



## SANCTIONED INTERPRETATION #3

# of the e-Stewards® Standard for Responsible Recycling and Reuse of Electronic Equipment: Version 2.0®

FINAL Published on June 9, 2015

### Introduction

Purpose: The e-Stewards Sanctioned Interpretations exist to provide a single focal point for all questions and changes related to the e-Stewards Standard between formal revisions of the standard.

Use in audits: Interpretations published in final Sanctioned Interpretations shall be referenced for any audits of an e-Stewards Organization against the e-Stewards Standard, and are effective as of date of publication unless otherwise stated. In other words, all final Sanctioned Interpretations are requirements for certification, effective the date of final publication.

Format of this Sanctioned Interpretation: The most recent updates to these Sanctioned Interpretations appear in **bold font** in this document. As in the e-Stewards Standard, *italics* represents ISO 14001 language. Some entries below provide only clarifications of the current Version 2.0 text, in the form of questions and answers (Q and A); these are marked as a [CLARIFICATION]. Other entries provide new requirements in the standard; these are marked as [NEW STANDARDS LANGUAGE]. It is important to recognize that Appendix A (at the end of this document) also may contain changes in requirements. In the digital version of this document, the Table of Contents links directly to each section.

Access: This system of formal clarifications and corrections is intended primarily for accreditation bodies, certification bodies, and e-Stewards Organizations that are using the e-Stewards Standard, but questions from all sources will be considered and responded to as appropriate. Send inquiries to [info@e-stewards.org](mailto:info@e-stewards.org).

The Final Draft Sanctioned Interpretation preceding this publication was opened to all certified e-Stewards recyclers, those contracted for certification, and accredited e-Stewards Certification Bodies for a 30-day comment period from March 9th, 2015 through April 10th, 2015. Input was incorporated into the final Sanctioned Interpretation.

The most recent version of the Sanctioned Interpretation (SI) can be found in the certification section at [www.e-Stewards.org](http://www.e-Stewards.org).

NOTE: Footnote numbers in this SI do not correspond to the same footnote numbering system in the standard.



---

## TABLE OF CONTENTS

---

Introduction.....	Error! Bookmark not defined.
TABLE OF CONTENTS.....	2
1 ENVIRONMENTAL MANAGEMENT SYSTEMS - REQUIREMENTS WITH GUIDANCE FOR USE.....	3
1.1.4 Eligibility for certification.....	3
2 NORMATIVE REFERENCES.....	3
3 TERMS AND DEFINITIONS [formerly GLOSSARY].....	3
4 ENVIRONMENTAL MANAGEMENT SYSTEM REQUIREMENTS.....	4
4.2 <i>Environmental Policy</i> .....	4
4.3 <i>Planning</i> .....	4
4.3.1 <i>Environmental and Stewardship Aspects</i> .....	4
4.3.3 <i>Objectives, targets and programme(s)</i> .....	4
4.4 <i>Implementation and operation</i> .....	5
4.4.2 <i>Competence, training and awareness</i> .....	5
4.4.3 <i>Communication</i> .....	5
4.4.6 <i>Operational control</i> .....	5
4.4.8 <i>Insurance</i> .....	9
APPENDIX A: REQUIREMENTS FOR ALL e-STEWARDS ORGANIZATIONS.....	10
A.4.4.6.5. <i>Downstream Accountability</i> .....	10
APPENDIX B: ADMINISTRATIVE REQUIREMENTS FOR e-STEWARDS ORGANIZATIONS.....	10



## 1 ENVIRONMENTAL MANAGEMENT SYSTEMS - REQUIREMENTS WITH GUIDANCE FOR USE

### 1.1.4 Eligibility for certification [ADDITIONAL STANDARDS LANGUAGE]

Certification is not available to Prison Operations, as defined under Terms and Definitions. If operations use prison labor but believe they meet the criteria exempting them from the Prison Operations definition, the Organization shall provide objective evidence of such conformity to the e-Stewards program administrator and receive written approval from the program administrator to seek e-Stewards certification.

## 2 NORMATIVE REFERENCES

*No changes to date*

## 3 TERMS AND DEFINITIONS [formerly GLOSSARY]

### 3.28 A Direct Reuse [NEW STANDARDS LANGUAGE]

The continued use, by other than previous user, of Electronic Equipment and components which have been tested and determined to be Fully Functional without the necessity of (further) Repair/Refurbishment, provided that such continued use is for the originally intended, Repurposed, or upgraded purpose of Electronic Equipment and their components.

### 3.43 Immediate Downstream Processor [NEW STANDARDS LANGUAGE IN BOLD]

A next-tier facility or operation to which the e-Stewards Organization transfers (with or without Intermediaries involved) Hazardous Electronic Equipment, Hazardous e-Waste, or Problematic Components and Materials in any form. It also includes a next-tier facility or operation to which the Organization outsources activities it is responsible for under this Standard, e.g. reuse (4.4.6.2) and data security (4.4.6.3) requirements. An Immediate Downstream Processor can include End Refurbishers, Downstream Processors, End Processors, and Final Disposal facilities, but does not include Intermediaries such as Brokers.

### 3.50 A: Prison Operation [NEW STANDARDS LANGUAGE]

Facilities that Recycle/Process Electronic Equipment in which work on e-waste is performed by incarcerated workers, except in facilities where the e-Stewards program administrator agrees in writing that all of the following criteria are met:

- a) Not government subsidized: The operation does not receive a net government subsidy, i.e. the operation shall not operate at lesser costs than would be incurred by operations using non-incarcerated workers after all costs, e.g. wages, housing, food, insurance, closure plans, are considered. Regardless of the net costs, incarcerated workers must also receive compensation equivalent to at least the local minimum hourly wage for non-incarcerated workers in the same jurisdiction;
- b) Heightened data security controls: An effective system of heightened and continuous protection of Customer Data exists in view of the higher risk of private data being compromised in a prison environment; and



- c) Occupational health and safety protections: Incarcerated workers are provided with equal or greater rights (from both internal and external authorities) compared to non-incarcerated workers, including the right to be made aware of and redress risks of occupational harm.

## 4 ENVIRONMENTAL MANAGEMENT SYSTEM REQUIREMENTS

### 4.2 Environmental Policy

4.2 b) 3. [NEW STANDARDS LANGUAGE. REPLACES ORIGINAL 4.2 b) 3]

Prohibition of Prison Operations, as defined in this standard, throughout the Recycling Chain

### 4.3 Planning

#### 4.3.1 Environmental and Stewardship Aspects

4.3.1 c) Conduct a risk assessment [NEW STANDARDS LANGUAGE IN BOLD. THIS PARAGRAPH REPLACES ORIGINAL PARAGRAPH ONE IN 4.3.1 c)]

At least every three years, conduct and document a risk assessment of the Organization's Environmental and Stewardship Aspects, using qualified personnel. The risk assessment shall include a job risk and hazard analysis of all functional areas, and may be conducted using a multi-disciplinary team. Additional risk assessments shall be conducted on specific operations or areas prior to and following any significant changes.

4.3.1 c) Conduct a risk assessment [CLARIFICATION]

Q: Is a separate risk assessment required to be conducted at each facility, if an Organization is multi-sited?

A: Yes. The requirement to perform a risk assessment applies to each facility. While there may be some aspects of operations which are duplicated in multiple sites owned and managed by the same company (and can provide input into another similar facility's risk assessment), there will always be differences between facilities, including differences in waste streams processed, site-specific risks (e.g. storm water runoff), employee training and involvement in the risk assessment, performance of effective housekeeping practices, etc.

#### 4.3.3 Objectives, targets and programme(s) [CLARIFICATION]

Q: Is the Organization required to establish data security objectives?

A: If an Organization has identified the potential impact of data security as a significant Environmental and Stewardship Aspect within its operation, then it is a requirement to establish associated objective(s), target(s) and program(s) for these data security aspects. If the Organization does not identify data security aspects as significant, then no data security objectives and targets are required to be established.



#### 4.4 Implementation and operation

##### 4.4.2 Competence, training and awareness [CLARIFICATION]

Q: What are the competency requirements for persons conducting internal audits and downstream Due Diligence on behalf of the Organization?

A: The person(s) conducting audits shall be competent for the task based upon an appropriate and demonstrated combination of education, work experience, auditor training, e-Stewards Standard training, and audit experience.

##### 4.4.3 Communication

###### 4.4.3.1 Participation and Communication

4.4.3.1 b) [NEW STANDARDS LANGUAGE IN BOLD. THIS PARAGRAPH REPLACES ORIGINAL LANGUAGE FOR LETTER b)]

b) For Customers

If requested by customers, including upstream e-Stewards Organizations, the Organization shall provide, or allow review of, verifiable records of:

1. The Organization's Hazardous e-Waste shipped to and received by facilities approved by the Organization for Recycling and/or Final Disposal, through Final Disposition, including Hazardous e-Waste generated by Repair/Refurbishment operations. Records shall include:
  - ▶ Location of each Downstream Processor through Final Disposition (including country), and current contact information for each facility;
  - ▶ Weights/quantities, contents, and dates of each shipment to Immediate Downstream Processors (IDPs); and
  - ▶ Sampling of shipment records to Downstream Processors beyond IDPs, to Final Disposition of Hazardous e-Waste;
2. Equipment and components going for reuse, up to the point of completing requirements for reuse in conformity with 4.4.6.2. Records shall include dated sales orders or invoices numbers, but do not need to include names of buyers; and
3. Competent Authority notifications and consent, or approvals, where applicable.

Should the customer require *more* extensive detailed documentation, provision of such information may be contractually negotiated and controlled.

##### 4.4.6 Operational control

###### 4.4.6.2 Reuse and Refurbishment of Electronic Equipment

**NOTE: New battery requirements are effective July 1<sup>st</sup>, 2015**

a) Test Electronic Equipment and ensure Full Functionality



The Organization shall determine that Electronic Equipment, including components, which contain or consist of HEEs and/or PCMs are Fully Functional, with exceptions defined in Table 1 below, by testing each item to determine its condition, Repairing/Refurbishing as needed, and ensuring they are Fully Functional<sup>1</sup> prior to going for Direct Reuse.

In addition, the Organization shall:

- ~~1.~~ **[DELETE ORIGINAL COMPUTING EQUIPMENT BATTERY REQUIREMENTS IN V2 STANDARD, AND REPLACE WITH NEW REQUIREMENTS IN TABLE 1, ROW 4 BELOW]**
- ~~2.~~ **1.** [NEW NUMBER] Determine the state of health of each mobile phone battery destined for reuse<sup>2</sup>, ensuring that it is capable of holding a charge of at least 80%<sup>3</sup> of its original rated capacity<sup>4</sup>. This should be accomplished by the following:
  - ▶ Recharge each battery (at least 30% recharged) and then perform a 'quick test' (e.g. with a quick sort analyzer) if a reliable quick test<sup>5</sup> is available for battery type, or
  - ▶ Fully charge and discharge the battery to measure its present capacity expressed as a percentage of original rated capacity,
- ~~3.~~ **2.** [NEW NUMBER] Determine that photo voltaic modules destined for reuse are capable of producing power output that is at least 50% of original power output, and
- ~~4.~~ **3.** [NEW NUMBER] Test CRT devices that are destined for remanufacturing<sup>6</sup> ...

---

<sup>1</sup> For batteries other than those explicitly addressed in this section 4.4.6.2 (e.g. batteries from tablets and non-lithium-ion batteries), the Organization is encouraged to define 'Fully Functional' using the minimum capacity defined in the Basel Convention's Mobile Phone Partnership Initiative guideline on refurbishment, which recommends that a used battery going into reuse should be able to hold a charge that is at least 80% of its original capacity.

<sup>2</sup> Unless mobile phone is Repurposed to a use that does not rely on the battery.

<sup>3</sup> This parameter was defined by participants in the United Nation's Mobile Phone Partnership Initiative (MPPI), including industry participants; <http://www.basel.int/industry/mppi.html>

<sup>4</sup> Battery manufacturers typically state the rated capacity of new batteries on the battery labels, in terms of milliamp hours (mAh or mAmps).

<sup>5</sup> If using a pass/fail analyzer, it must be set at a minimum threshold of 80% for all batteries indicated to "pass" the quick test.

<sup>6</sup> e.g. removing a cathode ray tube (CRT) from a used device and building a new device/product incorporating the old tube.



**Table 1: Electronic Equipment that does not have to be Full Functional (4.4.6.2 a), if it meets these requirements**

Type of Electronic Equipment exempt from Full Functionality requirements (4.4.6.2 a)	Requirements for this type of Electronic Equipment, prior to going for reuse
<p><b>...4. Rechargeable lithium-ion batteries that are replaceable and are used in laptops and notebook computers</b></p>	<p><b>Perform all of the activities below, whether batteries are in the device they power or separate, and only send batteries into reuse if they meet all of the following requirements:</b></p> <ul style="list-style-type: none"> <li>▶ <b>Visually inspect each laptop or notebook for evidence of a bulging battery or bulging housing due to an internal bulging battery, and only allow non-bulging or otherwise undamaged batteries and their devices to go to reuse; and</b></li> <li>▶ <b>Fully charge each battery, and then unplug the device and test each battery by using either the free bootable testing software provided by the e-Stewards program administrator<sup>7</sup> or any software or testing device that achieves the same outcomes<sup>8</sup>, as follows:</b> <ul style="list-style-type: none"> <li>▶ <b>Determine and record the original design capacity in milliamp hours (mAh) that is recorded on the smart chip for each battery;</b></li> <li>▶ <b>Determine and record the last known full capacity<sup>9</sup> in mAh of each battery, e.g. by reading the smart chip;</b></li> <li>▶ <b>Express and record the difference between the two numbers as a percentage of original capacity; and</b></li> <li>▶ <b>Perform a 10-minute load test using the Prime95 program at the -t option setting<sup>10</sup>, or an equal or greater load. Batteries that run out of power during the 10-minute load test shall not be made available for reuse. Also, batteries that deviate more than 25% in any two readings during the test cannot be made available for reuse.</b></li> </ul> </li> </ul> <p><b>NOTE: If a battery fails any of the requirements above, it shall not be sent into reuse and shall be managed as an HEW. See labeling requirements under 4.4.6.2 c) for information which must accompany all sales/donations and shipments of these batteries that are acceptable for reuse.</b></p>

<sup>7</sup> Available at <http://e-stewards.org/learn-more/for-recyclers/online-tools/battery-testing/>

<sup>8</sup> Software specifications can be found at the link above, in footnote 7.

<sup>9</sup> i.e. the reported capacity of the battery at the time of the test.

<sup>10</sup> This program and its specifications are available at ([www.mersenne.org](http://www.mersenne.org)); Version v28.5 or later shall be used, with the -t setting. An alternate test can be used if it meets the equivalent specifications of Prime95 with the -t setting.



c) Label or list identifying records for each item of Electronic Equipment

The Organization shall provide and maintain identifying information for each item of Electronic Equipment (including components) destined for reuse, except for integrated circuits and random access memory (RAM). The identifying information shall be conveyed in manner that ensures that future buyers and/or donees have access to this information, **regardless of whether or not the information has been requested. The information shall be conveyed** by either a label attached to each item and/or an accompanying list of items (e.g. packing slip) in each lot or shipment sold or transferred, and in a manner that is accessible to officials (e.g. customs officers) and customers without the need for unpacking. Identifying information shall include:

...

6.

- ▶ Results of tests performed,
- ▶ An accurate representation of the condition of the device or component (including cosmetic condition), **including for batteries not stipulated in a) 1 [mobile phone batteries] and Table 1, Row 4 [some computing device batteries],**
- ▶ A description of missing components (if applicable),
- ▶ Confirmation that all equipment and/or components are Fully Functional (except for exempted equipment), and
- ▶ A clear representation that it is a used device or component (unless it is new and still in original packaging),

**7. [REPLACES ORIGINAL #7 IN VERSION 2 STANDARD] Information about each rechargeable battery that meets requirements in Table 1, Row 4, as follows:**

- ▶ **Original capacity:** The original rated capacity of the battery (when it was new), in milliamp hours (mAh);
- ▶ **Capacity at time of test:** The reading of the last known full capacity in mAh of the fully charged battery at the time of the test; and
- ▶ **Percentage of original capacity:** The remaining capacity of the battery expressed as a percentage of the original capacity (derived from the above two readings).

**These results shall be made available by the Organization upon request, for the 5 year record-retention period.**

---

4.4.6.5 Accountability for downstream recycling

(See additional changes for this section below under APPENDIX A)

4.4.6.6 Restrictions on Materials Recovery and Final Disposition operations

4.4.6.6 f) Table 3, Row 6





Q: Can you please clarify the practical application of the concept of “last resort” in Row 6 of Section 4.4.6.6 f) Table 3 regarding the placement of cleaned, leaded display glass into or on solid waste landfills, for any purpose?

A: Yes. In order to utilize the ‘last resort’ management option for cleaned, treated, leaded CRT glass, an Organization shall determine and document that all other options in Row 6 are ‘not viable’, and therefore this ‘last resort’ option can be made available to the Organization, unless prohibited by law or disposal facility. To claim this, the Organization shall provide objective evidence to e-Stewards auditors and program administrator of why and how this determination was made, utilizing the following definitions for these terms:

‘Last resort’

The final recourse or least-acceptable option for types of facilities available to the e-Stewards Organization for Materials Recovery and/or Final Disposition, which cannot be utilized unless each and all of the other options available in the marketplace and acceptable in the Standard [i.e. in 4.4.6.6.e) and f) Row 6] have first been determined and documented to be ‘not viable’.

‘Not viable’

Preferred options are considered ‘not viable’ in the following cases:

- a. Access to known disposition channels is denied<sup>11</sup> by prospective customer/receiver, or
- b. Legal or logistical barriers<sup>12</sup> in transporting or exporting materials to a preferred channel are insurmountable.

NOTE: This ‘last resort’ option for allowing cleaned and treated CRT glass into solid waste landfills applies regardless of whether the material is used as alternative daily cover or otherwise placed into a landfill for any reason. This option is not seen as recycling but as disposal. BAN can be contacted for a non-definitive, unendorsed list of CRT glass processors and end-processors that are likely to be acceptable in the context of the e-Stewards Final Disposition requirements.

**4.4.8 Insurance [NEW STANDARDS LANGUAGE IN BOLD. THIS PARAGRAPH REPLACES ORIGINAL INSURANCE SECTION]**

An Organization shall obtain and maintain liability insurance<sup>13</sup> adequate to cover the potential risks and liabilities for both its physical site(s) and operations, per occurrence and in the aggregate, as follows:

- a) Levels of insurance shall be commensurate with the nature and risks of the Organization’s operations,
- b) The insurance shall cover liability for data privacy breaches, contractual liability, site pollution, property damage, environmental pollution, and occupational health and safety impacts (e.g. hazardous exposures and releases, bodily injury, and accidents) and other emergencies, and

<sup>11</sup> Financial considerations shall not qualify as denial or as a logistical barrier unless the Organization can demonstrate cost (e.g. predatory pricing) that is at least triple the price of the most costly preferential option.

<sup>12</sup> See previous footnote

<sup>13</sup> Or its equivalent in countries which do not allow insurance.



- c) The Organization shall retain the appropriate insurance to indemnify affected parties, if indemnification is offered and allowed by law.

The Organization shall obtain professional risk management advice and quotes from one or more qualified<sup>14</sup> insurance professionals/underwriters regarding appropriate insurance for both its physical site(s) and operations. The Organization shall provide written justification for the insurance coverage they hold, based on the assessment(s) of qualified insurance professionals/underwriters, customer needs, and the Organization's asset base. If actual insurance coverage is significantly different from the professional advice and quote(s), the Organization shall demonstrate how and why. The record of this professional advice shall be maintained as part of the e-Stewards records system.

## APPENDIX A: REQUIREMENTS FOR ALL e-STEWARDS ORGANIZATIONS

### A.4.4.6.5. Downstream Accountability

- c) 1. iii [NEW STANDARDS LANGUAGE IN BOLD. THIS PARAGRAPH REPLACES ORIGINAL c)1 iii]

Create and enforce written agreements with each IDP, and review Annually to restrict and control the Organization's HEWs according to requirements in section 4.4.6.5. This agreement shall include a requirement for each IDP to immediately (within fifteen business days) notify the Organization if any of the IDP's Downstream Processors or Brokers change.

## APPENDIX B: ADMINISTRATIVE REQUIREMENTS FOR e-STEWARDS ORGANIZATIONS

- h) Oversight by e-Stewards program administrator [NEW ADDITIONAL LANGUAGE FOR LETTER h]

Performance Verification (PV) procedure: Certified e-Stewards Recyclers are required to add a documented procedure to their management systems (by July 1, 2015 for already certified Organizations) to indicate responsibilities and procedures for receiving unannounced inspections from designated representatives of the e-Stewards program administrator ('inspectors') to verify ongoing conformance with the Standard. Important elements that shall be addressed in the required procedure are as follows:

- Management acknowledgment of the Performance Verification program and commitment to cooperate in all regards;
- Assignment of a named Management Representative and a Deputy Management Representative, who will be the primary contact for the inspectors when they arrive on site. If neither named official is available on the day of the inspection, then the senior site manager will be the contact for the inspectors;

<sup>14</sup> Qualifications must include familiarity with the risks associated with the electronics recycling/refurbishment industry, as applicable, as well as familiarity with insurance or financial assurance laws and best practices.



- Acknowledgment and acceptance that there may be disruptions in production on the day of any such inspection;
- Confirmation that the Organization will permit the inspection to begin within 15 minutes of the arrival of the inspectors;
- Acknowledgement that during the inspection, it is likely that in-process and finished materials will be sampled and that any operations or materials may be required to be unloaded, unpacked, inspected, re-tested or otherwise verified to meet the e-Stewards Standard and management system requirements in all regards;
- Organization will permit access to the inspectors to all areas and structures under the scope of the e-Stewards management system, and permit complete inspection. This extends to any Ancillary Sites of the certified location; and
- All documents, records, past audit reports, etc. shall be made available to inspectors without delay, upon request of the inspectors.