



Managing Spent Fluorescent and High Intensity Discharge (HID) Lamps

A Fact Sheet for Florida Businesses and Government Facilities

Fluorescent or HID lighting is a good business choice. Compared to incandescent lighting, fluorescent, HID, and LED lighting use less energy and produce less heat. Less energy and heat not only result in lower lighting and cooling costs, but they also result in utility power plants emitting less air pollutants such as mercury, lead, nitrogen oxides, and sulfur dioxides. If you are considering switching to high-efficiency fluorescent, HID, or LED lighting, don't hesitate to make the change. Unlike fluorescent and HID lighting, LED lamps do not contain hazardous levels of mercury or other heavy metals.

Lamps contain mercury and generate light through the discharge of electricity either directly or through a fluorescing coating. Mercury-containing lamps include fluorescent lamps, mercury lamps, metal halide lamps, and high-pressure sodium lamps. Because of their mercury content, they present special disposal considerations and in many cases are considered to be hazardous wastes when disposed. Mercury is a toxic metal that can accumulate in living tissue and cause adverse health effects. When a lamp is broken or placed in a landfill or incinerator, the mercury can contaminate the air, surface water, and ground water.

For these reasons, spent mercury-containing lamps, excluding those from households, may not be knowingly incinerated in any quantity (403.7186(2) and (3), Florida Statutes). Under the current statute, a business may dispose of up to ten spent fluorescent lamps per month to a solid waste landfill, however, local solid waste departments are the final authority for landfill disposal and may refuse spent lamps from business if they choose.

Florida businesses and governmental facilities generating spent mercury-containing lamps ("Generators") have two options for managing them:

- 1) **Recycling:** This is the recommended management option for all mercury-containing lamps. Fluorescent and other mercury containing lamps should be recycled in accordance with the requirements outlined in this fact sheet. **Hazardous waste lamps destined for recycling and managed in accordance with these regulations are regulated as universal wastes and do not count toward your facility's hazardous waste generator status.** Check with the receiving storage or recycling facility for its guidelines on packaging and transportation.
- 2) **Disposal:** Generators of 10 or less spent lamps per month per location may dispose of these lamps only at a permitted, lined solid waste landfill. In Hillsborough County, most waste is incinerated. The waste that is not incinerated (i.e., Plant City) goes to a landfill that does not accept mercury-containing lamps. **Therefore, disposal of spent mercury-containing lamps into the regular trash / dumpster is not an option in Hillsborough County.**

RECYCLING REQUIREMENTS AND GUIDELINES

Generator Requirements

- Do not place used lamps from business, industry, or institutions in the regular trash.
- Store lamps in an area and in a manner that will prevent them from breaking. *Do not overfill the shipping container. Store in closed containers. Do not tape lamps together for storage or shipment.*
- *Clearly mark or label each lamp or the container of lamps with one of the following phrases: "Universal Waste—Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)."*
- If lamps are to be recycled, they may be stored on site for up to one year. Additional time requires permission from the Florida Department of Environmental Protection (FDEP).
- If lamps are to be recycled, ensure no more than 5,000-kg of lamps (20,000 lamps) are on site at any given time. Additional lamps requires permission from the FDEP.
- Immediately contain broken lamps and store them in a tightly sealed container. It is recommended that you mark the container **"Broken Universal Waste—Lamp(s)," or "Broken Waste Lamp(s)," or "Broken Used Lamp(s)."**

- Train employees in proper lamp handling, packaging and emergency cleanup and containment procedures. Non-lamp residues containing mercury and that are generated as a result of a lamp cleanup are to be managed as hazardous waste.
- Do not intentionally break or crush lamps unless you are complying with the requirements for crushers outlined below.
- If on-site storage is not feasible, lamps may be transported to a central accumulation point at one of your own facilities, to a registered handler facility, or directly to a permitted recycling facility. If you transport your own lamps, you also need to comply with the FDEP's transporter regulations. See the Transportation Requirements and Transporter Requirements below.

On-Site Crusher Requirements (Generators Only)

Generators of universal waste lamps may use crushing equipment on-site to reduce the volume of stored lamps provided certain conditions are met:

- Lamps must be crushed in a **controlled manner** that prevents the release of mercury vapor or other contaminants;
- Crushing operations and maintenance of the unit must be performed in accordance with written procedures developed by the manufacturer of the equipment, including specific instructions for the frequency of filter changes;
- Employees using this equipment must be thoroughly familiar with these written procedures and the emergency procedures required should equipment malfunction occur.
- Mercury-containing lamps crushed on-site are regulated as universal waste in Florida and must be recycled. Confirm with your recycling facility that they accept crushed lamps for recycling.

Handler Facility Requirements

- **Small quantity handler of universal waste lamps**
 - Generators and Reverse Distributors: <5,000-kg of universal waste lamps on site at any time.
 - Other Handlers (except generators or reverse distributors): <2,000-kg, or 100-kg of devices, on site at any one time. *Annual registration with FDEP is required.*
- **Large quantity handler of universal waste lamps or devices**
 - Generators and Reverse Distributors: ≥5,000-kg of universal waste lamps or devices on site at any time. *Annual registration is required.*
 - Other Handlers (except generators or reverse distributors): ≥2,000-kg of universal waste lamps, or 100-kg of devices, on site at any time. *Annual registration and a one-time payment of \$1,000 is required, along with an operational plan, and a closure plan including financial assurance.*
- Follow management requirements above for *Generators* except for crushing of lamps. **Lamp crushing is allowed only by the generator at the generator's facility.**

Record Keeping Guidelines for Generators & Handlers

- Small quantity handlers are not required to retain receipts, but the EPC recommends that all recycling and disposal receipts be retained.
- Large quantity handlers are required to retain documentation of recycling for at least three years. Paperwork should have the following information: the quantity of lamps shipped or received, the date of shipment or receipt, and the name and address of the handler or recycling facility receiving any shipped lamps.

Reverse Distribution Program Requirements

- Sponsored by a lamp manufacturer or distributor (which may include a business distributing lamps to its facilities).
- Sponsor assumes responsibility for collection and recycling of spent lamps.
- Annually registers with the FDEP, maintains a valid DEP ID Number, and provides a program description including all participating transporters, handlers and recycling facilities

Transportation Requirements

- When shipping universal waste lamps for recycling within Florida, a hazardous waste manifest and a licensed hazardous waste transporter are not required.
- When shipping out of Florida, follow the intermediate and receiving states' requirements, especially with regard to crushed and broken lamps.

Transporter/Transfer Facility Requirements

- Register annually with the FDEP and maintain a valid DEP ID number as a transporter and/or transfer facility.
- Use only totally enclosed trucks in good condition.
- Store properly contained lamps on transport trucks for no more than 10 days.
- Train drivers in proper handling, packaging and emergency cleanup and containment procedures; keep emergency operation plans in the transport vehicles.
- Comply with any applicable Department of Transportation (DOT) regulations, including Hazardous Material Regulations.

Note: Transporters and handlers collecting lamps from generators of 10 or less lamps per month and who do not accumulate more than 100 kilograms (400 lamps) at one time are exempt from the annual registration requirements outlined above

PCB and Other Light Ballasts

- Ballasts containing PCBs (polychlorinated biphenyls) cannot be disposed in Florida. Send to a processor for removal of PCB components and disposal at approved facilities outside of Florida. Non-PCB components may be managed and recycled in Florida.
- About 25% of non-PCB ballasts contain DEHP (di (2- ethylhexyl) phthalate) which is classified by EPA as a hazardous substance. Disposal of approximately 1600 of these ballasts would trigger the reportable quantity requirement under the federal Superfund laws. The FDEP recommends that ballasts of this type not be disposed of at solid waste landfills.
- The FDEP recommends the recycling of all discarded light ballasts, including electronic ballasts.