyls
PCB	Polychlorinated biphenyls
PCN	Polychlorinated naphthalene
PCT	Polychlorinated terphenyl
PVC	Polyvinylchloride
UNECE	United Nations Commission for Europe
UNU	United Nations University
WCO	World Customs Organisation

I. Introduction

A. Scope

1. The present technical guidelines provide guidance for the transboundary movement of waste from electrical and electronic equipment (E-waste) and in particular on the distinction between waste and non-waste in that context. The development of these guidelines is included in the workplan for the environmentally sound management of E-waste as adopted at the ninth meeting of the Conference of the Parties to the Basel Convention on the control of Transboundary Movement of Hazardous Wastes and Their Disposal (further: the Convention) in decision IX/6. The process for the development of the guidelines was agreed on by the Open-ended Working Group of the Basel Convention at its seventh session in May 2010.

2. The guideline will focus on the aspects related to transboundary movement of E-waste. In particular the distinction between electrical and electronic equipment destined for repair or continued use and e-waste, destined for recovery or final disposal has proven to be problematic in a number of situations. Due to the ambiguity in certain cases if a specific load of equipment is still suitable for use and the difficulty to check this in case of a border control it is difficult to assess by enforcement agencies if the provisions of the Basel Convention for transboundary movement apply, as the Convention only applies to hazardous wastes and other wastes.

3. For the purpose of this guideline E-waste is considered to consist of electrical and electronic equipment that according to the definition of the Convention or according to national legislation is considered to be waste. To distinguish between waste and non waste in the case of E-waste focuses on equipment that is supposed to be still working or at least to be in such a state that it could be put into a state of normal functioning without too much handling. This does not apply to equipment that has undergone a dismantling operation in view of the recycling or recovery of materials. For that reason only whole appliances are considered to be part of the E-waste relevant for this guideline. Materials removed from e-waste e.g. metals, plastics, batteries, PVC-coated cables or activated glass are not considered to be E-waste for the purpose of this guideline.

4. The present technical guideline provides:

- a) information on the relevant provisions of the Convention applicable to transboundary movement of e-waste;
- b) guidance on the distinction between waste and non-waste when e-waste is moved across borders as well as on the distinction between hazardous waste and non-hazardous waste; and
- c) general guidance on transboundary movement of e-waste and control and enforcement of the provisions of the Convention.

5. The guideline is intended for government agencies that wish to implement legislation, control and enforcement programs and provide training regarding transboundary movement of E-waste. It is also intended to inform economic operators involved in the management of E-waste to be aware of these provisions when preparing transboundary movements of E-waste.

6. Application of this guideline should help reducing the environmental burden of E-waste that is currently being moved to countries and installations that cannot handle it in an environmentally sound manner.

7. The guideline will not cover other aspects of environmentally sound management of E-wastes such as collection, treatment and disposal. These aspects will be covered where appropriate in other guidance documents. In particular a series of guidelines were developed in the context of the Mobile Phone Partnership Initiative (MPPI) including guidelines on:

- a) Awareness raising and design considerations (MPPI, 2009a)
- b) Collection (MPPI, 2009b)
- c) Transboundary movement (MPPI, 2009 c)
- d) Refurbishment (MPPI, 2009 d)
- e) Material recovery and recycling (MPPI, 2009 e).

B. About E-waste

8. E-waste consists of electrical and electronic equipment that is no longer suitable for use or that the last owner has discarded with the view of its disposal. The amounts of E-waste are growing rapidly, due to the wide use of this equipment, both in developed countries and in developing countries. As an example, the amount of E-waste in the EU was estimated between 8.3 and 9.1 million ton in 2005 and expected to reach some 12.3 million ton in 2020 (UNU, 2007). In developing countries and countries with economies in transition the sales of electrical and electronic equipment are increasing rapidly. Therefore the domestic arisings of E-waste are likely to increase significantly in those countries. Moreover, E-waste is exported from developed countries to developing countries, typically for re-use, repair or recovery of materials. The magnitude of these exports is difficult to assess. However, Yu Xiezhi et al (2008) has suggested that about 50-80% of the E-waste from industrialized countries ends up in South-east Asia for cheap recycling due to the low labour costs and less stringent environmental regulations in this region.

9. E-waste may contain both valuable materials that are recovered for recycling such as copper and precious metals as well as hazardous substances such as mercury, PCB, asbestos and CFC's requiring careful waste management. In most developing countries and countries with economies in transition capacity to manage these hazardous substances in E-waste is lacking.

10. The difficulties to enforce the provisions regarding transboundary movement of E-waste due to the lack of clarity when E-waste is waste and when not has lead to a number of situations where used electrical and electronic equipment was exported to, in particular, developing countries for re-use where it occurred that a large percentage of these goods in fact was defective and had to be disposed of in the developing country. Due to the frequent presence of hazardous substances and components in this equipment and the lack of adequate installations to treat those in an environmentally sound manner this has led to serious problems for human health and the environment in the countries receiving this E-waste.

II. Relevant provisions of the Basel Conventions

A. General provisions of the Basel Convention

11. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted on 22 March 1989 and entered into force on 5 May, 1992. The Basel Convention emphasizes, amongst other principles, environmentally sound management of hazardous wastes, which is defined as taking all practicable steps to ensure that hazardous wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes. The Convention stipulates a number of objectives, including the following:

- a) The prevention and minimization of the generation of hazardous wastes.
- b) The reduction of transboundary movements of hazardous and other wastes subject to the Basel Convention.
- c) The provision of adequate capacity to manage wastes within the country of origin.
- d) The active promotion of the transfer and use of cleaner technologies.

B. Control procedure for transboundary movement

12. The Basel Convention has established a control procedure for the transboundary movements for hazardous wastes and other wastes. If E-waste meets the definition of hazardous wastes or of other wastes the following provisions apply.

13. Hazardous wastes and other wastes should, as far as is compatible with their environmentally sound management, be disposed of in the country where they were generated. Transboundary movements of such wastes are only permitted under the following conditions:

- (a) If conducted under conditions that do not endanger human health and the environment;
- (b) If exports are managed in an environmentally sound manner in the country of import or elsewhere;

- (c) If the country of export does not have the technical capacity and the necessary facilities to dispose the wastes in question in an environmentally sound and efficient manner;
- (d) If the wastes in question are required as a raw material for recycling or recovery industries in the country of import; or
- (e) If the transboundary movements in question are in accordance with other criteria decided by the Parties.

14. 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. Parties shall prohibit the export of hazardous wastes and other wastes if the country of import prohibits the import of such wastes. The Basel Convention also requires that information regarding any proposed transboundary movement is provided using the accepted notification form and that the approved consignment is accompanied by a movement document from the point where the transboundary movement commences to the point of disposal.

15. Furthermore, hazardous wastes and other wastes subject to transboundary movements should be packaged, labelled, and transported in conformity with international rules and standards.¹

16. 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 for their disposal if alternative arrangements cannot be made. In the case of illegal traffic (as defined in article 9, paragraph 1), the country of export shall ensure that the wastes in question are taken back into the country of export for their disposal or disposed of in accordance with the provisions of the Basel Convention.

17. No transboundary movements of hazardous wastes and other wastes are permitted between a Party and a non-Party to the Basel Convention unless a bilateral, multilateral or regional arrangement exists as required under Article 11 of the Basel Convention.

C. Definitions of waste and hazardous waste

18. 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). Appendix 1 of this guideline contains the definition of disposal for the purposes of the 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 a commodity or raw material in another country.

19. 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). As for the definition of waste also the definition of hazardous waste contains an element where national provision may differ and the same material may be regarded as a hazardous waste in one country but not in another country.

20. To distinguish hazardous wastes from non-hazardous wastes for the purpose of Article 1.1.a the Convention has adopted two Annexes. Annex VIII includes wastes considered to be hazardous according to Article 1.1 (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 1.1 (a) unless they contain Annex I material to an extent causing them to exhibit an Annex III characteristic.

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

A. General considerations

21. To determine if used electrical or electronic equipment (further: used equipment) is waste it may be necessary to examine the history of an item on a case by case basis. However, there are characteristics of the equipment that are likely to indicate whether it is waste or not.

¹ In this connection, the United Nations Recommendations on the Transport of Dangerous Goods (Model Regulations) (UNECE, 2009) or later versions should be used.

22. Where the economic operator involved in the transboundary movement of used equipment claims that this is intended to be a movement of used equipment and not E-waste, the following should be provided to back up this claim to an authority on its request:

- a) a copy of the invoice and contract relating to the sale and/or transfer of ownership of the equipment which states that the equipment is destined for direct re-use and fully functional;
- b) evidence of evaluation/testing in the form of copy of the records (certificate of testing – proof of functional capability) on every item within the consignment and a protocol containing all record information (see Section IV A);
- c) a declaration made by the economic operator who arranges the transboundary movement of the equipment that none of the equipment within the consignment is waste as defined by national law of the countries involved in the movement (countries of export and import, and, if applicable countries of transit) and;
- d) sufficient packaging to protect it from damage during transportation, loading and unloading.

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

23. Used equipment would normally not be considered waste:

- a) where the criteria in paragraph 22 (a) to (d) are met and if it is fully functioning and is not destined for any of the operations listed in Appendix I (recovery or disposal operations) and is directly reused for the purpose for which it was originally intended or presented for sale or exported for the purpose of being put back to direct reuse or sold to end consumers for such reuse, or
- b) where the criteria in paragraph 22 (c) and (d) are met and if it is sent back as defective batches for repair to the producer or repair centres (e. g. under warranty) with the intention of re-use.

24. Used equipment would normally be considered waste if:

- a) the equipment is not complete - essential parts are missing;
- b) it shows a defect that materially affects its functionality and fails relevant functionality tests;
- c) it shows physical damage that impairs its functionality or safety, as defined in relevant standards;
- d) the packaging for protecting it from damage during transport and loading and unloading operations is insufficient;
- e) the appearance is generally worn or damaged, thus reducing the marketability of the item(s);
- f) the item has among its constituent part(s) anything that is required to be discarded or is prohibited under national legislation²;
- g) the equipment is destined for disposal or recycling instead of re-use;
- h) there is no regular market for the equipment (see further indicators); or
- i) it is old or out-dated destined for cannibalization (to gain spare parts).

C. Recommended procedure to follow in case of transboundary movement of used equipment suitable for direct reuse without repair or refurbishment

25. Prior to any transboundary movement of used equipment the economic operator involved should be in a position to provide information to any relevant state authorities (e. g. customs, police or environmental agencies) that proves that the criteria in paragraph 22 are met. Failure to meet these criteria would generally indicate to the relevant authorities that the material is E-waste and a precautionary approach to environmental protection would be taken in these circumstances. In some jurisdictions, however, it remains for the state authorities to prove that the used equipment at issue is E-waste.

26. Economic operators that prepare a transboundary movement of used equipment rather than E-waste are the recommended to take the following steps:

² 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.

Step 1: Testing

27. The tests to be conducted depend on the kind of equipment. Functionality should be tested and presence of hazardous substances or –components should be evaluated. The completion of a visual inspection without testing functionality is unlikely to be sufficient. Section IV B of this guideline provides for guidance on the evaluation of presence of hazardous substances and –components. Appendix 2 gives an example of a test applicable for mobile phones as well as an example for a procedure in the case of repair of computers for reuse.

Step 2: Recording

28. Results of evaluation and testing should be recorded and a record (certificate of testing, displaying/stating functional capability) should be placed on each tested piece of equipment.

29. The record should contain the following information:

- a) name of the item;
- b) identification number of the item (type no.);
- c) year of production (if available);
- d) name and address of the company responsible for evidence of functionality;
- e) result of tests (e. g. naming defective parts and defect or indication of full functionality);
- f) kind of tests performed.

30. 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.

Step 3: Packaging

31. The used equipment should be packed in such a manner that they are protected from damage during transportation, loading and unloading. Insufficient packaging for protecting is an indication that the packed goods may be waste. In general, the observation of poor packaging should lead enforcement agencies/authorities to make further enquiries regarding an item being transported.

32. A flow scheme representing the recommended procedure for equipment destined for direct reuse is given in figure 1.

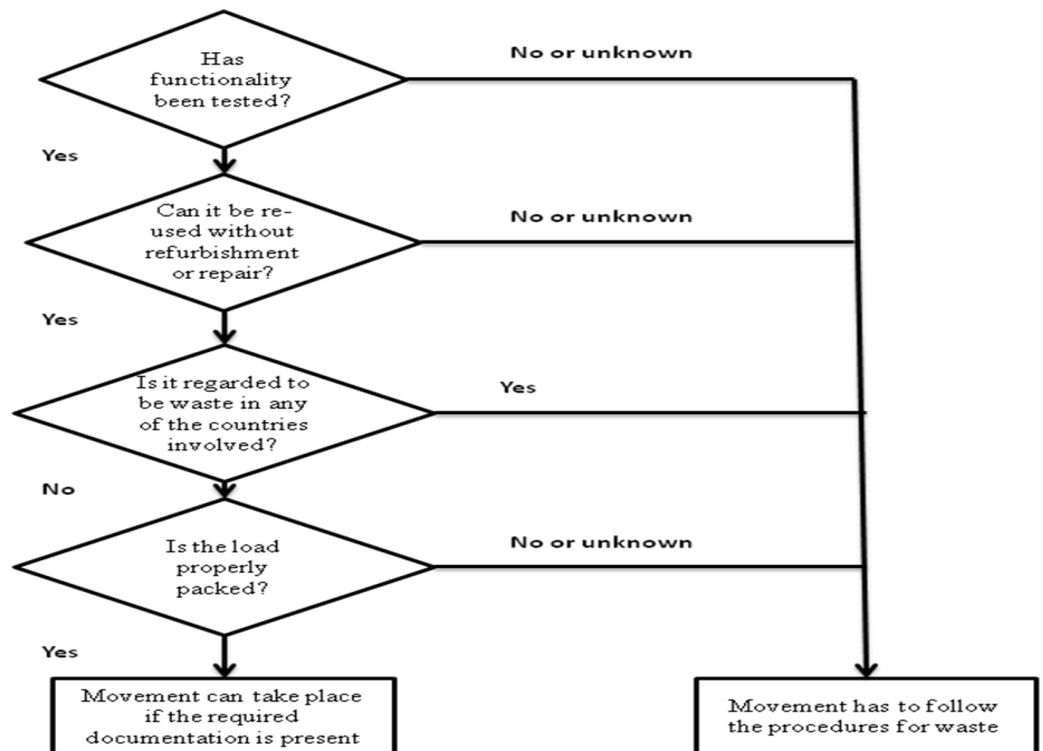


Figure 1: Suggested procedure for used equipment suitable for direct reuse

D. Recommended procedures to follow in case of transboundary movement of used equipment destined for repair or refurbishment

33. Certain Parties consider electrical and electronic equipment destined for repair, refurbishment or upgrading to be waste, while other do not. If one of the countries involved in a transboundary movement of such equipment considers this equipment to be waste the procedures on transboundary movement of E-waste as indicated in section IV A of this guidance should be followed.

34. However, if, following Article 2.1 of the Basel Convention and national legislation, none of the Parties involved in a transboundary movement has determined that used mobile phones destined for repair or refurbishment in the importing country are classified as wastes, the Basel Convention control procedure will not apply. In such circumstances the voluntary notification procedure, described in this Section should be considered by the countries involved to ensure that such movements are being monitored, and the importing country is given an opportunity to react (consent, object, or identify conditions) to such movements.

Voluntary Notification Procedure

35. In cases where used equipment is shipped regularly to the same repair, refurbishment or upgrading facility by the same exporter, and if there is no existing agreement between the exporter and the governmental authorities (importing and exporting countries), the exporter will provide a Statement of Evaluation and Intent to Reuse ("the Statement") to the Governmental Authority³ of the countries of export, import, and transit (if any), by means of email, fax or other agreed method, prior to the departure of the shipment from the country of export. One Statement is sufficient for shipments within a defined time period for up to one year, or other time period as agreed by the Parties involved.

36. In the case of single shipment greater than a specific quantity as agreed to by the parties involved (especially of trial shipments to a new repair or refurbishment facility), that have been evaluated and assessed to be likely suitable for reuse, the exporter will provide a Statement to the Governmental Authority of the countries of export, import, and transit (if any), by means of e-mail, fax, or other agreed to method, prior to the departure of the shipment from the country of export. In this case, the Statement would substitute an actual count of the shipment for the maximum count.

37. Statements, as described in above, would include the following:

- a) a commitment by the exporter that applicable guidelines for the environmentally sound management of the equipment are to be followed and assurances that such shipments will be managed in an environmentally sound manner;
- b) a description of the shipment, in particular, content, maximum count, packaging;
- c) an indication whether the information is for a single shipment or multiple shipments, and estimated frequency at which such shipments are to take place;
- d) an indication of the proposed date of the first and the last shipment during the defined time period;
- e) identification of the ports of export and import;
- f) identification of and contact information (name, address and phone number) of the importer and exporter;
- g) a description of the evaluation used to determine that the used equipment in the shipment are suitable for re-use, possibly after repair, refurbishment or up-grading;
- h) identification of and contact information (name, address, and phone number) of local persons associated with the importer and exporter who can provide any additional information about the shipment;

³ Governmental Authority: means a governmental authority designated by a Party or Signatory to be responsible, within such geographical areas under the legal jurisdiction of the Party or Signatory, as the Party or Signatory thinks appropriate for implementing relevant rules and regulations and to receive information related to transboundary shipments of used mobile phones destined for reuse, possibly after repair, refurbishment or upgrading.

- i) information on how residues and wastes arising from repair, refurbishment or upgrading operations will be managed.

38. All pieces of equipment, individually or in partitioned batches, must be appropriately documented with reference to the above-mentioned Statement, or other suitable method, so that recipients in the importing country are properly informed.

39. The Governmental Authorities should acknowledge by e-mail, fax or other agreed method the receipt of the Statement within the 3 calendar days, or other agreed time period, and should send this acknowledgement to the states concerned and to the exporter and the importer. After this time period has elapsed, any evidence of effective delivery of the Statement to the Governmental Authorities will be deemed as the acknowledgement date. If the Governmental Authorities have provided authorization or have not responded within the 14 calendar days from the acknowledgement date, transboundary movement may commence for the single shipment or the shipments within the period of time defined in the Statement. An updated Statement might be submitted at any time. However:

- a) If further information⁴ is requested by the Governmental Authority of the state of export, import or transit, the shipment must not commence, until the re-requested information has been provided.
- b) If the response indicates that there is no objection, but suggests conditions, then the shipment may commence only after necessary conditions have been taken into account.

40. The Statement is provided solely for use by the Governmental Authority and is not for disclosure to third parties if the statement is marked as business confidential.

Alternative procedure

41. Alternatively the Parties involved may also want to decide that, on a voluntary basis the procedures applicable for waste as indicated in Section IV A would be applied. The procedure for non-hazardous waste would apply for transboundary movements would in that case apply for movements of equipment that does not contain hazardous components or substances that would need to be disposed of as a result of the repair or refurbishment operations. The procedure for hazardous waste controls would be applied for equipment where hazardous components or substances would need to be disposed of as a result of the repair or refurbishment operations.

42. The procedures suggested for equipment destined for repair or refurbishment would be subject to further review at specific time intervals in order to ensure that the objective of environmentally sound management is upheld and to reflect the knowledge and experience gained.

43. A flow scheme representing the recommended procedure for equipment destined for direct reuse is given in figure 2.

⁴ Such information may indicate that more stringent provisions to be applied like the provisions of the Basel Convention.

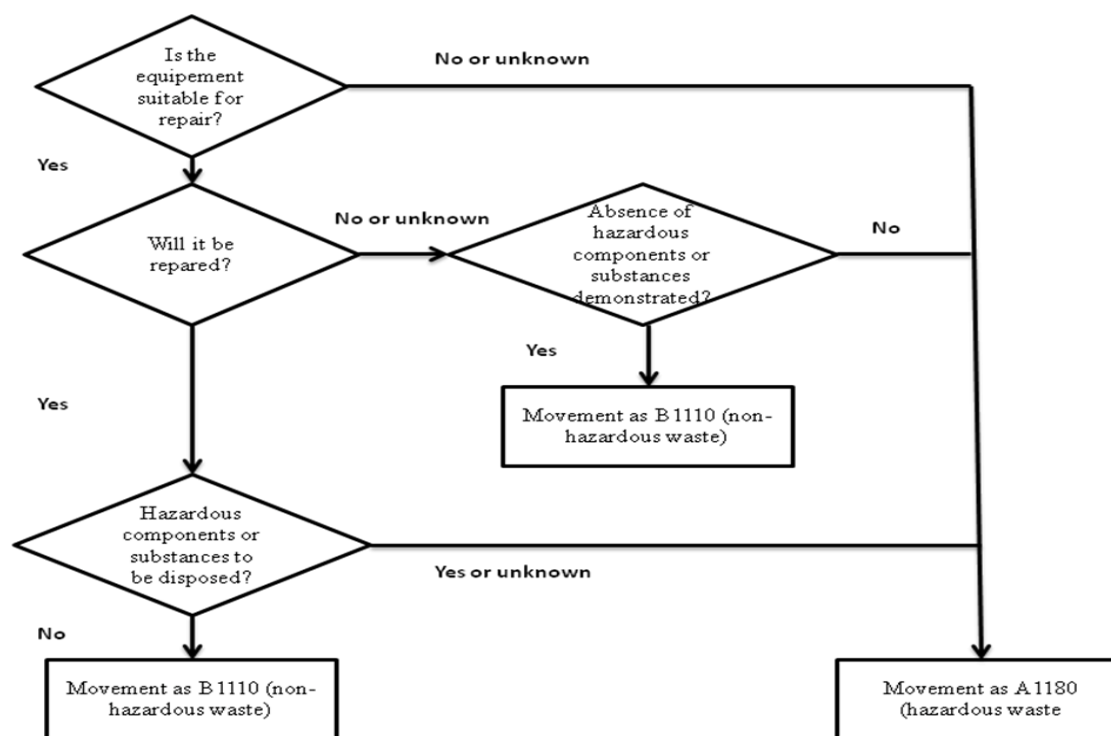


Figure 2 Alternative procedure for used equipment destined for repair or refurbishment.

IV. Guidance on transboundary movement of E-waste

A. General considerations

44. If E-waste is considered to be hazardous waste according to Article 1.1.a. of the Convention or by national legislation the procedure of prior informed consent as mentioned in II B of this guideline applies. For E-waste that is not considered to be hazardous the Basel Convention does not foresee a specific procedure. However certain Parties have implemented procedures in those cases. Examples are the procedures for Green-listed waste in the EU Regulation on Shipment of Waste⁵ or the procedure for pre-shipment inspection of recycling materials as applicable for China⁶.

45. In case a competent authority involved in transboundary movement of E-waste considers a specific item to be hazardous waste according to its national law, while the other authorities would not, the control procedure for hazardous waste would apply. The same mechanism is suggested for differences of opinion between competent authorities on the assessment if the equipment constitutes a waste or not. In those cases the applicable procedures for transboundary movement of waste would be applied. Should this not be done, the movement has to be regarded as illegal because it would be illegal in at least one of the countries involved in the movement.

B. Distinction of hazardous waste an non-hazardous waste

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

A1180 Waste electrical and electronic assemblies or scrap⁷ containing components such as accumulators and other batteries included on list A, mercury-switches, glass from

⁵ Regulation (EC) N° 1013/2006. Information on this Regulation can be found on the web-site of the European Commission: <http://ec.europa.eu/environment/waste/shipments/index.htm>

⁶ PSI for recycling materials is established by the the General Administration of Quality Supervision, Inspection and Quarantine of People's Republic of China (AQSIQ). Information on the procedure can be found on the web-site of the China Certification & Inspection Group (CCIC), who is authorized to handle this procedure in various countries worldwide, e.g. on the website of the CCIC in Europe: <http://www.ccic-europe.com>

⁷ This entry does not include scrap assemblies from electric power generation.

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)⁸.

47. E-waste is also included in Annex IX of 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 scrap⁹ (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,¹⁰ and not for recycling or final disposal¹¹

48. Electronic equipment will often contain hazardous components examples of which are indicated in the entry A1180 of Annex VIII. E-waste will therefore be assumed hazardous unless it can be shown that it does not contain such components and in particular:

- 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 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, which are assigned to Annex VIII entry A1170 “unsorted waste batteries...”. This waste also belongs to category Y26 in Annex I, cadmium; cadmium 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 electronic and electrical 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 as well as 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) are 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.” This waste also

⁸ PCBs are at a concentration level of 50 mg/kg or more.

⁹ This entry does not include scrap from electrical power generation.

¹⁰ Reuse can include repair, refurbishment or upgrading, but not major reassembly

¹¹ In some countries these materials destined for direct re-use are not considered wastes.

belongs to category Y45 in Annex I, Organohalogen compounds other than substances referred to elsewhere in Annex I, and to category Y27 Antimony, antimony compounds, and is likely to possess hazard characteristics H6.1, H11, H12 and H13.

V. Guidance on control of transboundary movement of E-waste

49. Inspections are undertaken by competent bodies of state authorities (e.g. police, customs and (environmental) inspectors) at facilities and during the transport. Economic operators involved in transboundary movement of used equipment should ensure that it is accompanied by proof of adequate testing and that is appropriately packed in order to demonstrate that the items concerned are not E-waste as indicated in section III C. For practical reasons of control it is recommended that every load of used equipment is also accompanied by a CMR document¹². When E-waste is moved as non-hazardous waste the economic operators involved in the movement should ensure that it is accompanied by evidence of appropriate testing or assessments to demonstrate that the waste that is being shipped is non-hazardous.

50. In the absence of appropriate documentation and packaging state authorities are likely to presume that an item is hazardous E-waste and, in the absence of consents in accordance with the requirements of the Basel Convention, presume that the movement is a case of illegal traffic as specified in Article 9 of the Convention. In these circumstances the relevant competent authorities will be informed and the provisions of take back as foreseen in Article 9 will be applied. The economic operators involved in the movement and may be liable to a criminal sanction. In those jurisdictions where the burden is on the state authorities to prove the items are E-waste rather than used equipment, absence of the appropriate documentation and packaging is likely to lead to significant delays to the onward transport of the waste whilst the necessary investigations are carried out to establish the status of the equipment being moved. Appendix IV contains some examples of decision making steps in a number of common 'real world' scenarios e.g. on control situations dealing with the control of transboundary movement of E-waste.

¹² Document containing the information as required under the UN 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 to use the standard CMR forms to facilitate communication in case of a control. An extract of the correlation table between codes used in customs documents to describe goods and entries in the Basel Convention Annexes VIII and IX has been included in Appendix III.

Appendix I Disposal operations as defined in Annex II of the Basel Convention

A. Operations which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses

Section A encompasses all such disposal operations which occur in practice.

- D1 Deposit into or onto land, (e.g., landfill, etc.)
- D2 Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.)
- D3 Deep injection, (e.g., injection of pumpable discards into wells, salt domes of naturally occurring repositories, etc.)
- D4 Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)
- D5 Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)
- D6 Release into a water body except seas/oceans
- D7 Release into seas/oceans including sea-bed insertion
- D8 Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A
- D9 Physico chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, (e.g., evaporation, drying, calcination, neutralization, precipitation, etc.)
- D10 Incineration on land
- D11 Incineration at sea
- D12 Permanent storage (e.g., emplacement of containers in a mine, etc.)
- D13 Blending or mixing prior to submission to any of the operations in Section A
- D14 Repackaging prior to submission to any of the operations in Section A
- D15 Storage pending any of the operations in Section A

B. Operations which may lead to resource recovery, recycling reclamation, direct re-use or alternative uses

Section B encompasses all such operations with respect to materials legally defined as or considered to be hazardous wastes and which otherwise would have been destined for operations included in Section A

- R1 Use as a fuel (other than in direct incineration) or other means to generate energy
- R2 Solvent reclamation/regeneration
- R3 Recycling/reclamation of organic substances which are not used as solvents
- R4 Recycling/reclamation of metals and metal compounds
- R5 Recycling/reclamation of other inorganic materials

R6	Regeneration of acids or bases
R7	Recovery of components used for pollution abatement
R8	Recovery of components from catalysts
R9	Used oil re-refining or other reuses of previously used oil
R10	Land treatment resulting in benefit to agriculture or ecological improvement
R11	Uses of residual materials obtained from any of the operations numbered R1-R10
R12	Exchange of wastes for submission to any of the operations numbered R1-R11
R13	Accumulation of material intended for any operation in Section B

Appendix II Examples of functionality tests

This appendix contains some examples of tests and procedures for functionality tests of electrical and electronic equipment. These test and procedures are used to assess if this equipment is suitable for re-use. The examples are not meant to be exhaustive but illustrate procedures as they are applied by some Parties or recommended in other guidance documents of the Basel Convention.

Equipment in general

Both Malaysia¹³ and Australia¹⁴ have given examples of tests on used equipment that show defects that materially affects the functionality of the equipment or shows physical damage that would qualify them as waste.

Used equipment shows a defect that materially affects its functionality if for example it **DOES NOT**:

- power up; or
- have a functioning motherboard; or
- perform Basic Input / Output System (BIOS) or internal set-up routines or self-checks fail; or
- communicate with the host; or
- print/scan/copy a test page or the page is not identifiable or readable or is blurred or lined; or
- read, write or record/burn.

Physical damage that impairs its functionality or safety, as defined in the specification, including but not limited to:

- a screen that has physical damage, such as burn marks, or is broken, cracked, heavily scratched or marked, or that materially distorts image quality; or
- a signal (input) cable has been cut off or cannot be easily replaced without recourse to opening the case

Also

- a faulty hard disc drive and a faulty Random Access Memory (RAM) and a faulty Video Card; or
- batteries made with lead, mercury or cadmium or lithium or nickel that are unable to be charged or to hold power;

are indications that the used equipment are E-waste.

¹³ Guidelines for the classification of used electrical and electronic equipment in Malaysia. (DOE, 2008). Available on http://www.doe.gov.my/files/u1/ELECTRICAL_AND_ELECTRONIC_EQUIPMENTIN_MALAYSIA.pdf

¹⁴ Criteria for the Export and Import of Used Electronic Equipment (DEH, 2005). Available on <http://www.environment.gov.au/settlements/chemicals/hazardous-waste/publications/electronic-paper.html>

Mobile phones

The Guideline on the refurbishment of used mobile phones (MPPI, 2009 d) describe the tests to be performed as a minimum to assess if used mobile phones are suitable for re-use. This includes:

- a) An “air” or “ping” test – calling a test number (which will vary from country to country and from network to network), to generate a service response, and indication of whether or not the handset is functional.
- b) A “loop back” test – blowing or speaking into the handset, whilst on a call, to determine whether or not the microphone and speaker are functional.
- c) A screen and keypad test – switching the handset on and pressing each of the keys, to indicate whether or not the LCD and keys are functional.
- d) A battery test – testing the battery with a volt meter to indicate whether or not the battery is functional.

Computers

Taiwan requires the following steps to be taken in case of repair and reassembly of used computers. After this procedure the computers are regarded to be suitable for re-use.

1. Basic testing
2. Dismantling and sorting
3. Parts testing
4. Purchasing makeup parts
5. Assembling
6. Installing software
7. Testing system
8. Labeling
9. Packaging

The minimum requirement for a guarantee for functionality of the computer is 1 year.

Appendix III Correlation between the Harmonized System Codes and Basel Convention lists

The Secretariat of the Basel Convention has cooperated with the World Customs Organisation (WCO) to establish a correlation between the entries in Annexes VIII and IX of the Convention and the Harmonized Commodity Description and Coding System (normally referred to as “Harmonized System” further HS). The HS provides for a nomenclature of goods used by all customs organizations. This system is used by economic operators to in documentation required by custom authorities throughout the world. The system uses 6-digit codes and descriptions of goods. Also wastes are included in the system.

The WCO prepared a document in which the correlation between relevant HS codes and the Annexes VIII and IX were established for the following entries of Annex VIII:

A1160 Waste lead-acid batteries, whole or crushed

A1170 Unsorted waste batteries excluding mixtures of only list B batteries. Waste batteries not specified on list B containing Annex I constituents to an extent to render them hazardous

A1180 Waste electrical and electronic assemblies or scrap 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)

A1190 Waste metal cables coated or insulated with plastics containing or contaminated with coal tar, PCB, lead, cadmium, other organohalogen compounds or other Annex I constituents to an extent that they exhibit Annex III characteristics.

It also contains the correlation with the following entries of Annex IX:

B1040 Scrap assemblies from electrical power generation not contaminated with lubricating oil, PCB or PCT to an extent to render them hazardous.

B1090 Waste batteries conforming to a specification, excluding those made with lead, cadmium or mercury

B1110 Electrical and electronic assemblies :

- . Electronic assemblies consisting only of metals or alloys . Waste electrical and electronic assemblies or scrap (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, and not for recycling or final disposal¹⁵.

The correlation table lists the different HS codes and indicates if there the relevant HS code only consists of waste (indicated with the symbol X) or also may consist of both wastes and of products that are not waste (indicated with the symbol EX). It is also indicated if the material covered by the HS code would be included in List A, List B or both. This correlation table may be useful for enforcement agencies undertaking controls of used equipment and E-waste when checking customs documents or CMR documents. These make use of the HS codes to describe the goods that are transported and generally do not make reference to the waste codes of the Convention. The table may give indications when movements indicated with certain HS codes could constitute E-waste and in which cases this could be hazardous waste. Such cases could be then be selected for further inspection. An extract of the table is represented below. If Parties consider this relevant for the present guideline the latest version of the full table will be included in full in the next draft of the guideline.

¹⁵ The relevant footnotes for these entries have not been reproduced here. They can be found in the relevant part of Section IV of this guidance document.

Extract of the correlation between HS codes and Basel entries relevant for E-waste

HS Code	Waste in Annex VIII	Waste in Annex IX
0502.10		EX
0502.90		EX
0507.10		EX
0507.90		EX
0508.00		EX
1404.90		EX
1802.00		EX
2303.20		EX
2303.30		X
2505.90		EX
2517.20		EX
2619.00		X
2620.21	X	X
2620.29	X	EX
2620.40	X	EX
2620.60	X	EX
2620.91	X	EX
2620.99	X	EX
2621.10	X	EX
2621.90	X	EX
2706.00	EX	EX
27.07	EX	EX
2708.10	EX	EX
2708.20	EX	EX
2709.00	EX	EX
2710.19		EX
2713.90	X	EX
2715.00		EX
2804.80	EX	EX
2805.40	X	X
2827.35		EX
2827.39		EX
2827.49		EX
2841.50	EX	EX
2846.90		EX
2849.10		EX
2849.20		EX
2852.00	X	EX
3104.20		EX
3204.17	EX	EX
3604.90	EX	
38.08	X	
3824.10	EX	
3824.30	EX	
3824.40	EX	
3824.50	EX	
3824.60	EX	
3824.71	X	
3824.72	X	
3824.73	X	
3824.74	X	

HS Code	Waste in Annex VIII	Waste in Annex IX
3824.75	X	
3824.76	X	
3824.77	X	
3824.78	X	
3824.79	X	
3824.81	X	
3824.82	X	
3824.83	X	
3824.90	X	
3825.10	X	EX
3825.20	X	EX
3825.30		EX
3825.41		EX
3825.49		EX
3825.50		EX
3825.90	X	EX
3907.70		EX
3909.30		EX
3918.10		EX
3918.90		EX
4004.00		EX
4115.20	X	EX
4706.20		EX
4707.90	X	EX
5003.00		EX
5007.20		EX
5103.10		EX
5103.20		EX
5103.30		EX
5202.10		EX
5202.91		EX
5202.99		EX
5301.30		EX
5505.10		EX
5505.20		EX
6806.90		EX
6809.90		EX
6811.40	X	
6903.90		EX
7204.29		EX
7204.50		EX
7802.00	X	X
7902.00		EX
8002.00		EX
8101.97		EX
8102.97		EX
8103.30		EX
8103.90		EX

**Annex IV Examples of decision making stems in a number of common
'real world' scenario's e.g. when controlling transboundary movements of
E-waste**

PM to be developed on the basis of additional information gathered in the coming period.

Annex V References

- Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009a. Guideline on the awareness raising – design considerations. Revised and approved text March, 25 2009
- Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009b. Guideline on the collection of used mobile phones. Revised and approved text March 25, 2009
- Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009c. Guideline for the transboundary movement of collected mobile phones. Revised and approved text March, 25 2009
- Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009d. Guideline on the refurbishment of used mobile phones. Revised and approved text March, 25 2009
- Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009e. Guideline on material recovery and recycling of end-of-life mobile phones. Revised and approved text March 25, 2009
- United Nations Economic Commission for Europe (UNECE), 2009. Recommendations on the transport of dangerous goods. Model Regulations, sixteenth revised edition.
- United Nations University (UNU), 2007. 2008 review of Directive 2002/96 on Waste Electrical and Electronic Equipment.
- Yu Xink et al (2008). *E-waste recycling heavily contaminates a Chinese City*. Organohalogen Compounds, Volume 70.
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