


Florida Department of Environmental Protection

Memorandum

To: Persons Involved in Use or Regulation of Drum Top
Crushers

From: Charles F. Goddard, Chief 
Bureau of Solid and Hazardous Waste,
FDEP

Date: May 8, 2009

SUBJECT: Use of a Drum Top Crusher For Volume Reduction of
Universal Waste (Fluorescent) Lamps

The Florida regulation that governs the use of universal waste lamp crushing equipment for volume reduction, 62-737.400 (6)(b), Florida Administrative Code (FAC), states:

"A generator of universal waste lamps may use crushing equipment on-site to reduce the volume of the stored lamps provided that: this is done in a final accumulation container; the lamps are crushed in a controlled manner that prevents the release of mercury vapor or other contaminants; the crushing operations and maintenance of the unit are performed in accordance with written procedures developed by the manufacturer of the equipment, including specific instructions for the frequency of filter changes; and the employees using this equipment are thoroughly familiar with these written procedures and emergency procedures should equipment malfunction occur."

The crushing of universal waste lamps for volume reduction is typically done using equipment commonly referred to as a drum top crusher (DTC). This equipment is a commercially produced, electrically powered apparatus that attaches to the top of a steel drum, breaks or crushes fluorescent lamps as they are manually fed into some type of intake one at a time, directs the vapor released during the crushing operation through a filter that absorbs or removes mercury vapors, and deposits the crushed lamps into the drum to which the apparatus is attached.

The purpose of this guidance is to describe three specific scenarios in addition to on-site use by a single generator under which drum top crushing equipment may be used in compliance with 62-737.400(6)(b), FAC.

1. Drum top crushers may be used at state approved household hazardous waste facilities to crush lamps from both households and conditionally exempt small quantity generator facilities.
2. Drum top crushers may be used to commingle lamps from different generators into the same drum.
3. A drum top crusher may be used by different companies.

Use at a Household Hazardous Waste Facility

Drum top crushers may be used at state approved household hazardous waste facilities to crush lamps from both households and conditionally exempt small quantity generator facilities.

In a July 22, 1992 memorandum, the US Environmental Protection Agency (EPA) stated that “state-approved household hazardous waste collection programs that manage both household hazardous waste (HHW) and conditionally exempt small quantity generator (CESQG) wastes are not subject to the full RCRA Subtitle C requirements merely because they mix these two types of wastes together.” Under 40 CFR 273.8(a), both HHW and CESQG wastes may be managed as universal waste at the option of the person managing the wastes. Also, under 40 CFR 273.8(b), commingled HHW and CESQG universal wastes must be managed as universal wastes.

In the case of HHW facilities managing HHW and CESQG mercury-containing waste lamps, the HHW facility operator is the person managing both the HHW and CESQG waste lamps. If the HHW facility operator opts to manage HHW and CESQG mercury-containing lamps as universal waste, as allowed in 40 CFR 273.8, the HHW facility operator becomes a generator of these universal wastes. (The business or governmental entity whose lamps are being managed is also a generator. They can be referred to as “co-generators.” All co-generators are equally responsible for proper management of the spent lamps.) As a co-generator, the HHW facility operator “may use crushing equipment on-site to reduce the volume of the stored lamps,” as allowed in 62-737.400(6)(b), FAC, for both HHW and CESQG universal waste lamps.

As per 62-730.220(5), FAC, HHW facilities accepting and managing CESQG waste must receive authorization from the Department. See “Management of CESQG Waste at HHW Facilities” at <http://www.dep.state.fl.us/waste/categories/hazardous/pages/publications.htm>.

Commingling more than one generator's lamps in one drum of crushed lamps

Drum top crushers may be used to commingle lamps from different generators into the same drum.

A registered handler, such as an electrical contractor that is replacing lamps, can take a drum top crusher, secured on a truck, to a generator's site and crush lamps there. That drum or partial drum of lamps and the DTC can be returned to the handler's facility for recycling as universal waste. The drum of lamps can also be shipped directly from the generator's facility to a destination facility for recycling.

If a partial drum of crushed lamps results from crushing a generator's lamps, the registered handler can take that partial drum to a different generator's site and crush that generator's lamps into that same drum and return with the drum of commingled crushed lamps to the handler's facility. The handler can continue in this fashion until the drum is full, either returning the full drum to the handler's facility for shipment or shipping directly from the final generator's site to a destination facility for recycling. The handler cannot transfer the crushed lamps into a different container at any time and the drum of crushed lamps must remain closed except while installing the DTC or changing out the full drum. The Department recommends that the user of the DTC let the drum contents settle for 30 minutes before removing the crusher from the drum, as per some manufacturer's operating procedures.

The registered handler, including each generator whose lamps are crushed, must comply with all other pertinent parts of 62-737, FAC, when handling the DTC and the lamps, including, but not limited to,

1. 62-737.400(1)(b) - document shipment of lamps to a handler or destination facility,
2. 62-737.400(7) - demonstrate length of storage (up to 1 year for handler, up to 10 days for transfer facility), and
3. 62-737.400(8) - if a large quantity handler, track receipts and shipments.

As a good business practice, the Department recommends that all drum top crusher operators maintain records that document for each generator whose lamps have been crushed:

1. The generator's name, address, contact email and phone number,
2. The quantity of lamps that were crushed (number of lamps or weight of lamps),
3. The date when the lamps were crushed, and
4. The date when the crushed lamps were shipped from the drum top crusher operator to the destination facility (recycler).

These records will help the registered handler (including the generator and the drum top crusher operator) and the transfer facility comply with 62-737.400(7), FAC. These records should be kept at the drum top crusher operator's facility for three years.

The operator of a drum top crusher must always follow the manufacturer's instructions for safe use of the equipment.

Multiple Users of a DTC

A drum top crusher may be used by different companies.

If the owner of a DTC wants to allow its use by another generator (loan, rent, lease, etc), it is important that all users know they are subject to Chapter 62-737, FAC, and have a copy of 62-737.400(6)(b), FAC. It is recommended that each user also have a copy of the fact sheet, "Managing Spent Fluorescent and High Intensity Discharge (HID) Lamps: A Fact Sheet for Florida Businesses and Government Facilities" available at <http://www.dep.state.fl.us/waste/categories/mercury/pages/publications.htm>. The Department offers these suggestions for ensuring that both the owner and any other companies using the equipment are following the rule for drum top crusher use:

- Maintain a master maintenance log that stays with the DTC
- Have the operating instructions travel with the DTC
- Ensure each user has mercury spill training and a mercury spill clean up kit
- Make sure each user operates the DTC in a well-ventilated area

If the other users are returning the crushed lamps to the owner of the DTC for recycling, that owner needs to register as a mercury handler. The registration can be found at:

<http://www.dep.state.fl.us/waste/categories/mercury/pages/registration.htm>

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1. 62-737.400(1)(b) - document shipment of lamps to a handler or destination facility,
2. 62-737.400(7) - demonstrate length of storage (up to 1 year for handler, up to 10 days for transfer facility), and
3. 62-737.400(8) - if a large quantity handler, track receipts and shipments.

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3. The date when the lamps were crushed, and
4. The date when the crushed lamps were shipped from the drum top crusher operator to the destination facility (recycler).

These records will help the registered handler (including the generator and the drum top crusher operator) and the transfer facility comply with 62-737.400(7), FAC. These records should be kept at the drum top crusher operator's facility for three years.

For additional information, see

http://www.dep.state.fl.us/waste/categories/mercury/pages/program_description.htm#crusher

Contact: Laurie Tenace at 850.245.8759 or Laurie.Tenace@dep.state.fl.us

For reference, 40 CFR 273.8 is reproduced below.

§ 273.8 Applicability – household and conditionally exempt small quantity generator waste.

(a) Persons managing the wastes listed below may, at their option, manage them under the requirements of this part:

- (1) Household wastes that are exempt under § 261.4(b)(1) of this chapter and are also of the same type as the universal wastes defined at § 273.9; and/or
- (2) Conditionally exempt small quantity generator wastes that are exempt under § 261.5 of this chapter and are also of the same type as the universal wastes defined at § 273.9.

(b) Persons who commingle the wastes described in paragraphs (a)(1) and (a)(2) of this section together with universal waste regulated under this part must manage the commingled waste under the requirements of this part.

[64 FR 36488, July 6, 1999]