Cathode Ray Tubes (CRTs) Recycling: Recent EPA Interpretations & CT’s Policy

1. Legitimate Use/Reuse of CRT Glass in Ceramic Tiles
2. Treatment and Disposal of CRT Glass in Non-HW Landfill
3. Connecticut’s Policy on CRT-glass Management
**1st EPA Interpretation: Sept 10, 2014 - Sims Recycling Solutions**

**Question:** Can leaded glass from CRT’s be used as an effective substitute for lead oxide in the production of ceramic tiles.

**EPA’s response to Sims:** Has to meet 4 legitimate recycling factors:
- Hazardous secondary material provides a useful contribution to a recycling process (substitutes up to 15-20% raw material)
- Recycling process produces a valuable product (process complies with EU standards of safety and used in wall and flooring tiles)
- Hazardous secondary material must be managed as a valuable commodity
- Product of the recycling process is comparable to a legitimate product (contaminant levels below EU standards)

EPA Concludes:
- Leaded glass can be legitimately used as an effective substitute and the glass would be excluded from solid and hazardous waste regulations under 40 CFR 261.2(e). However,
  - State regulations may be more stringent (CT adopts 40 CFR 261.2(e) but requires that materials be marked with the accumulation date)
  - Export rules still apply as OECD lists it as a “hazardous waste” for OECD countries as per 40 CFR 262.82
  - Case-by-case analysis. EPA’s conclusion was based on the test results for Pb & Cd that support legitimate recycling in Spain (not U.S.)
2nd EPA Interpretation: Sept 10, 2014 - Sony Electronics, Inc.

- How would does RCRA apply to CRT glass used for Alternate Daily Cover (ADC) at non-RCRA landfills?
- EPA responded to 4 specific questions posed by Sony
- EPA’s interpretation intended to cover discarded CRT glass from businesses (not homeowner exempt or CESQG wastes (federally))

Questions 1&2: Is grinding and stabilizing CRT glass considered “treatment” and does it require a RCRA Part B permit to treat D008 waste generated from CRT glass?

- Yes, EPA considers it treatment of a solid waste that exhibits D008 characteristic AND RCRA Part B permit required. However, generators may treat in accumulation tanks or containers without a permit if determined to be non-hazardous by EPA method 1311 testing and waste meets LDR standards.

Question 3: At which point downstream must a waste determination be done on CRT glass when not managed under CRT rule or other exclusion?

- Considered a HW at the point of generation
- “point of generation” means – the point at which this material is deemed discarded
- Generator required to make a hazardous waste determination when material is considered discarded (and thus a solid waste)

Question 4: After treatment/stabilization, can the D008 listing be removed and the waste be disposed in non-hazardous landfill such as directly for ADC?

- If glass no longer exhibits a hazardous characteristic, and
- If glass has been treated in accordance with RCRA’s 40 CFR part 268 LDRs.
Connecticut’s Policy on CRT Glass Management

- Residential/State Program “CEDs” – prohibits disposal, including components (CRT glass); consistent with CT waste management hierarchy [CGS 22a-228(b)].

- Non-residential Collection – not prohibited to dispose “non-residential business waste” in RCRA landfill?!!

- Commingled Residential & Business CRT Glass – mixing residential with business wastes would subject the generator to RCRA regulations.

- RCRA generators may have their CRT glass treated or generators can treat on-site in RCRA accumulation tanks and containers but must render glass non-haz and meet LDR requirements. Post-treatment may be sent to non-hazardous landfill as ADC.

- Federal CRT Rule not adopted in CT. CT currently evaluating EPA’s rule for usefulness in CT.