

**Cathode Ray Tubes Compliance Guideline
Hazardous Waste Management System;
Modification of the Hazardous Waste Program
40 CFR Parts 9, 260, 261, and 271
Electronic Scrap Recycling Impacts**

I. Introduction

On January 29, 2007, the Environmental Protection Agency's (EPA) final rule on cathode ray tubes becomes law. The EPA recently released its final rule for cathode ray tubes (CRTs). CRTs are the video display components of televisions and computer monitors.¹ The EPA is amending the Resource Conservation and Recovery Act (RCRA) to streamline management requirements for recycling of used CRTs and glass removed from CRTs. The final rule conditionally excludes these materials from the definition of solid waste if certain conditions are met. The rule is intended to encourage recycling and reuse of used CRT and CRT glass.² The rule does not affect households or conditionally exempt small quantity generators.³

This guideline is intended to assist ISRI members who intend to reuse, process, and/or export CRTs and CRT glass. This document is not intended to provide legal advice. Members that require legal advice on this issue should seek qualified environmental counsel.

II. CRTs and CRT Glass Sent for Recycling

Unused CRTs

Persons that send unused CRTs for recycling are not subject to RCRA regulations.

Used, Intact CRTs sent for Recycling⁴

Used, intact CRTs sent for recycling (e.g. glass processing, glass manufacturing, or smelting) that occurs within the United States are not solid waste as long as they are not speculatively accumulated by a CRT collector or glass processor.⁵

¹ The glass in CRTs typically contains enough lead to require managing it as hazardous waste under certain circumstances.

² EPA proposed this rule on June 12, 2002 (67 FR 40508).

³ CRTs from households are exempt from federal hazardous waste management requirements, even when sent for recycling or disposal. Non-residential generators of less than 100 kilograms (about 220 lbs) of hazardous waste in a calendar year, including CRTs, are defined as conditionally exempt small quantity generators.

⁴ Whose vacuum has not been released.

⁵ See 40 CFR 261.4(a)(23)(i). Also, a "CRT Collector" is a person who receives used, intact CRTs for recycling, repair, resale or donation. See 40 CFR 260.10.

*Used, Broken CRTs sent for Recycling*⁶

Used, broken CRTs (systems with released vacuums) are not solid wastes if they meet the following conditions:

- (1) *Stored* in a building with a roof, floor and walls; or placed in a container (e.g. package or vehicle) that is constructed, filled, and closed to minimize releases of CRT glass to the environment.
- (2) *Labeled* or marked clearly in containers that have the following phrases:
"Used cathode ray tube(s)-contains leaded glass "or "Leaded glass from televisions or computers."
And, "Do not mix with other glass materials."
- (3) *Transported and labeled* in containers that meet the requirements in (1) and (2).
- (4) *Not speculatively accumulated or disposed of*.⁷
- (5) *Exports* (see *Export section below*)

Hazardous waste storage permits are not required so long as broken CRTs are packaged and stored appropriately.

To be eligible for this exclusion, importers of used, broken CRTs must comply with the packaging, labeling, and speculative accumulation requirements as soon as the materials enter the United States.

Requirements for CRT Processing

CRT glass processing must take place in a building.⁸ No activities may be performed that use temperatures high enough to volatilize lead.⁹

Used, broken CRTs undergoing processing need only be stored in a building and may not be speculatively accumulated.

⁶ See 40 CFR 261.39

⁷ A material is "**speculatively accumulated**" if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that –during the calendar year (Commencing on January 1) –the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under §261.4(c) are not be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling. See 40 CFR 261.1(c)(8).

⁸ See 40 CFR 260.10

⁹ See 40 CFR 261.39(b)

Processed CRT Glass

Processed CRT glass (glass removed from CRTs) that is sent to a glass-to-glass manufacturer or lead smelter is not a solid waste if:

- (1) the glass is legitimately used or reused without reclamation,
 - (a) as an effective substitute for a commercial product; or,
 - (b) as an ingredient in an industrial process to make a product; and,
- (2) the glass is not speculatively accumulated.

If disposed of, all processed glass from used CRTs must comply with the storage, labeling and transportation requirements applicable to used, broken CRTs. (*see above*).

To be eligible for the waste exclusion, importers of processed glass from used CRTs must comply with these requirements as soon as these materials enter the United States.

III. Used CRTs Sent for Reuse and Repair

User's sending a CRT to a collector or reseller for potential reuse is not a RCRA generator. Used CRTs undergoing repairs (such as rewiring or replacing defective parts) before resale or distribution are not being reclaimed, and are considered to be products in use rather than solid wastes. These repairs do not constitute waste management.¹⁰ However, under today's rule, CRTs exported abroad for reuse are subject to a one-time notification requirement (*see below*).

IV. Exports

Exporting Used, Unbroken CRTs for Reuse

Exporters shipping used, unbroken CRTs for reuse as computers to another country must submit a one-time notification to EPA.

Persons who export used, intact CRTs for reuse must send a one-time notification to the Regional Administrator. The notification must include:

- (A) Statement that the notifier plans to export used, intact CRTs for reuse;
- (B) Notifier's name;
- (C) Notifier's address;
- (D) Notifier's EPA ID number (if applicable);

¹⁰ See 67 FR 40511

- (E) Name of contact person; and,
- (F) Phone number of contact person.

Note: Persons who export used, intact CRTs for reuse must also keep copies of normal business records for three (3) years from the date of export.¹¹

Exporting Broken or Unbroken CRTs for Recycling

Exporters shipping broken or unbroken CRTs to another country for recycling must notify EPA and receive written consent from the receiving country through EPA before shipments can be made.

In addition to applicable storage, labeling, transporting and speculative accumulation, used, broken CRTs must comply with the following:

- (i) Notify EPA of an intended export before the CRTs are scheduled to leave the United States. A complete notification should be submitted sixty (60) days before the initial shipment is intended to be shipped off-site. The notification may cover export activities extending up to 12 month. The notification must be in writing, signed by the exporter and include the following information:
 - (A) Name, mailing address, telephone number and EPA ID number (if applicable) of the exporter of the CRTs.
 - (B) The estimated frequency or rate at which the CRTs are to be exported and the period of time over which they are to be exported.
 - (C) The estimated total quantity of CRTs specified in kilograms.
 - (D) All points of entry to and departure from each foreign country through which the CRTs will pass.
 - (E) A description of the means by which each shipment of the CRTs will be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.)).
 - (F) The name and address of the recycler and any alternate recycler.
 - (G) A description of the manner in which the CRTs will be recycled in the foreign country that will be receiving the CRTs.
 - (H) The name of any transit country through which the CRTs will be sent and a description of the approximate length of time the CRTs will remain in such country and the nature of their handling while there.

¹¹ For example, contracts that demonstrate each shipment of exported CRTs will be reused. See 40 C.F.R. § 261.41

- (ii) Notifications should be sent to the following addresses with the following phrase prominently displayed:

“Attention: Notification of Intent to Export CRTs”

By mail:

Office of Enforcement and Compliance Assurance
Office of Federal Activities
International Compliance Assurance Division
Mail Code 2254A
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460

Hand-delivered:

Office of Enforcement and Compliance Assurance
Office of Federal Activities
International Compliance Assurance Division
Mail Code 2254A
Environmental Protection Agency
Ariel Rios Bldg., Room 6144
1200 Pennsylvania Ave. NW
Washington DC

- (iii) Upon request by EPA, the exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.

(iv) EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA receives a notification which EPA determines satisfies the export requirements. Where a claim of confidentiality is asserted with respect to any notification information EPA may find the notification not complete until any such claim is resolved.

(v) The export of CRTs is prohibited unless the receiving country consents to the intended export. When the receiving country consents in writing to the receipt of the CRTs, EPA will forward an Acknowledgment of Consent to Export CRTs to the exporter. Where the receiving country objects to receipt of the CRTs or withdraws a prior consent, EPA will notify the exporter in writing. EPA will also notify the exporter of any responses from transit countries.

(vi) When the conditions specified on the original notification change, the exporter must provide EPA with a written re-notification of the change, except for changes to the telephone number and decreases in the quantity. The shipment cannot take place until consent of the receiving country to the changes has been obtained (except for changes to information about points of entry and departure and transit countries and the exporter of CRTs receives from EPA a copy of the Acknowledgment of Consent to Export CRTs reflecting the receiving country's consent to the changes.

(vii) A copy of the Acknowledgment of Consent to Export CRTs must accompany the shipment of CRTs. The shipment must conform to the terms of the Acknowledgment.

(viii) If a shipment of CRTs cannot be delivered for any reason to the recycler or the alternate recycler, the exporter of CRTs must re-notify EPA of a change in the conditions of the original notification to allow shipment to a new recycler and obtain another Acknowledgment of Consent to Export CRTs.

(ix) Exporters must keep copies of notifications and Acknowledgments of Consent to Export CRTs for a period of three years following receipt of the Acknowledgment.

V. Disposal

If a person (other than a household or small quantity generator) decides to send used or unused CRTs directly to a landfill or incinerator, that person would be considered the generator of a solid waste. The person making the decision must determine if the CRTs exhibit a hazardous waste characteristic, either testing the CRTs or using process knowledge to make this determination.¹²

If the used or unused CRTs are determined to be hazardous and if a decision is made to dispose of them, the non-residential user, reseller, or manufacturer must comply with all applicable hazardous waste generator requirements.¹³ Persons that ship hazardous CRTs to hazardous waste landfills must comply with applicable land disposal restrictions.

VI. Circuit Boards

Used, Whole Circuit Boards

Used, whole circuit boards are exempt from the definition of solid and hazardous waste so long as they only contain minor battery or mercury switch components and are sent for continued use, reuse, or recovery. However, once removed, minor battery or mercury switch components must be managed as hazardous or solid waste depending on one's hazardous waste determination results.

Reclaimed, Shredded Circuit Boards

Shredded circuit boards being reclaimed are excluded from the definition of solid and hazardous waste provided they are stored in containers sufficient to prevent a release to the environment prior to recovery and free of mercury switches, mercury relays, nickel-cadmium batteries and lithium batteries.¹⁴

VII. Other Electronic Material

With respect to non-CRT electronic materials, the Agency uses the same line of reasoning that is outlined above for CRTs to determine that the materials are not solid wastes if they are reused or only require repair and are not sent for processing or reclamation. That is, if an original user sends electronic materials to a reseller because he lacks the specialized knowledge needed to determine whether the units can be reused as products, the original user is not a RCRA generator. The materials are not considered solid wastes until a decision is made to recycle them in other ways or dispose of them.

¹² See 40 CFR Part 261, Subpart C.

¹³ See 40 CFR Part 262.

¹⁴ See 62 FR 25998, May 12, 1997 Note: Whole circuit boards are considered to be scrap metal when sent for reclamation.