Palm Beach State College

Florida's First Public Community College

UNIVERSAL WASTE MANAGEMENT PROGRAM

Palm Beach State College
Universal Waste Management Program

INTRODUCTION

Through its authority under Subtitle C of the Resource Conservation and Recovery Act (RCRA), the United States Environmental Protection Agency (EPA) has promulgated regulations governing the safe management of hazardous waste from the point of generation until the point of final disposition. Within these regulations, EPA has developed a streamlined management program for certain hazardous wastes, known as universal wastes, which reduces the regulatory requirements imposed on them in order to encourage their recycling. Universal wastes are:

- Generated in a wide variety of settings, not solely industrial
- Generated by a vast community
- Present in significant volumes in nonhazardous management systems.

There are currently only four types of hazardous waste that are covered under the universal waste regulations, although more wastes may be added in the future:

- Hazardous waste batteries
- Hazardous waste pesticides
- Mercury-containing equipment
- Hazardous waste lamps.

When managed and disposed of as a universal waste in accordance with the universal waste regulations, these wastes are not included in the quantities of hazardous waste that are counted toward determining a facility's hazardous waste generator status.

The EPA's regulations for universal waste are found at Title 40, Code of Federal Regulations, Part 273 (40 CFR 273). The State of Florida has adopted the EPA regulations by reference in Florida Administrative Code Chapter 62-730 (Rule 62-730.185, F.A.C.). Florida has developed regulations specifically for management of spent mercury-containing lamps and devices destined for recycling found at Florida Administrative Code Chapter 62-737(Chapter 62-737, F.A.C.).

CATEGORIES OF REGULATED PARTICIPANTS

There are four categories of regulated participants in the EPA universal waste program:

- *Small quantity handlers of universal waste (SQHUW)*, who accumulate less than 5,000 kilograms (kg) (approximately 11,000 pounds (lbs.)) of all universal waste categories at their location at any time. SQHUWs are prohibited from diluting, treating or disposing of universal waste, and they are prohibited from sending or

taking it to a place other than another universal waste handler or a destination facility. They may accumulate universal waste for no longer than one year from the date it was generated.

- *Large quantity handlers of universal waste (LQHUW)*, who accumulate 5,000 kg or more of universal waste at any time
- *Universal waste transporters*. Generators may self-transport their wastes from one universal waste handling site to another or to a destination (recycling) facility.
- *Universal waste destination facilities*, which would generally be the recycling facilities to which the universal wastes are sent.

Palm Beach State College is only a small quantity handler of universal waste; i.e., the College's shipping records document that it accumulates less than 11,000 lbs. at any location at any time. As allowed by regulation, it will occasionally self-transport universal wastes from one of its other campuses to the Lake Worth campus, where those wastes are accumulated, and from which transportation is arranged for shipment to a destination facility.

UNIVERSAL WASTE DESCRIPTIONS AND APPLICABLE REQUIREMENTS

Batteries

A used or unused battery becomes a waste on the date it is discarded, e.g., when it is collected at the facility for reclamation or recycling. Universal waste batteries include the following:

- Lithium ion (Li-ion) batteries – rechargeable, used in laptops, other small electronics
- Button batteries – used in hearing aids, watches, calculators
- Small sealed lead-acid (SSLA) batteries – used in smaller equipment and backup power supplies
- Nickel-cadmium (NiCad) batteries – used in portable electronics and toys
- Wet cell lead-acid batteries – Used in autos, boats, trucks
- Nickel metal hydride (NiMH) batteries – used in consumer electronics
- Portable power tool batteries – used in portable, cordless power tools
- Battery pack batteries – packaged together with a single connector, used in phones, small equipment
- Cell phone batteries – used in cellular telephones

Alkaline batteries (so-called "flashlight batteries") are typically not recycled. They are therefore are typically not handled as universal waste and may be disposed of in the normal trash.

Management Requirements – The batteries must be managed in a way that prevents releases of any universal waste or component of universal waste into the environment. Any universal waste battery that shows evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions must be placed in a

container, which must be closed, structurally sound and compatible with the contents of the battery(ies).

The following activities may be conducted as long as the casing of each individual battery cell is not breached and remains intact and closed:

- Sorting batteries by type
- Mixing battery types in one container
- Discharging batteries so as to remove the electric charge
- Regenerating used batteries
- Disassembling batteries or battery packs into individual batteries or cells
- Removing batteries from consumer products.

Since removal of electrolyte from universal waste batteries will result in generation of a separate waste stream that may be hazardous and that would fall outside of the less restrictive universal waste regulations, the College will not undertake the removal of electrolyte from any battery.

Labeling/Marking Requirements – Universal waste batteries (i.e., each battery) or a container having the batteries in it must be labeled or clearly marked with any of the following phrases:

- "Universal Waste – Battery(ies)"
- "Waste Battery(ies)"
- "Used Battery(ies)".

Pesticides

Pesticides are chemical products that prevent, destroy, repel or mitigate any pest, or are intended for use as a plant regulator, defoliant or desiccant. Pesticides that would be considered universal waste include recalled pesticides (i.e., stocks of a suspended and canceled pesticide that are part of a voluntary or mandatory recall under FIFRA, or are not in compliance with FIFRA) or stocks of unused pesticides that are collected and managed as part of a waste pesticide collection program. Generally, leftover or unused pesticide product becomes a waste on the date that the generator (purchaser or user) decides to discard it.

Management Requirements – Universal waste pesticides must be managed in a way that prevents releases to the environment, e.g., by containing them in a container that remains closed, structurally sound and compatible with the pesticide and that lacks evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions. If the container does not meet these requirements, it must be overpacked in a container that does.

Labeling/Marking Requirements – Each container of universal waste pesticide must be labeled or clearly marked with:

- The FIFRA-required (Federal Insecticide, Fungicide and Rodenticide Act) label that was on or accompanied the product as sold or distributed; and
- The words “Universal Waste Pesticide(s)” or “Waste Pesticide(s)”.

Mercury-Containing Equipment

Mercury-containing equipment means any device or part of a device that contains elemental (liquid) mercury as a component necessary to its operation. Some commonly recognized mercury-containing devices are thermostats, barometers, manometers, temperature and pressure gauges and mercury switches, such as light switches in automobiles. Used mercury-containing equipment becomes a waste on the date it is discarded.

Management Requirements – Universal waste mercury-containing equipment must be managed in a way that prevents releases of mercury to the environment, e.g., by placing them in a container that remains closed, structurally sound and compatible with the contents of the equipment and that lacks evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions. The container must also be reasonably designed to prevent the escape of mercury into the environment by volatilization or any other means.

Since removal of mercury-containing ampules from universal waste mercury-containing equipment would subject the College to additional management requirements, as well as increase risk to its employees and the environment, the College will not undertake the removal of mercury-containing ampules from mercury-containing equipment.

Labeling/Marking Requirements – Universal waste mercury-containing equipment (i.e., each such device), or a container having the equipment in it, must be labeled or clearly marked with any of the following phrases:

- “Spent Mercury-Containing Device(s) for Recycling”
- “Universal Waste Mercury Device(s)”
- “Waste Mercury Device(s)”
- “Used Mercury Device(s)”

A universal waste mercury-containing thermostat, or a container having only mercury-containing thermostats in it, may be labeled or clearly marked with any of the following phrases:

- “Universal Waste Mercury-Containing Thermostat”
- “Waste Mercury-Containing Thermostat”
- “Used Mercury-Containing Thermostat”

Mercury-Containing Lamps

Mercury-containing lamps include fluorescent, high intensity discharge (HID), some types of neon, mercury vapor, high pressure sodium and metal halide lamps. A used mercury-containing lamp becomes a waste on the date it is permanently removed from its fixture.

Management Requirements – Per Florida law, spent mercury-containing lamps have been banned from solid waste incineration in any quantity, and they may not be disposed of at a solid waste landfill if more than 10 lamps per month are generated by a business from any one location. Recycling is the management option recommended by the State for all lamps. Chapter 62-737, F.A.C., "The Management of Spent Mercury-Containing Lamps and Devices Destined for Recycling", establishes the following management requirements applicable to the College for waste mercury-containing lamps:

1. Used lamps are not to be placed in the regular trash.
2. Used lamps that are accumulated for recycling should be stored in packaging that minimizes lamp breakage, and they should be handled and stored in an area and in a manner that will prevent them from breaking.
    a. Used lamps may be stored in drums or boxes or the cartons they originally came in or in the boxes of replacement lamps.
    b. Do not place too many or too few lamps into the shipping container.
    c. Keep the shipping container closed unless adding or removing lamps.
    d. Do not tape lamps together for storage or shipment.
    e. Containers should be stable (i.e., they do not tip over easily) and stored in such a way that they will not tip or fall. Care should be used when stacking containers so that the additional weight does not break the lamps.
3. Do not intentionally break or crush lamps.
4. If lamps are accidentally broken, immediately contain the broken lamps and store them separately in a tightly sealed container. Mark the container with "Broken Spent Mercury-Containing Lamps for Recycling". See Appendix A below for guidance on cleanup and disposal of broken mercury-containing lamps.
5. Label the lamps or each container of lamps as indicated in "Labeling/Marking Requirements" below. Each container should also be marked with the earliest date that the lamps were placed into it.
6. Do not accumulate or store more than 5,000 kg of lamps (11,000 lbs. or approximately 20,000 lamps) at any one time at any location or for more than one year in order to avoid any notification requirements.
7. Employees who handle or transport lamps should be trained in proper lamp handling, packaging and cleanup and containment procedures for broken lamps. See Appendix A below, which should be posted in areas where fluorescent lamps are handled or stored.
8. Used lamps may be transported from the Belle Glade, Boca Raton and Palm Beach Gardens campuses to the Lake Worth campus for accumulation prior to shipment to the recycling facility. A manifest or shipping document is not required in this instance.

9. The truck or vehicle used to transport used must be totally enclosed and in good condition.
10. Obtain and keep receipts for shipments of lamps to the recycling facility. The receipts should have the following information: the quantity of lamps shipped, the date of shipment and the name and address of the recycling facility receiving the shipped lamps.

Labeling/Marking Requirements – In addition to marking the container in which used lamps are stored prior to shipment with the earliest date that the lamps were placed into it, each lamp or container must be labeled or clearly marked with one of the following phrases:

- "Spent Mercury-Containing Lamps for Recycling"
- "Universal Waste Mercury Lamps"
- "Waste Mercury Lamps"
- "Used Mercury Lamps"

APPENDIX A

CLEANUP AND DISPOSAL OF BROKEN MERCURY-CONTAINING LAMPS

When a fluorescent bulb breaks, some of the mercury in it is released as mercury vapor. The broken bulb can continue to release mercury vapor until it is cleaned up and removed from the area. To minimize exposure to mercury vapor, EPA recommends that the cleanup and disposal steps described below be followed.

1. **Before cleanup**
   a. Have people leave the area.
   b. Ventilate the area for 5-10 minutes by opening a window or door to the outdoor environment.
   c. Shut off the central forced air heating/air-conditioning system, if one is present.
   d. Collect materials needed to clean up broken bulb:
      - Protective gloves
      - Stiff paper or cardboard
      - Sticky tape, such as duct tape
      - Damp paper towels or disposable wet wipes (for hard surfaces)
      - A sealable container, such as a glass jar with a metal lid or a sealable plastic bag.
2. **During cleanup**
   a. **DO NOT VACUUM**. Vacuuming is not recommended unless broken glass remains after all other cleanup steps have been taken. Vacuuming could spread mercury-containing powder or mercury vapor.
   b. Put on protective gloves.
   c. Carefully scoop up glass fragments and powder using stiff paper or cardboard. Do not use a broom to sweep the debris as this could spread the mercury-containing power and mercury vapor.
   d. Be thorough in collecting broken glass and visible powder. Use sticky tape to pick up any remaining small glass fragments and powder. Wipe the area clean with damp paper towels or disposable wet wipes.
   e. Place debris and cleanup materials in the sealable container and close it.
   f. Vacuuming of hard surfaces with a HEPA vac may be undertaken to remove any broken glass remaining after all other cleanup steps have been taken. Remove the HEPA vac filter and place it in the sealable container if there is room, or in a separate sealable container.
3. **After cleanup**
   a. Promptly place all bulb debris and cleanup materials in a container marked “Broken Spent Mercury-Containing Lamps for Recycling”.
   b. If practical, continue to air out the room where the bulb was broken and leave the heating/air conditioning system shut off for several hours.
   c. Wash your hands with soap and water after completing the cleanup and disposal activities.