

Procedures for Proper Disposal of Light Bulbs and Batteries at Cornell University's Remote Facilities

June 19, 2014

Purpose

Used lamps containing mercury are a regulated waste by the New York State Department of Environmental Conservation (NYS DEC). All staff who handle used lamps at Cornell University must be aware that:

- Non-broken mercury-containing lamps are a Universal Waste
- Broken mercury-containing lamps are a Hazardous Waste
- There are strict guidelines for generators of this waste
- Violations of DEC regulations lead to fines

All staff who handle used lamps at Cornell University must:

- Understand the New York State Department of Environmental Conservation (NYSDEC) terminology
- Understand the difference between Hazardous Waste lamps and Universal Waste lamps
- Learn how to properly dispose of waste lamps

Terminology

HAZARDOUS WASTE: is a regulatory term meaning waste that poses substantial or potential threats to public health or the environment.

UNIVERSAL WASTE: is a Hazardous Waste which falls under the NYDEC Universal Waste Rule. This rule is designed to reduce the amount of hazardous waste in the municipal solid waste stream, to encourage the recycling and proper disposal of some common hazardous wastes and to reduce the regulatory burden on generators.

LAMP: Light Bulb

SATALITE ACCUMULATION AREA: Is a regulatory term meaning the area where the Universal Waste Recycle containers are located.

ACCUMULATION START DATE: Is a regulatory term meaning the date the first light bulb is placed in a recycle box/bin.

LARGE QUANTITY HANDLER: is a regulatory status which is a NYSDEC designation based on the quantity of waste an organization generates. Cornell's Ithaca Campus is a Large Quantity Handler and as such is subject to strict regulations regarding Universal Waste and Hazardous Waste.

CFL'S: Compact Florescent Light Bulb

Proper Disposal of Universal Waste Non-Broken Lamps

All Unbroken lamps which are being disposed of from Cornell University's remote facilities must be collected sent for recycling/reclamation as outlined in this document. The rules listed below for Universal Waste Lamps ensure compliance with NYSDEC regulations; violations of NYSDEC regulations lead to fines.

All Cornell staff collecting Universal Waste Lamps must complete the Lamp Waste Training available jointly by Cornell's R5 Operations Department and Cornell's department of Environmental Health and Safety. To schedule a training email recycle@cornell.edu, or call 607-254-1666.

R5 Operations will provide, as needed, toolkits for lamp disposal which shall include labels for Universal Waste Non-Broken Lamps, Lamp Disposal Poster, and a "Non-Broken & Broken Lamps Recycle Checklist."

R5 Operations will arrange for Universal Waste Non-Broken Lamp collection boxes be delivered to the facility. For some facilities the recycle box/bins will be pre-labeled with self-addressed mailing labels, and can be mailed to the vendor as needed. Box/bin types will be decided based on facility location, quantity of waste generated, and required frequency of pickup. R5 Operations staff will work with staff at each remote facility to ensure the needed type of box/bins are provided.

R5 Operations will arrange for pickup of Universal Waste non-broken lamps as needed; it is the responsibility of the facility to contact R5 Operations when pickup is needed. Note that facilities which are provided containers with pre-addressed mailing labels will be responsible to place containers in the mail as needed.

It is the responsibility of the facility to contact R5 Operations when supplies are needed.

It is the responsibility of the remote facility to ensure all materials referenced in this document are stored and handled in compliance with DEC regulations.

The following rules apply for containers used to collect Universal Waste Lamps:

- NON-BROKEN Lamps only may be placed in containers for Universal Waste Lamps (non-broken lamps).
- Lamps must be placed in properly labeled container.
 - Label must state: "Universal Waste Lamps."
 - When pre-printed Universal Waste boxes/bins are not being used please note pre-printed labels (example below) are available from the R5 Operations Department. To request labels contact R5 Operations by email at recycle@cornell.edu, or by phone at 607-254-1666.
- Accumulation start date must be marked on container.
- Container must be stored closed at all times.
- DO NOT force lamps into the container.
- Container for Universal Waste Lamps may not be stored in excess of one year from Accumulation Start Date. Contact R5 Operations to schedule a pickup when date deadline is approaching.

Tips:

- Remove old packaging constituents from box.
- Consider separating small lamps from tubes.
- Universal Waste containers may be varied sizes. Use best size container to ensure lids are easily closed and possible incidental breakage to lamps is reduced.

Example of Pre-Printed Universal Waste Lamps label:



Proper Disposal of Hazardous Waste Broken Lamps

All broken lamps which are being disposed of from Cornell University are collected per the R5 Operations Department in Facilities Services and the Cornell Environmental Health & Safety Department. The rules listed below for Hazardous Waste Lamps ensure compliance with NYSDEC regulations; violations of NYSDEC regulations lead to fines.

All staff collecting Hazardous Waste Lamps must complete the Lamp Waste Training available jointly by Cornell's R5 Operations Department and Cornell's department of Environmental Health and Safety. To schedule a training email recycle@cornell.edu, or call 607-254-1666.

R5 Operations will provide, as needed, toolkits for lamp disposal which shall include labels for Hazardous Waste Broken Lamps, Lamp Disposal Poster, and a "Non-Broken & Broken Lamps Recycle Checklist."

As needed, R5 Operations will arrange for a Hazardous Waste broken bulb waste collection container to be delivered to the facility.

R5 Operations will arrange for pickup of Hazardous Waste broken lamps as needed; it is the responsibility of the facility to contact R5 Operations when pickup is needed

It is the responsibility of the remote facility to contact R5 Operations when additional supplies are needed.

It is the responsibility of the remote facility to ensure all materials referenced in this document are stored and handled in compliance with DEC regulations.

The following rules apply for containers used to collect Hazardous Waste Lamps:

- BROKEN Lamps and pieces ONLY may be placed in containers for Hazardous Waste Lamps (broken lamps)
- Lamps must be placed in properly labeled container:
 - Label must state: "Hazardous Waste – Broken Lamps."
 - Pre-printed labels (example below) are available from the R5 Operations Department. To request labels contact R5 Operations by email at recycle@cornell.edu, or by phone at 607-254-1666.
- DO NOT force lamp into container.
- Container must be closed at all times.
- Bulb must be placed in broken bulb container for the facility in which the bulb was broken.
- Containers with Hazardous Waste – Broken Lamps shall not be moved from the Satellite Accumulation area unless by Cornell University R5 Operations staff, Cornell University Environmental Health and Safety staff, or an approved vendor.

Example of Pre-Printed Universal Waste Lamps label:



Proper Disposal of Universal Waste Batteries

All lithium/rechargeable batteries which are being disposed of from Cornell University's remote facilities must be collected sent for recycling/reclamation as outlined in this document. The rules listed below for Universal Waste Batteries ensure compliance with NYSDEC regulations; violations of NYSDEC regulations lead to fines.

R5 Operations will provide, as needed, a toolkit for lamp battery disposal which shall include a "Battery Recycle Checklist," masking tape, and plastic bags.

R5 Operations will arrange for Universal Waste Battery box/bins to be delivered to the facility as needed. For some facilities the recycle box/bins will be pre-labeled with self-addressed mailing labels, and can be mailed to the vendor as needed. Box/bin types will be decided based on facility location, quantity of waste generated, and required frequency of pickup. R5 Operations staff will work with staff at each remote facility to ensure the needed type of box/bins are provided.

R5 Operations will arrange for pickup of Universal Waste batteries as needed; it is the responsibility of the facility to contact R5 Operations when pickup is needed. Note that facilities which are provided containers with pre-addressed mailing labels will be responsible to place containers in the mail as needed.

It is the responsibility of the facility to contact R5 Operations when supplies are needed.

It is the responsibility of the remote facility to ensure all materials referenced in this document are stored and handled in compliance with DEC regulations.

The following rules apply for containers used to collect Universal Waste Batteries:

- All rechargeable and/or lithium batteries MUST be recycled. It's the law.
- Do not collect alkaline batteries for recycling; alkaline batteries may be included with your landfill waste.
- Cornell University may only recycle Universal Waste which is generated by the University – do not accept batteries from other entities for recycling.
- Batteries must be placed in properly labeled container; label must state: "Universal Waste Batteries."
- Accumulation start date must be marked on container.
- Container must be stored closed at all times.
- BATTERIES MUST BE INDIVIDUALLY WRAPPED IN PLASTIC BAGS, OR HAVE TERMINAL ENDS COVERED WITH TAPE. This is required by law for shipping the batteries to be recycled. Note: this practice prevents the terminal ends from contact with other batteries which can result in generation of heat leading to a fire.

- Batteries must fit completely within container. If you have a battery that does not fit inside the provided recycle bin: box the battery, tape box closed, label box “Universal Waste – Batteries,” date the box with the date the battery was placed in it. Then contact R5 Operations for directions on removal of the battery.
- Battery recycle bin must be sent for recycling within one year of “accumulation start date” regardless of whether it is full.

REMINDER: Violations of NYSDEC regulations lead to fines.

To request containers, labels, posters, trainings, or a pickup of material, call R5 Operations Department at 607-254-1666, or email recycle@cornell.edu.

More information regarding recycling and waste management at Cornell University is available at <http://r5.fs.cornell.edu>.

IMPORTANT: This document is specific to Cornell’s Remote Facilities. For information related to Cornell’s Ithaca campus, please call R5 Operations Department at 607-254-1666, or email recycle@cornell.edu.