



Current Electronic Waste Regulatory Situation

Wolf Kray

**Colorado Department of Public Health &
Environment**

Solid Waste & Material Management Unit



Overview of E-waste Regulations

- Hazardous Waste/ Universal Waste Regs
- Solid Waste Recycling Regulations
- Current Trends and Development of E-waste Regulations Nationwide



Why Regulate Electronic Equipment?

Equipment contains hazardous components

- Circuit boards (lead, silver, chromium)
- Batteries (nickel/cadmium, lithium)
- Mercury switches
- Cathode ray tubes (lead)
- Flat panel displays (fluorescent lamps w/mercury)



What do the regulations apply to?

“Electronic device” means electronic equipment that contains one or more electronic circuit boards or other complex circuitry including, but not limited to, computer monitors, mice, keyboards, televisions, central processing units (CPUs), laptops, printers, mainframes, cell phones and telephone switching equipment.

What do the regulations apply to?

- “Electronic component” means components, subassemblies or other parts derived from the disassembly of electronic devices.





When do the regulations apply?

- Electronic devices and components become wastes when they aren't going to be repaired, refurbished or reused (i.e., they will no longer be used for their intended purpose).
- Once you take possession, you are responsible for ensuring that this equipment is managed properly.
- The Department encourages the recycling of electronic devices and components either for re-use or for materials recovery.
 - Included in Universal Waste Rule to reduce burden.

Materials Exempt of the Regulations

- ❑ Residential e-wastes. (unless mixed with commercial e-waste)
- ❑ Electronic devices and components that are not yet wastes under the Colorado Hazardous Waste Regulations Part 261.
 - Determined to be a waste by the generator or recycler.
 - Determined by waste management practices.





Universal Waste

- Recyclers manage electronic devices as Universal Wastes.
 - Electronic devices were added to the State's Universal Waste Rule in 2001 at the request of the electronics recycling industry.
 - The Universal Waste Rule provides less stringent management standards for handlers and transporters while still being protective of the environment and workers.



Universal Waste

- ❑ *Universal waste handler* is different than a *hazardous waste generator*.
- ❑ Small quantity universal waste handler never has more than 5000 kg of total universal waste onsite at one time.
- ❑ Large quantity universal waste handler has exceeded 5000 kg of total universal waste onsite at some time during the year.
- ❑ 5000 kg is about 5 pallets of monitors plus 6 pallets of CPUs

Universal Waste Requirements

- ❑ Must maintain shipping records if LQH
- ❑ Employees must be trained in proper handling and emergency procedures.
- ❑ Notification
 - Small quantity handler not required to notify
 - Large quantity handler must notify of universal waste management and obtain an EPA ID #
- ❑ Accumulation Time
 - One year (may be extended if necessary to facilitate recycling)
- ❑ Labeling
 - Containers must be labeled to describe the waste





Solid Waste Recycling Regulations

□ Section 8 of SW Regulations

■ Purpose:

- Self implementing regulatory structure for recycling facilities

■ Scope

- All recycling facility operations
- Exemptions: drop-off collection sites, automotive

■ Requirements:

- Document that at least 75% of material collected is recycled based on a 3 year rolling average.
- Submit Initial Registration upon opening
- Submit Annual Recycling Facility Report on or before May 1st of each subsequent year
- Remain in compliance with all other laws, standards, and regulations



Current Trends in E-waste Management: Product Stewardship

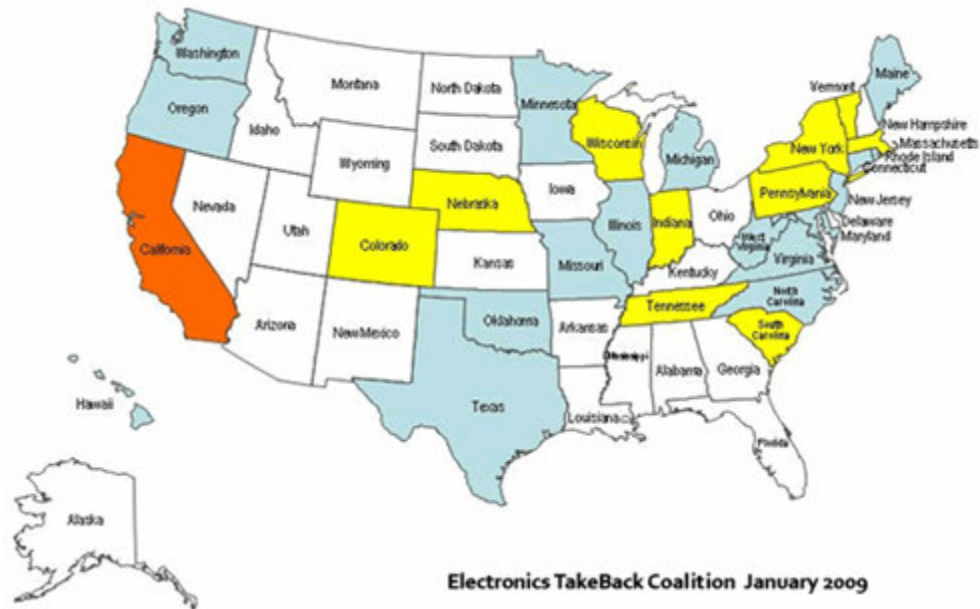
- Extended Producer Responsibility (EPR)
 - Manufacturers are responsible for their products once they are ready for disposal.
 - The manufacturers pay for collection and recycling of the products.
 - strong incentive to redesign their products to remove the toxic materials that make recycling challenging and expensive.

- Advanced Recovery Fee
 - charges the consumer a recycling fee at retail
 - goes into a statewide recycling fund, that the state uses to reimburse recycling costs.
 - The manufacturers have no responsibility under this approach.
 - Only California has adopted this model.

State E-waste Legislation

- ❑ Electronic waste banned from landfill disposal
- ❑ Transition to Producer Takeback- State Legislation
 - 18 states have passed e-waste laws

States Which Have Passed E-Waste Laws	
Light Blue	Producer responsibility laws
Orange	Advanced Recovery Fee
States Expected to Introduce Bills in 2009	
Yellow	States where bill is expected in 2009





Where Does Colorado Stand

- E-waste recycling legislation submitted by Colorado Association for Recycling
- Based on HP model- EPR method
 - Manufacturers must register with the state
 - Manufacturers must implement a recovery plan
- State level:
 - Evaluate other state's models
 - Evaluate resource needs
 - Evaluate program effectiveness and metrics
- Based on the results of e-waste legislation in other states we expect it to be passed in CO within the next few years if not this year



Thank You

Wolf Kray

wkray@cdphe.state.co.us

(303) 692-3337