

FLUORESCENT AND OTHER NON-INCANDESCENT LAMPS, LIGHT BULBS, AND BALLASTS

(For assistance, please contact EHS at (402) 472-4925, or visit our web site at <http://ehs.unl.edu/>)

This SOP provides procedural requirements for the management and disposal of fluorescent lamps, Light-Emitting Diode (LED) and High Intensity Discharge (HID) lamps and lighting ballasts. Spent fluorescent, LED's and HID lamps are subject to certain regulatory requirements depending on the amount of mercury or other metals contained in the lamp. Traditional lamps contain higher levels of mercury and are generally subject to hazardous or universal waste regulations. These regulations apply as soon as the lamp is removed from service and continue through final disposal.

Fluorescent lamps manufactured with newer technology (Phillips Alto[®] and Sylvania Eco and Ecologic[®] or General Electric Ecolux[®]) utilize less mercury and are not subject to hazardous or universal waste regulations, but disposal is still regulated at the local level. Phillips Alto lamps are easily identified by their green tips. Sylvania Eco[®], Ecologic[®], and General Electric Ecolux[®] lamps are silver tipped (similar to other Sylvania and GE bulbs with higher mercury content), but they have a green identifying label on the side of the lamp.

Depending on the time period when manufactured, lighting ballasts may contain polychlorinated biphenyls (PCBs), a highly toxic material. Ballasts manufactured after 1978, used a PCB substitute or are configured with electronics as an alternative to dielectric fluid. Regardless of the type, ballasts are subject to certain regulatory requirements when disposed. Do not dispose of any ballast as ordinary trash.

High-Mercury Lamps

- Whenever possible, allow lamps to be changed out by Facilities Management and Planning (FMP) staff. They have been trained in proper handling and management procedures.
- If you must change out spent lamps, take care when handling to avoid breakage. Also, consult with FMP prior to changing the lamp to ensure that the surrounding ceiling surfacing material does not contain asbestos.
- Immediately containerize the spent lamp to prevent breakage. If possible, use the box from which the replacement (new) lamps were taken, or a drum provided by EHS. Odd-shaped lamps can be packed in any box so long as the box is in good condition and sufficient packing material is used to prevent breakage. Close the box or drum, even if there is room to add more lamps to the box. The regulations require all containers to be closed except when immediately adding or removing lamps.

- Broken lamps must be immediately bagged and boxed separately. The inner bag should be sealed with tape or equivalent fastener.
- Ensure that the box is labeled with the words "Universal Waste - Lamps" and dated with the date that the first lamp was placed into the box.
- Notify Environmental Health and Safety (EHS) at 472-4925 of the need for collection when the box becomes full, or within six (6) months of placing the first lamp in the collection container, whichever comes first.

Low-Mercury Lamps

- Whenever possible, allow lamps to be changed out by FMP staff. They have been trained in proper handling and management procedures.
- If you must change out spent lamps, take care during handling to avoid breakage. Also, if it is a ceiling lamp consult with FMP prior to changing to ensure that the surrounding ceiling surfacing material does not contain asbestos.
- Immediately package spent lamps to prevent them from breaking. If possible, use the box from which the replacement (new) lamps were taken or request containers from EHS.
- Label the box with the type of lamp (i.e., Spent Phillips Alto/Sylvania ECO/Ecologic, General Electric Ecolux Low Mercury Lamps). It is not necessary to date boxes containing low-mercury lamps.
- Notify EHS (472-4925) of the need for collection when the box is full. Do not place spent lamps in regular refuse containers.

LED Lamps

- LED's are assembled onto a circuit board which contains lead, silver and other toxic metals.
- Place spent LED's into a box.
- Ensure that the box is labeled with the words "Universal Waste - Electronics" and dated with the date that the first LED was placed into the box. Notify Environmental Health and Safety (EHS) at 472-4925 of the need for collection when the box becomes full, or within six (6) months of placing the first HID into the collection container, whichever comes first.

Lighting Ballasts

- Ballasts should only be changed by trained employees, generally FMP staff. In addition to waste management regulatory requirements, servicing of ballasts involves electrical safety issues. Furthermore, lighting fixtures may be installed in areas that contain asbestos ceiling surfacing material. In such cases, servicing of the fixture must be done in accordance with specified procedures designed to prevent disturbance of the asbestos. Finally, do not handle leaking ballasts; contact EHS (472-4925) for assistance.
- If you must change out ballasts, consult with FMP prior to changing the ballast to ensure that the surrounding ceiling surfacing material does not contain asbestos.
- Immediately containerize the ballast to prevent breakage. If possible, use the box from which the replacement (new) ballast was taken, or a drum or bucket provided

by EHS. Ballasts can be very heavy. This should be considered when selecting an appropriate container. Unlike lamps, the regulations do not require that containers of spent ballast remain closed. However, closing the containers when not immediately adding or removing ballasts is recommended.

- Ensure that the box is labeled with the words "Universal Waste - Ballasts" and dated with the date that the first ballast was placed into the box.
- Notify EHS at 472-4925 of the need for collection when the box becomes full or within six (6) months of placing the first ballast in the collection container, whichever comes first.