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Recycling and E-Waste Management
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Out with the Old Achieving Sustainable E-Waste Management

E -waste is one of the fastest-growing segments of our nation's waste stream. As a facility manager, you must be clear about what it is, the hazards associated with improper disposal and ways it can be reused, refurbished or recycled so that you can make wise, sustainable and cost-effective solutions for your restaurant's facilities.

E-waste is a popular term given to electronic products that are nearing the end of their useful life. Common electronics in use at restaurant facilities include both the back-end office—such as computers, copiers, fax machines, cellular phones, cameras, video cameras and microwaves— as well as electronics that create the customer experience: stereos, sound systems, projection screens, televisions and pagers.

We all encounter these items every day, but when it comes time to get rid of them, it is not as easy as just tossing them in the trash. With inconsistent guidelines and the number of different types of products, disposing of e-waste is a difficult quagmire to navigate. Some researchers estimate that nearly 75 percent of old electronics are in storage, in part because of the uncertainty of how to manage the materials.

E-Waste Regulation
At present, there is no federal mandate to recycle e-waste, although there have been several attempts to develop a federal law. The Environmental Protection Agency provides only broad guidelines and gives states the power to legislate e-waste. As a result, state regulations are your only benchmark for compliance. Many states have instituted mandatory electronics recovery programs, and the landscape of the state legislature is changing fast.

For example, in late November, Pennsylvania passed a law mandating that electronics manufacturers fund and manage ewaste recycling programs in the state. The law also bans electronics from Pennsylvania landfills and requires retailers to provide customers with information about recycling the devices they purchase. In effect, it is now illegal to simply throw e-waste in the trash in the state of Pennsylvania.

Similar legislation is being passed by states on an increasingly regular basis. While there is no one definitive source for up-to-date laws by state (your most accurate source is to consult your state government directly), an overview of state legislation can be found at the Electronics Take Back Coalition website: www.computertakeback. com/legislation/state_legislation.htm.

A Growing Problem
Due to the rapid advancement of technology and its proliferation into every aspect of business, many electronic products become obsolete in a very short amount of time. This creates a large surplus of unwanted or unusable products.

E-waste is a particularly problematic waste stream. Toxins, the electronic device itself, and a combination of plastics and metals that are hard to separate make e-waste a complex waste product. The complexity of this type of waste is only increased because there frequently is not enough value in most of the materials to be financially beneficial in recycling. In other words, it is not a simple process to arrive at valuable materials that are easy to resell. So it can be problematic for businesses to minimize their risks under the Resource Conservation and Recovery Act.

This complex waste stream, coupled with varying mandates on proper disposal, makes it challenging for

commercial businesses to choose a do-it-yourself solution that is both in compliance and sustainable. For many, the most effective solution is to choose a local waste vendor to handle e-waste along with their other recyclable materials (paper, metals, light bulbs, glass). However, the risk taken is whether the product goes into a landfill. Many vendors have scrupulous tendencies and need a direct recycler or a management company to oversee the processes.

The Hazards of E-Waste

Anyone who decides to discard an electronic device is responsible for determining if the device is a hazardous waste or falls under the category of universal wastes, which can be transported under more relaxed rules. The challenge with e-waste is that most items contain a variety of materials of varying toxicity.

Determine if your waste is hazardous by reviewing the state and federal criteria for hazardous waste classification. Waste that appears on one of five regulatory lists or exhibits one or more characteristics defined in regulations (including traits such as toxicity, corrosivity, reactivity and/or ignitability) is considered a hazardous waste. Almost all e-waste products contain at least one material that is hazardous or, at the very least, problematic for disposal.

Disposing of E-Waste

The responsibility for proper disposal lies with each individual business. Given the complexity of the e-waste stream, coupled with the ubiquitous nature of electronics, many businesses turn to experts who are knowledgeable and educated, will ensure your compliance, and provide pickup and sustainable disposition of e-waste.

Most reputable waste companies can provide comprehensive waste and recycling services. The benefit to you is accountability of product and a knowledgeable staff that provides a coordinated approach to all your waste management without having to worry about the rapidly changing face of e-waste compliance.

When choosing a vendor, you want to ensure that whoever is handling and recycling your e-waste is qualified to do so. Wendy Gordon, sales manager with Advanced Green Solutions in Walnutport, Pa., said business owners should ensure vendors are certified with the EPA and/or the Department of Environmental Protection. This confirms that the disposal or recycling of your waste is in accordance with regulations.

Most vendors will provide you with a certificate of recycling, which can then be used to verify compliance during audits and demonstrate green practices for any environmental certifications your business holds or is seeking. Be wary of any company that offers to pay you to pick up your e-waste as these companies are typically brokers in disguise that do not follow sustainable practices and either ship the materials overseas or dispose of it in landfills.

The Fate of E-Waste

Because of its complexity, most e-waste must be sorted and handled uniquely based on its composition. The hierarchy of e-waste is Reuse— Refurbish—Recycle.

"The optimal form of sustainability is to reuse it first," Gordon said.

For example, many parts of e-waste can be reused by manufacturers in their current product line. Reuse saves time, money and impact.

Many items, such as LCD screens, can often be refurbished and sold much cheaper to smaller businesses. Refurbishing a product also saves time, money and impact as it extends the useful life of electronic devices and provides lower cost options to consumers or businesses needing to purchase similar devices.

Recycling is essentially stripping the e-waste for its natural resources. With e-waste, the hazardous materials are sent to specialized processing centers and other materials, such as non-hazardous metals and plastics, are broken down to their lowest form and used as raw materials for other products. Innovative uses for recycled e-waste are being developed all the time. For example, some companies are transforming glass from LCD and television screens into the paint used for road markings.

Benefits of an E-Waste Program

While e-waste is often a cost center, rather than a financially beneficial return on investment, there are tangible benefits to effective e-waste management for both your business and the environment. Direct benefits to the business include:

• Ability to position a facility as a sustainable and green company and the positive public relations/ community image it projects
• Helping to educate customers about these efforts
• Compliance with rapidly changing laws (to avoid fees and fines)
• Potential to offset the cost of regular trash removal and fees as the costs shift toward e-recycling and general

recycling efforts. Benefits to the environment and community include:

• Saving room in already overburdened landfills

• Creating awareness of the importance of recycling e-waste for employees and the trickle-down effect it has to residential e-waste recycling efforts

• Reducing illegal dumping of e-waste and the harmful effect of contaminants that make clean-up impossible.

Next Steps

The quantity of e-waste is only set to grow as new technology continues to enter the market at a rapid pace. As states pass more stringent mandates and sustainable business practices become the natural expectation by authorities, customers and community alike, it becomes imperative to implement responsible e-waste programs at all your business locations.

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