Managing Waste Electronics
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
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: 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.
Scrap metal that is not already excluded from the definition of solid waste is exempt from hazardous waste regulations if sent for recycling/reclamation.
<table>
<thead>
<tr>
<th></th>
<th>Use constituting disposal (261-2(c)(1))</th>
<th>Energy Recovery/fuel (261-2(c)(2))</th>
<th>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)</th>
<th>Speculative accumulation (R315-261-2(c)(4))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spent materials</td>
<td>SOLID WASTE</td>
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<tr>
<td>Sludges (listed in R315-261-31 or 261-32)</td>
<td>SOLID WASTE</td>
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<tr>
<td>Sludges exhibiting a characteristic of hazardous waste</td>
<td>SOLID WASTE</td>
<td>SOLID WASTE</td>
<td>NOT SOLID WASTE</td>
<td>SOLID WASTE</td>
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<td>By-products (listed on 261-31 &amp; 261-32)</td>
<td>SOLID WASTE</td>
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<tr>
<td>Commercial chemical products listed in 261-33</td>
<td>SOLID WASTE</td>
<td>SOLID WASTE</td>
<td>NOT SOLID WASTE</td>
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</tr>
<tr>
<td>Scrap metal that is not excluded under 261-4(a)(13)</td>
<td>SOLID WASTE</td>
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</tbody>
</table>
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 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 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."

WASTE MANAGEMENT & RADIATION CONTROL
For More Information on CRTs go to:

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

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