The Growing Concern…

MANAGEMENT OF COMPUTER WASTES

Each year tens of millions of consumer electronic products, such as computers and televisions, are purchased in the United States. Perhaps the largest and fastest growing segment of electronic products is the personal computer system. Thousands of personal computer systems are purchased in Mississippi each year. These computers are used by many different entities, including private individuals, small businesses, large corporations, government agencies and various other organizations, and therefore account for a large percentage of electronic waste.
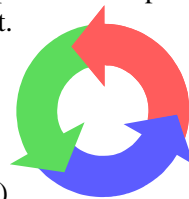
To keep up with the rapid pace of technological advancement, companies are continually updating systems, which in turn creates a constant stream of discarded computer equipment. The number of household computers that are disposed in landfills each year also continues to grow. Recent studies indicate that over 70% of computer products are currently disposed in landfills. This number is expected to reach approximately 60 million units a year within the next 5 years, thus, computer disposal is an issue that demands immediate attention. However, with the growing concerns for such disposal, more attention is being given to recycling and reusing unwanted computers. This document contains recommendations and guidance on how to properly manage and dispose of computer system wastes.

Where possible, the Mississippi Department of Environmental Quality always encourages the reuse or recycling of computer system components over disposal. A directory of electronic equipment recyclers and community collection programs is available from the Mississippi Department of Environmental Quality.

WASTE REDUCTION & RECYCLING

We recommend that persons or companies consider the following actions in the reduction, or recycling of computer waste:

- Purchase only upgradable equipment to extend the life of the product as long as possible.

- Buy refurbished computer equipment to help reduce costs and ensure the existence of funding for end-of-life equipment.

- Resell working computer equipment, which is economically beneficial as well as a common practice. This allows less fortunate people the opportunity to own computers and replace expensive computer components at a lower cost.

- Keep the computer monitor in service, and only replace the Central Processing Unit (CPU). This is not only cost efficient, but environment friendly as well.

- Donate used computers to charities or schools, either directly or through an organization involved in refurbishing or replacing them. Donation aids in providing essential equipment that some programs desperately need.

- Participate in available programs that will collect and manually disassemble a computer into its separate parts to recover components that will be resold, reused, or recycled.

PROPER COMPUTER DISPOSAL

When recycling is not an option, and computer components must be disposed, it is important to know where and how they should be disposed. All generators of waste, except households, are responsible for determining if their wastes are hazardous. Most Computer monitors alone contain between 4 and 6 lbs of lead in the video display components. This composition makes them the third largest source of lead in the municipal solid waste stream. In addition, the CPU contains trace amounts of mercury and/or cadmium. These three elements tend to cause computer equipment to fail the EPA's TCLP (Toxicity Characteristic Leaching Procedure) test for heavy metals. This test is used to determine whether or not a waste is a characteristic hazardous waste. The number of personal computer systems that are being discarded has been increasing significantly. The following disposal requirements apply to households, companies, and organizations when such entities declare computer equipment to be wastes and need to dispose of the materials:

PRIVATE RESIDENTS

♦ Individual residents are encouraged to explore recycling options, such as, community collection programs, donation or continued use of reusable parts, or upgrading used equipment whenever possible.

♦ Due to the hazardous constituents, MDEQ strongly encourages individual generators to consider other alternatives to landfill disposal. However, if alternatives do not exist, individual residents are excluded from hazardous waste regulations, and residents can legally dispose of computer wastes in municipal solid waste landfills.

♦ Individual residents can contact local solid waste officials or MDEQ to determine if there are computer collection efforts or recycling programs available in the local area.

BUSINESSES AND OTHER GENERATORS

♦ Businesses that produce less than 220 pounds/month of hazardous waste (including the monitors), are classified as Conditionally Exempt Small Quantity Generators. Therefore, the computer waste may be disposed of as normal solid waste in a permitted municipal solid waste landfill, or the monitors may be recycled without the need to ship them with a hazardous waste manifest.

♦ Generators producing less than 220 pounds/month of all other hazardous waste, must add the weight of the computer

monitors proposed for disposal to the quantity of all hazardous waste materials to determine if the generator will exceed 220 pounds in a given month.

♦ Businesses that produce between 220 and 2200 pounds/month are classified as Small Quantity Generators and businesses that produce more than 2200 pounds/month, are classified as a Large Quantity Generators. Computer monitors from these generators must be managed as hazardous waste due to the lead content.

♦ Monitors should be stored in a manner that protects them from breakage.

♦ The monitors must be manifested when transported to a hazardous waste storage or disposal facility.

♦ The U.S. EPA has revised the federal hazardous waste management standards to exempt computer monitors with cathode ray tubes if the CRT's are stored on-site less than one year prior to recycling them.

Directories of recycling facilities and operating landfills that can be utilized for computer waste management are available from the Mississippi Department of Environmental Quality.

_____

For additional information, contact:
Mr. Reese Yontz
Solid Waste Policy, Planning & Grants Branch
Mississippi Department of Environmental Quality
P.O. Box 2261
Jackson, MS 39225
Phone: (601) 961-5171
Fax: (601) 961-5785
www.deq.state.ms.us

GUIDE TO MANAGEMENT AND DISPOSAL OF COMPUTER WASTES

Mississippi Department of Environmental Quality

Solid Waste Program