

RCRA AND HOW IT APPLIES TO ELECTRONICS

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RCRA, the Resource Conservation and Recovery Act, was passed by Congress in 1976. It is divided into sections called Subtitles. Subtitles C and D set forth a framework for the US EPA's comprehensive waste management program.

Subtitle C of RCRA statute mandates hazardous waste regulations

Subtitle D of RCRA statute mandates solid (primarily nonhazardous) waste regulations

RCRA is implemented through regulations, written initially in 1980. These are contained in Title 40 of the CFR (Code of Federal Regulations), Parts 238 – 282. Of primary interest are Parts 261 and 262 (these are part of Subtitle C Hazardous Waste Regulations)

(The CFR is divided into 50 titles, which represent broad areas subject to Federal Regulation. Environmental regulations are contained mainly in title 40.)

A state can be more stringent than the RCRA regulation, so it is always important to know what the state requirements are in addition to the federal RCRA requirements.

In order to be a hazardous waste, a material must first be recognized as a solid waste. If it meets the definition of a solid waste, it must be a characteristic or listed hazardous waste to be regulated by RCRA.

Solid waste definition:

A solid waste is a discarded material, which is:

- Abandoned (materials that are disposed, incinerated, or stored in lieu of disposal)
- Recycled
- Considered inherently waste-like.

As long as an item is a product being used for its intended purpose, it is not a waste, and is not regulated by RCRA.

Recycled materials: When waste materials are recycled rather than disposed of, generators must use the regulations in Part 261 to determine if the wastes are RCRA-regulated. These regulations are based on the premise, that recycled secondary materials (a material that is potentially a solid and hazardous waste) fit into one of 5 categories. The 3 of relevance for CRTs are:

- spent materials: this includes outdated computers, even if they still work
- commercial chemical product: can include unused circuit boards
- scrap metal: (but if recycled, even scrap metal that is hazardous, is exempt from hazardous waste regulations)

Four types of recycling activities are considered. Those most relevant to CRTs are:

- reclamation
- speculative accumulation. (If materials are kept on-site for longer than a calendar year, they can become regulated as speculative accumulation).

By examining the combination of “category of material” and “type of recycling activity” for a particular material, the Part 261 regulations determine whether that material is a solid waste when recycled in that manner. If it is determined to be a solid waste, then it could potentially be a hazardous waste. Remember, to be designated as a hazardous waste, a material must first be a solid waste. The interpretation made in this determination is a key one in determining the regulatory status of CRTs.

Hazardous waste

The following generators are excluded from RCRA hazardous waste regulations. Thus items from these generators are allowed in landfills by Federal law. Some states are acting to change this.

- Household hazardous waste generators: thus CRTs from households are not regulated as hazardous waste
- Others, as excluded in Section S261.4 (a) and 261.4 (b)
- Conditionally Exempt Small Quantity Generators (CESQGs). This allows CESQGs to dispose of approximately 7-8 computers (220 lbs) per month or store up to 2200 lbs.

There are 4 types of characteristic hazardous wastes (ignitable, corrosive, reactive, and toxic) and also, listed hazardous wastes. Of relevance for CRTs is the “toxics” characteristic hazardous waste category, those materials exhibiting toxicity via a TCLP (toxicity characteristic leaching procedure). RCRA requires the solid waste generator to make the waste determination.

- Testing by a Florida group has shown that most color monitors fail the TCLP for lead, and these results are being universally accepted. Monochrome monitors don't tend to exceed the acceptable limits, so one could choose to separate them.
- Circuit boards are expected to fail the TCLP for lead, and therefore should not go to a landfill. They tend to be recycled or handled as scrap metal, in which case they are not covered under RCRA. (per Marilyn Goode, US EPA).
- EPA regions 4 and 5 are evaluating TCLPs of other electronic components. For now, if there is a possibility of reuse, they are still considered to be products. (per Marilyn Goode, US EPA)

Universal Waste Management Standards (Part 273)

Created in 1995, these streamline the hazardous waste regulations by:

- reducing barriers to collection programs
- reducing complexities
- reducing cost of compliance

There are currently 4 types of federal universal wastes: batteries, certain pesticides, mercury-containing thermostats, and lamps (e.g., fluorescent bulbs). States can add their own universal wastes, and some have done so for CRTs.

RCRA hotline: 800-424-9346

To view the regulations: <http://www.epa.gov/epahome/cfr40.htm>