

Managing Waste Electronics



**ENVIRONMENTAL
QUALITY**

WASTE MANAGEMENT & RADIATION CONTROL

Overview

- * Defining electronic waste
 - * Cathode Ray Tubes (CRTs)
 - * Flat-screen monitors
 - * Keyboards
 - * Servers
 - * PLC boards
 - * Laptops & tablets
 - * Desktop computers
 - * Cell phones
- * Review of key terms for recycling
 - * Speculative Accumulation
 - * Scrap metal
 - * The Solid Waste table



Speculative Accumulation

Materials are not solid waste if:

- Recycling must be feasible.
- 75% of material stored at the beginning of the year must be recycled or sent for recycling by the end of the year.

**If materials are speculatively accumulated,
they are solid wastes.**



Excluded Scrap Metal

R315-261-4(a)(13)

- * **Excluded Scrap metal:** Excluded scrap metal is processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal.
- * Baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type.
- * Home and prompt are turnings, cuttings, punchings, and borings generated by steel mills, foundries, metal refineries, and metal-working/fabrication industries.



Exempt Scrap Metal R315-261-6(a)(3)(ii)

Scrap metal that is not already excluded from the definition of solid waste is exempt from hazardous waste regulations if sent for recycling/reclamation



**WASTE MANAGEMENT
& RADIATION CONTROL**

Solid Wastes

	Use constituting disposal (261-2(c)(1))	Energy Recovery/fuel (261-2(c)(2))	Reclamation (261-2(c)(3)) except as provided in 261-4(a)(17), 261-4(a)(23), 261-4(a)(24) or 261-4(a)(27)	Speculative accumulation (R315-261-2(c)(4))
Spent materials	SOLID WASTE	SOLID WASTE	SOLID WASTE	SOLID WASTE
Sludges (listed in R315-261-31 or 261-32)	SOLID WASTE	SOLID WASTE	SOLID WASTE	SOLID WASTE
Sludges exhibiting a characteristic of hazardous waste	SOLID WASTE	SOLID WASTE	NOT SOLID WASTE	SOLID WASTE
By-products (listed on 261-31 & 261-32)	SOLID WASTE	SOLID WASTE	SOLID WASTE	SOLID WASTE
By-products exhibiting a characteristic of hazardous waste	SOLID WASTE	SOLID WASTE	NOT SOLID WASTE	SOLID WASTE
Commercial chemical products listed in 261-33	SOLID WASTE	SOLID WASTE	NOT SOLID WASTE	NOT SOLID WASTE
Scrap metal that is not excluded under 261-4(a)(13)	SOLID WASTE	SOLID WASTE	SOLID WASTE	SOLID WASTE

Used Cathode Ray Tubes (CRTs)

R315-261-4(a)(22)

- * Used, intact CRTs that are not disposed of or speculatively accumulated are not solid waste
- * Used, intact CRTs that are exported for recycling are not solid waste provided they meet certain requirements; (see slide #8)
- * Used, broken CRTs and glass removed from CRTs are not solid waste provided that they meet certain storage, segregation, labeling and other requirements (see slide #9)



Used, Intact CRTs that are Exported

R315-261-40

Used, intact CRTs exported for recycling are not solid wastes provided that:

- * They are not speculatively accumulated
- * The exporter notify EPA in writing 60 days before first shipment
 - Use EPA's Waste Import Export Tracking System (WIETS)
 - good for 12 months
 - Country receiving exports must consent
- * Exporter files annual report



Used, broken CRTs and glass removed from CRTs

Used, broken CRTs are not solid wastes if they meet the following conditions:

- * Storage
 - * Stored in a building with a roof, floor, and walls, or
 - * Placed in a container, i.e., a package or a vehicle, that is constructed, filled, and closed to minimize releases to the environment of CRT glass, including fine solid materials.
- * Container Labeling.
 - * "Used cathode ray tube(s)-contains leaded glass " or "Leaded glass from televisions or computers."
 - * "Do not mix with other glass materials."



For More Information on CRTs
go to:

<https://www.epa.gov/hw/cathode-ray-tubes-crts-0>



**WASTE MANAGEMENT
& RADIATION CONTROL**

Circuit Boards

- * Whole, unused circuit boards are off-specification commercial products and not solid waste if sent for recycling/reclamation (see Solid Waste table)
- * Whole, used circuit boards meet the definition of scrap metal and are exempt from RCRA hazardous waste rules under R315-261-6(a)(3)(ii) if recycled (see slide #5)
- * Used circuit boards and equipment containing used circuit boards are solid waste but are not hazardous waste if they are recycled.



Shredded Circuit Boards

R315-261-4(a)(14)

Shredded circuit boards being recycled are not solid waste provided that they are:

- * Stored in containers sufficient to prevent a release to the environment prior to recovery; and
- * Free of mercury switches, mercury relays and nickel-cadmium batteries and lithium batteries.



In Summary

- * Electronic waste containing circuit boards, if recycled and not shredded by the generator are not hazardous waste
 - * no container or labeling standards, no emergency preparedness, no training, and no notification requirements apply
- * Intact CRTs that are sent for recycling are not solid waste and no requirements apply to the generator unless the generator exports the CRTs (see slide 8 if you export CRTs)
- * Broken CRTs are subject to storage and labeling requirements (see slide 9)



Questions?

Deborah Ng

dng@utah.gov

(801)-536-0218

Judy Moran

jmoran@utah.gov

(801)-536-0255



**WASTE MANAGEMENT
& RADIATION CONTROL**