



Management of Cathode Ray Tubes From Electronic Discards

FACT SHEET

The U.S. EPA has streamlined the management of cathode ray tubes making it easier to collect and recycle them. Safely recycling CRTs saves energy and conserves resources, allows the recovered lead and other resources to be reused in other ways, and reduces the amount of lead and other materials in landfills. EPA finalized its rule on the management of CRTs on July 28, 2006, and revised it on Jan. 29, 2007. It became effective Jan. 29, 2007. This rule becomes effective in North Carolina on April 1, 2007.

BACKGROUND

CRTs are the video display components of televisions and computer monitors. CRT glass typically contains sufficient lead requiring it to be managed as a hazardous waste under certain conditions. Under the previous regulations, businesses and other organizations that recycle or dispose of CRTs were sometimes unclear about the proper way to recycle or dispose of discarded CRTs. That uncertainty has sometimes prevented CRTs from being recycled and reused. EPA has changed CRT waste management requirements to promote additional safe recycling and reuse of CRTs.

ACTION

EPA has provided conditional exclusions from the federal hazardous waste management standards for CRTs and CRT glass destined for recycling for non-household generators. These safe, yet simplified standards aim to increase the collection and recycling of CRTs, and to reduce the amount of lead in landfills by allowing the lead to be reused to make new CRT glass or be sent to lead smelters.

Under these regulations, CRTs that continue to be used as computers or televisions, as are or after having minor repairs, are not solid wastes. Computers and televisions that are no longer wanted may be given away to schools or others and continue to be used for their intended purpose. These used, unbroken CRTs will not be regulated as hazardous waste unless they are stored for more than a year. EPA has set simpler, more manageable standards for unbroken CRTs because the risk of lead releases very low. Because the risk is so low, the storage limitation on unbroken CRTs applies only to collectors and/or recyclers of CRTs.

Used, broken CRTs are not regulated as hazardous waste as long as the following conditions are met:

- CRT containers must be clearly labeled regarding contents;
- CRTs must be safely transported in containers designed to minimize releases;
- CRTs must be stored in a building or container designed to minimize releases; and
- CRTs must be stored on site less than one year before being recycled.

To remain unregulated, CRTs undergoing glass processing must follow the same requirements as above and in addition must be processed inside a building, at temperatures that are not too high to volatilize the lead from the glass. CRT glass that has been processed and sent to a lead smelter also is unregulated unless it is stored for more than one year (see above) or used in a manner constituting disposal (applied to the land). CRT glass going to any other kind of recycler may be eligible for exemption under existing regulations.

N.C. DIVISION
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1639 Mail Service Center
Raleigh, NC 27699-1639

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Exporters shipping broken or unbroken CRTs to another country for **recycling** must notify [DWM – HW Programs Branch](#) to receive written consent from the receiving country through EPA before shipments can be made. A complete notification should be submitted sixty (60) days before the initial shipment is intended to be shipped off-site. This requirement is similar to those applicable to exporters of hazardous waste, which are found at 40 CFR Part 262 as adopted by reference at 15A NCAC 13A .0106.

[EPA CRT rule - 261.39](#) (check here for what a notification should include).

Exporters in NC shipping used, unbroken CRTs for **reuse** to another country must submit a one-time notification to EPA Region 4.

Regional Administrator
U.S. EPA - Region 4
c/o Houston Gilliland
Sam Nunn Federal Center
61 Forsyth St SW
Atlanta, GA 30303-8960
Fax: 404-562-8439

And please cc: Kim Clifton, Clifton.Kim@epa.gov.

All questions about the CRT Rule should go to:

Marilyn Goode
EPA Office of Solid Waste/OSWER
703-308-8800
goode.marilyn@epa.gov

WHAT ELSE CAN BE DONE WITH THESE ITEMS BESIDES DISPOSAL?

A growing set of options exists for diverting electronic goods from disposal. First and foremost, the turnover of electronic products can be reduced by choosing products that last longer and by keeping those products as long as they remain useful and functional. Second, many electronic products can be reused, and reuse options are increasing.

A number of these options can be found in the Web sites listed below under the questions about recycling markets. The Division of Pollution Prevention and Environmental Assistance and some local governments in North Carolina can also help in identifying reuse options.

Many major computer and copier companies offer take-back services for their end-of-life products. Purchasers of electronic products should consult manufacturer Web sites and ask their product vendors about these services. Leasing instead of purchasing electronic products can encourage this approach. Leased products automatically go back to the manufacturer, who must establish a system for its proper management or disposal. In addition to options offered by manufacturers, many recycling companies offer services for various electronic products (see below).

WHAT FACTORS SHOULD BE CONSIDERED IN CHOOSING A RECYCLING OPTION?

The recycling of CRTs and electronics discards is a relatively new development. It is important to choose a reputable recycling market or recycling vendor. When talking to prospective outlets for electronic discards, ask for references and clear answers on how they recycle materials, what happens once materials are collected and where the materials eventually end up. The generator's responsibility does not end until the final disposition of the discarded items. The export of whole electronic products has become particularly controversial with documentation of harmful recycling techniques in some countries. Exporting is not necessarily a harmful practice, but generators should ask for as much detail as possible from market vendors on the precise disposition of materials.

HOW DO I FIND RECYCLING MARKETS FOR ELECTRONICS?

DPPEA keeps a searchable list of recycling markets for a wide variety of materials on its Web site. Please see the N.C. Recycling Markets Directory at: <http://www.p2pays.org/dmrm>. Simply click through the directory until you get to the electronics section. If you have problems navigating the site, please call DPPEA at (919) 715-6500 or (800) 763-0136.

DPPEA can also provide a printout of specific information on a particular commodity or product in the directory upon request. To obtain recycling printed market information, call DPPEA at the numbers above.

Other sources of recycling market information for electronics include but are not limited to:

- International Association of Electronics Recyclers: <http://www.iaer.org/>
- Recyclers World: <http://www.recycle.net/recycle/index.html>
- Electronic Industries Alliance page on recycling issues: <http://www.eiae.org/>

Your vendor's homepage or market contact (e.g. Apple, Dell, Gateway, Hewlett Packard, IBM, Lenovo, etc.)

WHERE CAN I GET OTHER INFORMATION ON THESE ISSUES?

For more information on CRT and electronic discards, call DPPEA at (919) 715-6500 and/or the N.C. Division of Waste Management at (919) 508-8400. Many other sources of information exist on the Internet. A sampling of some important sites includes:

- DPPEA Electronics: Managing Discarded Electronics site: <http://www.p2pays.org/electronics/>
- DPPEA Core Sector Page on electronics: <http://wrrc.p2pays.org/industry/electronics.htm>
- EPA's Jobs Through Recycling site: <http://www.epa.gov/jtr/comm/electron.htm>
- EPA's Extended Product Responsibility site: <http://www.epa.gov/epaoswer/non-hw/reduce/epr/products/electronics.htm>
- National Recycling Coalition site: <http://www.nrc-recycle.org/consumers.aspx>
- State of California Guidelines for the Procurement, Use and End-of-Life Management of Electronic Equipment: <http://www.ciwmb.ca.gov/electronics/Procurement/PUEOL/default.htm>



The North Carolina Division of Pollution Prevention and Environmental Assistance provides free, non-regulatory technical assistance and education on methods to eliminate, reduce, or recycle wastes before they become pollutants or require disposal. Telephone DPPEA at (919) 715-6500 or (800) 763-0136 for assistance with issues in this fact sheet or any of your waste reduction concerns.