



An Eye on Electronic Waste ~ e-waste

Electronic Waste Background (E-waste)

Within recent history, electronics have become a fast growing component in national and local waste streams. According to the U.S. Environmental Protection Agency (EPA), 3.2 million tons of electronics are landfilled each year nationally. In addition, 250 million computers are expected to become obsolete by 2005. Within California alone, the California Integrated Waste Management Board (CIWMB) estimates that there are currently 6 million obsolete computers stored in homes and offices, and nearly 10 - 15,000 more electronics become obsolete daily.

Depending on the type of product, e-waste can contain a variety of toxic materials including lead, chromium, cadmium, mercury, beryllium, nickel, zinc, and brominated flame retardants. The high levels of lead used in cathode ray tubes (CRTs), which are found in the majority of televisions and computer monitors, some camcorders and other electronic devices, pose particular concern. In fact, the average television or computer monitor contains four pounds of lead within the CRT, although the amount can range from two to five pounds depending on the product type. Overall, CRTs comprise the largest single source of lead in municipal solid waste. Concern over the likelihood of CRTs leaching lead into landfills and contaminating soil and water supplies has prompted regulatory action in the last few years.

E-Waste Laws and Regulations

In the summer of 2001, California's Department of Toxic Substances Control (DTSC) adopted emergency regulations designating CRTs as Universal Waste and subsequently banned their disposal in landfills. The DTSC defines Universal Waste as high volume, low risk hazardous wastes. While Universal Wastes are not subject to traditional hazardous waste requirements, they must be

managed in a way that corresponds to the level of risk posed from handling these materials. While the landfill CRT ban eliminated the issue of CRTs leaching toxic materials into landfills, it didn't define how CRTs should be handled, dismantled or recycled. In response, many local jurisdictions have struggled in the last couple of years to develop electronics recycling events and/or programs in an effort to keep CRTs out of the municipal solid waste stream.

In an effort to set up the financial infrastructure to recycle this continually-growing waste stream, Governor Gray Davis signed Senate Bill (SB) 20, the Electronics Waste and Recycling Act of 2003, into

law on September 25th of last year. California is the first state to pass an electronics waste law. This law is primarily meant to serve as a funding mechanism to cover the collection and recycling costs for electronic products containing CRTs or other hazardous materials and will take effect on July 1, 2004. Since the passage of SB 20, the CIWMB along with DTSC

started the planning process to implement the new law. Electronics manufacturers, haulers, recyclers and local governments are trying to understand how this new law will affect them. Although much of the implementation process has yet to be determined, many basic questions regarding the legislation's impact can be answered.

SB 20 Frequently Asked Questions

Who is affected by SB 20, the new e-waste law?

Essentially everyone — this includes anyone who generates, collects, transports, handles, or recycles electronic devices which contain hazardous materials.



How are the recycling fees assessed?

Beginning on July 1, 2004, consumers at the point of purchase will be assessed a fee ranging from six to ten dollars depending on the product's display screen size. Six dollars will be assessed for display screens between 4 inches to less than 15 inches, eight dollars for display screens between 15 inches to less than 35 inches, and ten dollars for display screens larger than 35 inches.

How does this legislation intend to account for the full costs of recycling e-waste?

While the original fees ranging from six to ten dollars may not amount to the total money needed to actually recycle the product (which involves collection, dismantling, shipping, etc.), SB 20 leaves leeway for future fee adjustments. Beginning on July 1, 2005 and every two years subsequently, the CIWMB will reassess e-waste recycling costs and make the necessary adjustments to bring the fees in line with actual recycling costs.



What happens to the money collected, how is it distributed and who is it distributed to?

Once retailers collect the fees from product purchasers, the money is transferred to the CIWMB. From there the money is distributed to DTSC-authorized e-waste recyclers, who in turn, remit payment to authorized e-waste collectors. Payment can also be dispersed directly to authorized collectors to cover the net cost of collecting, consolidating, and transporting covered electronic waste. Some of the funds will also be used to cover program administration, promotion, and enforcement.

What are the responsibilities of CRT generators, collectors, and recyclers?

Generators are classified into two distinct categories, small quantity and large quantity generators. Anyone who generates 5 or less CRTs per year for end of life management is considered a small quantity generator and is not required to abide by the more stringent handling requirements that are required of large quantity generators. In contrast, large quantity generators generate 6 or more CRTs for end of life management per year and must meet the DTSC's handling, shipping, and documentation requirements. All generators, whether large or

small, are required to recycle their CRTs.

SB 20 does not mandate any type of collection methods for electronic waste specifically. The legislation attempts to create an open, competitive market to help drive e-waste collection and recycling. In order to receive payment from the CIWMB, the collector must do the following:

- ❖ Formally register with the DTSC to become an authorized collector,
- ❖ Not charge for collection service once the legislation is implemented,
 - ❖ Manage the materials to prevent the break age of units and release of toxic materials,
 - ❖ Label units in transport as Universal Waste,
 - ❖ Transport the materials to recyclers that comply with SB 20.

All e-waste recyclers must register with the DTSC and demonstrate that all materials are properly handled, dismantled, and recycled. Although the legislation does not ban the export of e-waste, recyclers who intend to export their materials must provide detailed information to the DTSC which includes:

- ❖ Details regarding the destination, contents, and volume of the proposed shipment(s),
- ❖ Evidence that the importation of such materials is not prohibited by the country of destination,
- ❖ Copies of import and operating licenses,
- ❖ Evidence that the export is to be done in accordance with international law,
- ❖ Evidence that the country of destination will handle all materials in accordance, with the rules set by the Organization of Economic Co-operation and Development for the environmentally sound management of e-waste, and
- ❖ Evidence that the export will be used in the country of destination for reuse or recycling.

Are there any restrictions as to how broken computer monitors and televisions must be handled?

Although CRTs contain hazardous materials, as classified under Universal Waste they do not pose

any known dangers associated with material handling. Therefore, no regulations detailing methods for handling broken CRTs were included in SB 20. Broken monitors and televisions should be handled carefully, especially if there is broken glass, and all parts should be taken directly to a recycler.

Does this law in any way encourage producer responsibility?

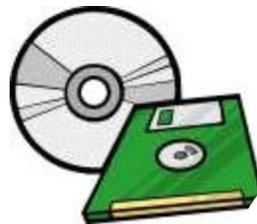
Unlike European e-waste recycling laws, this legislation places the predominant responsibility for material recycling on consumers, rather than manufacturers. Although manufacturers are not held primarily responsible for their product design and generation, SB 20 does contain details meant to increase producer responsibility. For example, SB 20 requires manufacturers to inform the EPA of their efforts to reduce toxic materials in products and to redesign their products for easy disassembly and recycling. In addition, the legislation prohibits, by the year 2007, the sale of devices containing specific levels of toxic heavy metal materials.

How are some jurisdictions planning to comply with SB 20?

The City of Stockton recently added e-waste to its annual bulky waste collection service and has covered the associated costs through collection rates. The City of Salinas is holding periodic e-waste collection events. In addition, BVA is assisting the City of Salinas procure cost effective and environmentally responsible e-waste collection and recycling services for various types of electronic waste to be collected at local transfer stations. BVA is assisting the Alameda County Waste Management Authority and determining options for e-waste recycling service.

Since SB 20 only applies to e-waste that the DTSC has designated as hazardous waste, how are jurisdictions handling electronics other than CRTs?

Although SB 20 currently only applies to CRTs, many jurisdictions offer or are developing e-waste collection programs that accept a wide variety of electronics for recycling. As mentioned earlier, BVA is assisting the City of Salinas procure e-waste recycling services for a variety of electronic products. The key to offering comprehensive e-waste recycling services is finding an appropriate recycler who can effectively handle these materials.



How do I select the best recycler to handle my jurisdiction's e-waste?

Every jurisdiction faces unique circumstances that must be considered when selecting an e-waste recycler. Similarly, all e-waste recyclers differ in the type of e-waste recycling services provided. Depending on the type of services your jurisdiction is seeking, here are some criteria to consider when selecting an e-waste recycler:

- ❖ What materials does the recycler accept?
- ❖ Does the recycler salvage usable devices or components?
- ❖ Does the recycler dismantle and recycle the components or do they hire subcontractors to do this?
- ❖ Does the recycler use prison labor?
- ❖ What is the recycler's diversion rate?
- ❖ Are the electronic components dismantled and recycled locally?
- ❖ Does the recycler ship electronics to Asia or other parts of the world?
- ❖ Does the recycler have excellent references?
- ❖ Has the recycler provided services to a similar jurisdiction previously?
- ❖ What are the costs associated with the services sought?
- ❖ Has the recycler registered with the DTSC?

Did Governor Schwarzenegger recently suspend SB 20?

On his first day in office, Governor Schwarzenegger suspended action on all pending state regulations for up to six months in order to assess their impact on California businesses. While this included a suspension of SB 20, the CIWMB and DTSC are continuing to develop SB 20 regulations in the hope that the suspension will be removed in the near future.

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