

Program Subject: Lamp Storage and Disposal Policy

1. PURPOSE

1.1 To ensure compliance with universal waste standard, ch NR 673, Wis Adm. regarding the proper preparation and storage of bulbs and lamps that contain mercury and other heavy metals that could harm human health and the environment

2. SCOPE

2.1 The policy is applicable to all UW-Eau Claire and UWEC-Barron County buildings.

3. RESPONSIBILITIES

3.1 Risk Management & Safety (RMS)

3.1.1 Be responsible for ensuring the development and implementation of this policy. Questions or comments regarding this document can be directed to hunterd@uwec.edu or 715-836-3999.

3.1.2 Review this policy at least annually.

3.1.3 Provide training to all designated departmental supervisors on proper lamp storage and disposal procedure.

3.1.4 Ensure the timely shipment of lamps

3.2 Inventory Control Specialist/Surplus Supervisors

3.2.1 Provide the custodians, electricians and Construction Project Coordinator with the requested number of lamp boxes in advance of any project.

3.2.2 Ensure employees and visitors (i.e. contractors) are provided with relevant health and safety information on potential exposures.

3.2.3 Supervisors will provide necessary equipment.

3.3 Employees/Custodians

3.3.1 Custodians are responsible and accountable for following this procedure and for proper lamp removal, storage, and container labeling.

3.3.2 Custodial supervisors and team leaders are responsible for training all custodial staff on this procedure and ensuring the procedure is followed.

3.3.3 Custodial supervisors are responsible for ensuring labels and storage containers are available for custodians, electricians and contract personnel to store waste lamps

3.3.4 Eau Claire campus Team Leaders are accountable for conducting monthly inspections of designated custodial spaces where lamps are temporarily stored. For Barron County campus, the Custodial Supervisor will conduct monthly inspections.

3.3.5 Custodial Project crew is responsible for transport of full lamp boxes on UWEC Campus to Central Stores.

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3.4 Electricians

3.4.1 Electricians are responsible for lamp removal, containment, safe transport and proper storage of lamps in the designated lamp storage locations as mentioned in Section 12. If a new container must be started in order to properly store lamp(s).

3.5 Construction Project Coordinator

3.5.1 The Project Coordinator who is accountable for overseeing contract personnel engaged in lamping activities as part of a building project is responsible for ensuring that waste lamps are transported to a designated campus storage location, as defined in Sect.12 below and for storing lamps in their proper container(s).

3.6 Inventory Control Specialist/Surplus Supervisor Construction Project Coordinator

3.6.1 Inventory Control Specialist will provide the custodians, electricians and Construction Project Coordinator with the requested number of lamp boxes in advance of any project

3.6.2 Inventory Control Specialist is responsible for notifying Custodial Services, Facilities Shop Supervisor and the Construction Project Coordinator three weeks in advance of an upcoming shipment for waste lamps and request that bulbs needing to be shipped be brought to Central Stores within two weeks of ship date.

3.6.2.1 Central Stores is the central accumulation area (CAA) for collecting waste lamps and preparing for contractor to pick up with hazardous waste shipment on the UW-Eau Claire campus.

3.6.2.2 The Physical Plant is the CAA for collecting waste lamps on the UWEC Barron County campus.

3.7 Central Stores Lamp Coordinator and/or UW-Barron County Custodial Supervisor

3.7.1 Responsible for providing the EHS Manager with a final count of all waste lamps types.

3.7.2 Responsible for preparing for shipment of waste lamps.

3.7.2.1 Lamps are placed on a pallet, shrink-wrapped and inventory of waste lamps is attached.

4. PROGRAM COMPONENTS

4.1 Safety Statement

4.1.1 It is important to follow proper procedures for the safe handling, packaging and inventorying of both new and used lamps. All precautions should be taken to eliminate breakage of lamps.

4.1.2 Gloves are advised to be worn when handling broken lamps.

4.1.3 Despite claims by manufacturers that "green" lamps (green end and compact fluorescents) can be safely landfilled, CFLs contain trace amounts of mercury and should be properly recycled. If lamps are disposed of instead of recycled, information

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such as chemical analysis must be provided to demonstrate that the waste lamps are not hazardous. Consequently, all green end and compact fluorescent lamps must be recycled.

- 4.1.4 All personnel handling lamps must follow Section 8.2 if a lamp should break.
- 4.2 Applicability
 - 4.2.1 Lamp replacement is the responsibility of all electricians, custodians, and project managers who involve contract personnel and all supervisors who oversee proper lamp storage and disposal.
- 4.3 Definitions
 - 4.3.1 SOP - Standard Operating Procedure
 - 4.3.2 PPE - Personal Protective Equipment
 - 4.3.3 CAA - Central Accumulation Area
 - 4.3.4 Central Stores - aka Eau Claire Stores and Receiving
 - 4.3.5 CFL - compact fluorescent lamps
 - 4.3.6 EHS - Environmental Health & Safety Manager, aka Hazardous Waste Manager
 - 4.3.7 Team Leaders - aka Lead Custodians
- 4.4 Approved Products & Equipment Needed
 - 4.4.1 Cardboard containers for 2-foot lamps
 - 4.4.2 Cardboard containers for 4-foot lamps
 - 4.4.3 Cardboard containers for 8-foot lamps, if applicable
 - 4.4.4 Duct tape or packaging tape for broken labels
 - 4.4.5 Universal waste labels (Appendix A)
 - 4.4.6 Covered Container for specialty lamps
 - 4.4.7 Covered Containers for broken lamps
 - 4.4.8 Stiff paper or rigid cardboard for collecting mercury beads
 - 4.4.9 Gloves and safety goggles advised
- 4.5 Locations:
 - 4.5.1 Brewer/Zorn 182
 - 4.5.2 Centennial 1927
 - 4.5.3 Crest Wellness 123
 - 4.5.4 Davies Center 405
 - 4.5.5 Haas Fine Arts 249
 - 4.5.7 Hilltop 19
 - 4.5.8 Hibbard Hall 176
 - 4.5.9 HSS 126
 - 4.5.10 McIntyre Library 1045 (VLL Hall)
 - 4.5.11 McPhee 122
 - 4.5.12 MCS 126

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- 4.5.13 Nursing 115
- 4.5.14 Phillips 110E
- 4.5.15 Schneider 213G
- 4.5.16 Schofield 81
- 4.5.17 VLL Hall 1045
- 4.5.18 Bridgman 26
- 4.5.19 Chancellors 03
- 4.5.20 Governors 14 & 32
- 4.5.21 Horan 9
- 4.5.22 Katherine Thomas 21
- 4.5.23 Murray 16
- 4.5.24 Oakridge 9
- 4.5.25 Putnam 110
- 4.5.26 Sutherland 50
- 4.5.27 Towers 36
- 4.5.28 The Suites Room #
- 4.5.29 Barron County Physical Plant

5. PROCEDURE

- 5.1 Once lamps have been removed from service proceed with the following:
 - 5.1.1 Store all lamps in designated storage areas, as defined in Sect.12 below.
 - 5.1.2 Place lamps carefully into container as to avoid breakage.
 - 5.1.2.1 Lamps are to be properly stored in either their original container or an approved container for used lamps.
 - 5.1.2.2 Lamps should be packaged in containers that protect the lamps during the storage and transport. Acceptable containers include cardboard boxes, fiber drums, or containers with a poly liner.
 - 5.1.2.3 Lamp containers can be ordered through your supervisor, who can obtain from Central Stores.
 - 5.1.2.4 Used and new lamps are not to be comingled in a container.
 - 5.1.2.5 Under no circumstances are lamps to be stored outside of a container, left singly by themselves or left in any spaces other than the designated locations and secured per this procedure.
 - 5.1.3 Packaging Guidelines for Straight Fluorescent Lamps –
 - 5.1.3.1 DO NOT tape lamps together.
 - 5.1.3.2 DO NOT place items other than fluorescent lamps into containers.
 - 5.1.3.3 When reusing boxes after a retrofit, remember switching from T12 to T8 boxes will result in a diameter differential. Figure that T12 lamps will be 50% wider than T8 lamps.
 - 5.1.3.4 Always fill containers to capacity; Use packing material such as newspapers, egg crate inserts, etcetera to fill void space in order to prevent breakage.

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- 5.1.3.5 Ensure container is “closed” except when adding waste lamps. If using cardboard box, fold and tuck the flaps and/or seal flaps with tape. Packaging tape is recommended.
 - a. When final lamp is added to box, secure box ends with packaging tape. **LAMPS MUST NOT BE EXPOSED OR PROTRUDING FROM CONTAINER.**
- 5.1.4 Packaging Guidelines for Specialty Lamps –
 - 5.1.4.1 HID and Compact lamps must be packaged in cardboard boxes, fiber drum, or in cubic yard boxes.
 - 5.1.4.2 Sort all specialty fluorescent lamps by type. **DO NOT MIX** specialty fluorescent lamps.
 - 5.1.4.3 Place lamps in a drum, or appropriately sized box, or cubic yard box (e.g. "Gaylord").
 - 5.1.4.4 U-Tubes must be packaged in four (4) foot lamp boxes, or in fiber lamp drums.
 - 5.1.4.5 Always fill drums to capacity; Use packing material to fill void space in order to prevent breakage.
- 5.1.5 Label container as soon as the first lamp is placed in storage container.
 - 5.1.5.1 Labels can be obtained from the Custodial Services Department (715-836-5817).
 - 5.1.5.2 Adhere “**Universal Waste-Lamps**” label to each storage container at END of box. See Appendix A for label.
 - a. Writing “Bulbs” on box is not proper labeling.
 - 5.1.5.3 Label each box with the accumulation start date (the date the first waste lamp is placed in the box).
 - 5.1.5.4 Record on label the length and type of lamp contained within.
 - 5.1.5.5 Record on label the building and room number of where lamps are stored.
 - 5.1.5.6 When containers are full and ready for final closure, enter the LAMP quantity on the label of each box or container.
- 5.2 Broken Lamp Management
 - 5.2.1 If a mercury-containing lamp accidentally breaks or shows evidence of leakage, spillage or damage, the material must be cleaned up immediately.
 - 5.2.2 Place contents in a sturdy, sealed plastic bag that is compatible with the lamps’ contents.
 - 5.1.5.1 Do not use metal containers to store broken lamps, as metal containers may absorb mercury, making the entire container subject to hazardous waste requirements.
 - 5.2.3 Refer to EPA’s recommendations for [cleaning up a broken bulb](#).
 - 5.2.4 Ensure the container is “closed” except when adding broken waste lamps.
 - 5.2.5 Label the container as “Hazardous Waste-**Broken** Lamp(s)”.

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5.2.6 Mark the container with the date, number of bulbs, and type of broken bulb(s).

5.2.7 Broken lamps should be placed in a separate designated non-metal container in the lamp storage area within Central Stores. Broken lamps from Barron County are to be stored in the Physical Plant lamp storage area.

5.3 Inspection

5.3.1 UW-EC Custodial Team Leaders will conduct a monthly inspection of the lamp storage areas and document findings on the inspection log (Appendix B). UW-Barron County Custodial Supervisor will perform a monthly inspection of lamp storage area.

5.3.1.1 Completed inspection logs should remain at the storage location in the plastic sleeve. Inspection log sheets shall be retained for 5 years, and then forwarded to the EHS Manager.

5.4 Pick-up/Removal of universal waste (Lamps all types) – applies to UW-EC campus only

5.4.1 Custodial Team Leaders will contact the Project crew for removal of full containers.

5.4.1.1 All boxes must be inspected by the Custodial Team Leader before it can be removed from the area.

5.4.1.2 Containers must be full, and the boxes sealed and labeled.

5.4.1.3 Label must be applied on the end of each container.

5.4.2 Project Crew will ensure containers are properly secured and labeled prior to moving to Central Store's central accumulation area.

5.4.2.1 Project Crew should coordinate with Central Stores (836-5555) before bulbs are delivered to ensure staff is on site to accept and promptly care for bulbs.

5.5 Prepare lamps for shipment

5.5.1 Ensure storage containers are sealed and labeled.

5.5.2 Prepare a count of all lamps to be shipped by type.

5.5.3 Complete inventory form (Appendix C).

5.5.4 Place lamp containers on pallet(s) and shrink-wrap. Ensure completed inventory form of waste lamps is enclosed within shrink wrap.

5.5.5 Notify EHS Manager of the number of pallets to be shipped, along with the count of lamps by type.

6. STORAGE ONSITE

6.1 Lamps may be stored on site for up to one year from when the first lamp is collected. Beginning October 1, 2019, lamps will be transported off-site with hazardous waste shipments. Consult Hazardous Waste Manager for shipping date.

7. TRAINING

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- 7.1 All supervisors/Team Leaders involved with used lamps will provide SOP training to new employees within the first month of hire.
- 7.2 Supervisors will review this SOP with their current employees at least annually.
 - 7.2.1 Due to the number of custodians and changing responsibilities, UW-Eau Claire Custodial Supervisors/ Team Leaders will review this process with staff in monthly/weekly communications.

8. RELATED PROCESSES AND DOCUMENTATION

- 8.1 [Lamp and Bulb Management \(WA-195\) \[PDF\]](#)
- 8.2 [How to Handle Universal Waste: Lamps \(WA-1810\) \[PDF\]](#)
- 8.3 [EPA's Cleaning Up a Broken CFL](#)

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Appendix A - Monthly Inspection Form

UNIVERSAL WASTE – LAMPS

Accumulation Start Date _____

Lamp Length _____ Lamp Type _____

Building & Room # _____

Total Lamp Quantity _____

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Accumulation Start Date _____

Lamp Length _____ Lamp Type _____

Building & Room # _____

Total Lamp Quantity _____

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Accumulation Start Date _____

Lamp Length _____ Lamp Type _____

Building & Room # _____

Total Lamp Quantity _____

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Appendix B- Monthly Inspection Form

Monthly Waste Lamp Storage Area Inspection Checklist												
	Lamp Storage Location:											
Inspection Items	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Labeled as "Universal Waste-Lamps" on end of each container												
Label includes: • Accumulation start date, • lamp type, and • Bldg & room #												
Writing on label is legible												
Containers have not been stored more than 1 year												
Boxes are sealed with tape around the box openings												
Boxes and lamps are free from leakage, spillage or damage												
Boxes are not stacked more than 5 feet high												
Inspection Date												
Inspector's Initials												
Comments (include date):												

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Appendix C- Lamp Recycling Form

Lamp Recycling Form	Ship Date:
Lamp Type	Quantity
Straight Fluorescent- 4' or less	
Straight Fluorescent- longer than 4'	
Compact (all sizes)	
U-Shape and Circular	
Spot/Flood/Incandescent	
Mercury Vapor/HID	
Other:	

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TYPES OF LAMPS

Many types of lamps contain heavy metals, like lead and mercury, at levels that can exceed hazardous waste limits. These include but are not limited to:

Fluorescent lamps (tube-style)

- commonly used as overhead lighting in offices; can also come in compact shapes for home and office uses



Compact fluorescent lamps (CFLs)

- CFLs are smaller versions of tube-style fluorescent lamps and are used in place of incandescent lamps



Mercury vapor lamps

- mercury vapor or "HID" lamps with blue-white light, originally and often used as farmyard lights



Metal halide lamps

- newer, more efficient HID lights found in homes and businesses; also used for blue-tinted car headlights



High-pressure sodium-vapor lamps

- generate white-yellow light used for street lamps and outdoor security lighting



Ultraviolet lamps

- used in water and air purifiers for germicidal purposes; also used in tanning salons



Neon lights

- emit various colors of light depending on the mixture of gases and color of the glass; red neon lights do not contain mercury while almost every other color of "neon" does



Black lights*

- used mainly for theatrical and concert displays



LED lamps (light-emitting diodes)

- colored lights used in traffic signals, screens and other illuminated displays; red LEDs often contain lead



* Some UV fluorescent lamps designed to attract insects (bug zappers) use the same near UV emitting phosphor as normal black lights but use plain glass which has the effect of making them appear light blue to the naked eye. These lamps are referred to as "blacklite" or "blacklight blue."