

Managing Electronic Waste (E-Waste) in California

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6-5-2013

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What is E-Waste?

- Catch-all phrase for discarded **electronic devices**, CRTs and CRT glass (excludes scrap metal (e.g., major appliances)); and
- Is Hazardous waste due to the characteristic of toxicity (or listed in CCR, T22, Chapter 11, Article 4.1)(establishes DTSC's jurisdiction); and
- Is exempted from full hazardous waste regulations (universal waste)

Things to keep in mind

- CA regulates e-waste more stringently than U.S. EPA under RCRA (*Resource Conservation and Recovery Act*)
- U.S. EPA regulates the exporting of e-waste
- The EWRA (*Electronic Waste Recycling Act*) applies to a subset of e-waste
- 3 agencies (BOE, DTSC, CalRecycle) implement EWRA

E-waste as UW

- **Why?** Met criteria
- **Result?** Banned from solid waste landfill disposal
- **Response?** Legislature enacts EWRA (SB 20 & SB 50)
 - Additional DTSC responsibilities:
 - Inspect recyclers
 - Adopt and interpret regulations (including emergency)
 - Determine devices presumed to be HW (Covered Electronic Devices (CEDs))

What is a CED?

- A subset of e-waste that must meet all the following:
 - An electronic device that exhibits a HW characteristic (for toxicity)
 - Has a video display greater than 4 inches (measured diagonally)
 - Is listed by DTSC
- Examples include televisions and computer monitors

Is e-waste a UW under RCRA?

- No, California regulates e-waste differently than the U.S. EPA
- Promotes the recycling of certain types of e-waste (personal computers, cell phones and televisions)
- Conditionally excludes CRTs
- Proposed regulations (amendments) for exporting CRTs

E-waste rules

- Found in California Code of Regulation, Title 22, Division 4.5, Chapter 23
- Provides a self-authorization process
- Includes standards for the management of batteries, lamps, mercury containing equipment and aerosol cans
- Standard are mores stringent for e-waste

Waste regulated under Chapter 23

- Devices:
 - Electronic devices (EDs) w/o CRTs (e.g., DVD players and telephones)
 - EDs w/CRTs (CRT devices)
- Components:
 - CRTs (removed from ED w/CRT)
 - CRT glass (processed CRTs)
 - Residual printed circuit boards
 - Batteries
 - Lamps

Recycling Activities allowed under Chapter 23

- E-waste is dismantled (or processed) and separated into distinct components (e.g., printed circuit boards and CRTs)
- Distinct components are further processed for recycling (e.g., CRTs are crushed into CRT glass)
- Processed components sent to recycler (e.g., CRT glass sent to CRT glass manufacturer to make new CRTs)
- No heat, no chemicals

Emergency Regulations

- For CRTs/CRT glass
- Primary objective: Identify what's happening with all of the CRT glass (i.e., how is it being recycled)

What do we know?

- CRTs are being split by processors
 - CRT funnel and panel (non-RCRA)
- Demand for quality cullet (processed glass)?
 - The better the processing the more valuable the material
- New technologies for recovering lead being developed (not operational)
- No CA recyclers are disposing of CRT glass
- Other uses for CRT panel glass being pursued

Questions?

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