

## **Addendum A – CRT Facts and Guidance**

*The following sources and information can help Hoosiers determine the toxicity or quantity of hazardous materials found in electronic devices. This information can be used when making decisions about how to manage e-scrap, but does not supersede any applicable local, state, or federal laws.*

### **How Many Computers for a Conditionally Exempt Small Quantity Generator (CESQG)?**

The Indiana Department of Environmental Management has developed a fact sheet which states that approximately 7 – 8 computers (clarified as “monitors” and not CPUs) will equal the 100 kilograms or 220 pound threshold, and will disqualify a company from the CESQG category. If not exempt, the generator must make a waste determination based on specific knowledge or appropriate testing, and dispose of the materials in conformance with all requirements under 329 IAC 3.1.

#### **Computer monitors\*:**

- 13 – 15” monitors weigh between 20 – 35 pounds each (depending on model), with the average) 15” monitor weighing 28 pounds (MacIntosh monitors tend to be heavier)
- 17” monitors weigh about 45 pounds each
- 19 – 21” monitors weigh up to 84 pounds each

#### **Televisions:\***

- Televisions weigh between 10 – 275 pounds each depending on model.
- 42’ glass flat screen televisions can weigh as much as 275 pounds
- Projection televisions can weigh over 300 pounds each
- Console-televisions can weigh between 50 – 80 pounds each

#### **Composition of a monitor:\*\***

CRT – 52%

Plastic – 25%

Printed Wiring Boards – 13%

Metals – 6%

Wires – 4%

### **Toxicity Characteristic Leaching Procedure for Electronics**

**CRTs:** U.S. EPA uses research completed by Dr. Timothy Townsend at the University of Florida and funded by the Florida Center for Solid and Hazardous Waste Management to conclude that color CRTs are hazardous waste. Toxicity Characteristic Leaching Procedure (TCLP) tests were performed for CRTs and color CRTs were shown to exceed the 5 milligrams of lead regulatory limit. \*\*\*

**Other Electronics:** New research conducted by Dr. Townsend in 2004 demonstrates that other electronic devices besides CRTs may be hazardous, including CPUs, circuit boards, cell phones, remote control units and printers. \*\*\*\*

## **Lead in CRTs**

According to a California Environmental Protection Agency CRT Management Fact Sheet, "a typical CRT contains between two and five pounds of lead."

*\*These estimates provided by Monroe County Solid Waste Management District's household hazardous waste management staff.*

*\*\*These estimates were presented by Pam Swingle, EPA Region 4, in a presentation to the Kentucky Pollution Prevention Center.*

*\*\*\*From Characterization of Lead Leachability from Cathode Ray Tubes Using the Toxicity Characteristic Leaching Procedure, by Dr. Timothy Townsend, , Principal Investigator, State University System of Florida, Florida Center for Solid and Hazardous Waste Management, December 1999, Report #99-5.*

*\*\*\*\*Dr. Timothy Townsend, presented information about additional electronics testing during the E-Scrap 2003 Conference in Orlando, October 22, 2003.*