
SWANA TECHNICAL POLICY T-6.3

SAFE RECYCLING OF ELECTRONIC WASTE

I. Background

Discarded electronics or “e-waste” — including TVs and other video and audio equipment, computers, computer accessories, printers, scanners, fax machines and mobile devices (e.g., phones, PDAs, tablets, pagers) — comprise only one to two percent of the municipal solid waste stream, but are particularly well suited to specialized handling and recycling for several reasons:

- Manufacturing electronics requires significant energy and uses valuable components, making recycling highly beneficial and economical;
- Some electronics contain toxic substances that warrant greater care for safe management; and
- Rapid growth and change in the market has led to a proliferation of discarded products needing protective management.

Electronics contain valuable materials, such as precious metals, copper, and engineered plastics, all of which require considerable energy to extract, process and manufacture from virgin resources. Recycling electronics recovers these valuable materials for reuse, conserves resources, and results in lower pollutant and greenhouse gas emissions than making products from virgin materials. According to a July 2012 report by Global Industry Analysts titled “Electronics Recycling: a Global Strategic Business Report,” e-waste reuse and recycling will increase significantly driven by environmental legislation and corporate sustainability programs.

II. Discussion

U.S. Federal & State Requirements

Federal Legislative Mandates for Electronics Recovery: At present, there is no Federal mandate to recycle e-waste.

State Mandatory Electronics Recovery Programs: Many states have instituted mandatory electronics recovery programs through extended producer responsibility laws or in California, through imposition of a consumer advanced recycling fee applied to specific electronics.

Federal Regulations Governing Management of Used Electronics: Some electronics (e.g., color cathode ray tubes (CRTs) computer monitors and cell phones) may test “hazardous” under Federal regulations and would therefore be subject to special handling requirements. EPA encourages reuse

and recycling of e-waste, including that which tests “hazardous,” by applying less stringent management requirements for products bound for reuse and recycling. For example:

- **CRTs including computer monitors and televisions** sent for continued use (i.e., resale or donation) are not considered hazardous wastes;
- **CRTs** sent for recycling are subject to streamlined handling requirements;
- **Whole circuit boards** sent for recycling are exempt from the hazardous waste regulations; and
- **Shredded circuit boards** are excluded from the definition of solid waste if they are containerized (i.e., fiberpaks) prior to recovery and do not contain mercury switches, mercury relays, nickel cadmium batteries, or lithium batteries.

National Electronic Recycler Certification Programs

EPA encourages all electronics recyclers to become certified by demonstrating to an accredited, independent third-party auditor that they meet specific standards to safely recycle and manage electronics. Two accredited, national certification standards exist: the Responsible Recycling Practices (R2)/Recycling Industry Operating Standards (RIOS) and the e-Stewards® standards. These certification programs comprise strong environmental standards to maximize reuse and recycling, minimize exposure to human health or the environment, ensure safe management of materials by downstream handlers, and require destruction of all data on used electronics.

State Regulatory Requirements for Disposal of Electronics that Test “Hazardous”

State regulatory requirements for e-waste can be more stringent than the Federal requirements, and vary from state to state. Many states are developing Universal Waste exemptions for e-waste, which also streamline management of e-waste bound for recycling.

Canadian Requirements

Canada has no national electronics waste laws. However, the Canadian Council of Ministers (CCME) endorsed a series of electronics product stewardship principles in 2004 to assist and support jurisdictions in the development of e-waste programs. Provinces in Canada have or are expected to pass legislation requiring recycling surcharges be paid on designated electronic goods shipped or sold into the province including five general categories for end-of-life product recycling. Products affected are PCs, notebooks, monitors, printers and televisions, with additional items to be phased in, as per provincial schedule.

III. Policy Position

SWANA, as an organization of solid waste professionals, supports the following policy positions on responsible recycling of electronic waste:

- Regional and local governments should endeavor to assure that flexible and cost-effective recycling options that meet applicable state and local requirements are available to all households and businesses within their jurisdictions;

- Federal governments should assure that options are available for the reuse and/or recycling of e-waste generated by all federal departments and agencies;
- All levels of government should require that recycling facilities comply with enforceable worker safety, public health and environmental standards. Requiring recycling facilities to be certified under recognized, national recycling certification programs would facilitate compliance;
- Federal and international programs and conventions should prohibit the international shipment of e-waste to facilities that do not comply with standards for worker safety and public health and the environment, and to countries that do not have regulatory programs to enforce such standards; and
- Implement Recycling Prior to Disposal Bans: In accordance with *SWANA Technical Policy T-3.6 Solid Waste Disposal Bans*, prior to implementing a disposal ban or restriction on e-waste, infrastructure must be in place to regulate, collect, store, transport, re-use, recycle or re-manufacture the e-waste. Disposal bans should include provisions to protect owner/operators of solid waste facilities from liability for inadvertent disposal of e-waste, if they carry out waste screening programs in accordance with the provision of the facility permits and have made good faith efforts to post signs and notify haulers that covered electronics are not accepted by the facility.

Approved by the International Board
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Michelle Leonard
International Secretary

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