

THE UNIVERSITY OF SOUTHERN INDIANA MERCURY-CONTAINING LAMP PROGRAM

I. INTRODUCTION

Much of the indoor and outdoor lighting at The University of Southern Indiana comes from fluorescent and high-intensity-discharge lamps, also known as mercury-containing lamps. For purpose of this program, mercury-containing lamps will include all fluorescent and high-intensity discharge lights, bulbs, tubes and lamps. When the lamps burn out they must be handled in accordance with applicable disposal requirements.

II. SCOPE

This program covers all buildings on campus. Mercury-containing tubes will not be transported from one building to the other. The campus must have at least one designated storage site.

III. PERSONAL PROTECTIVE EQUIPMENT REQUIRED

A. USI Employees

The Office of Risk Management performs annual hazard assessments for determination of hazardous conditions. A written assessment is generated, which certifies workplace evaluation; the person certifying that the evaluation has been performed and the date(s) of the hazard assessment. If a hazardous condition exist, which cannot be avoided or engineered out by engineering controls, proper PPE will be selected. It is a departmental responsibility to provide a safe working environment including the necessary PPE.

Based on the hazard assessment for placing mercury-containing lamps in the appropriate boxes, the following PPE is required to be used to perform the task. Refer to **APPENDIX F** for the hazard assessment.

- Full Face Shield (29 CFR 1910.133 – “Eye and Face Protection”)
- Leather Gloves (29 CFR 1910.138 – “Hand Protection”)

B. Contractors, Sub-Contractors, or any employee of such contracted companies performing work on The University of Southern Indiana campus

The contractor shall provide their employees with personal protective equipment in accordance with all federal and local safety and health regulations.

IV. REGULATIONS REGARDING MERCURY-CONTAINING LAMPS

Since the city of Evansville adopted the Universal Waste Rule, there are two options for managing mercury-containing lamps under the regulations. The first option is to manage these lamps as a hazardous waste. The second option is to manage used lamps under the Universal Waste Rule. The campus has chosen to manage used lamps as universal waste. However, if a lamp breaks, then it must be managed in accordance with the hazardous waste regulations.

V. MERCURY-CONTAINING LAMP REQUIREMENTS

Once mercury-containing lamps have been removed from service proceed with the following:

1. Place all mercury-containing lamps in the designated storage areas.

- a.
- b.
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1. Storage area must be identified with an easily readable sign stating “**WASTE MERCURY-CONTAINING LAMP STORAGE.**” Refer to **APPENDIX A.**

2. Label each box as “**Waste Mercury-Containing Lamps.**” Labels can be obtained from the Office of Risk Management (812 465-7003). Refer to **APPENDIX B.**

3. Label each box with the accumulation start date (the date the first waste lamp is placed into the box). Refer to **APPENDIX B.**

4. Store for no longer than one year from the accumulation start date.

5. At any given time, universal wastes (i.e., batteries, pesticides, thermostats, or mercury-containing lamps, calculated collectively) will not exceed the 1000-kilogram (kg) storage limit established by the City of Evansville

6. Contain any lamp that shows evidence of leakage, spillage or damage. The container must be closed, structurally sound and compatible with the contents of the lamps.

7. Stack boxes of lamps five feet in height or less.

9. Conduct a weekly inspection of the lamp storage area and document on the inspection log (**APPENDIX C**). The inspection log should contain check marks by the items listed, inspector’s name, date, and time of inspection.

8. Please submit a copy of the inspection log every 16 weeks to the Office of Risk Management (Support Services Building, ATTN: John Hunt). Maintain the storage location copies of the inspection logs for a minimum of two years to document weekly inspections. These copies should remain at the storage location.

9. Shipments of unbroken lamps must be accompanied by a Bill of Lading. Please send a copy of the Bill of Lading to the Office of Risk Management.

VI. HAZARDOUS WASTE MANAGEMENT

In the event that a mercury-containing lamp breaks, the material must be managed as hazardous waste.

1 Hazardous waste should be placed in the designated drum in the lamp storage area.

2 Label the container as “Hazardous Waste.” Refer to **APPENDIX D.**

3 Store hazardous waste for no longer than 90 days from the date waste is first placed in a container.

4 Ensure the container is “closed” except when adding waste.

5 Storage area must be identified with an easily readable sign stating “**DANGER -HAZARDOUS WASTE STORAGE AREA UNAUTHORIZED PERSONNEL KEEP OUT.**” Refer to **APPENDIX E.**

6 Inspect hazardous waste container storage area at least weekly and maintain a log of all inspections.

Ensure communication equipment and emergency equipment is available where hazardous wastes are managed.

IX. CONTRACTOR'S RESPONSIBILITIES

A. Renovation / Demolition Projects

All designated project areas that include mercury-containing lamps that have been removed from service must be managed under USI's Mercury-Containing Lamp program. Once lamps are removed from service, the contract Supervisor (or designated representative) will contact Supervisor, Material, Equipment and Storeroom at 465-7098 and request for lamp removal. FM will take the tubes to USI's designated Waste Mercury-Containing Lamp storage area.

Lamps should not remain on project sites for greater than one day. If lamps remain on project site for greater than one day, the site must be managed in accordance to Section V and in the event of a broken bulb Section VI.

B. Third-Party Building Management

Third-party building management companies must present to the Office of Risk Management a copy of their Mercury-Containing Lamp Program and training documentation for affected employees. In the event that a program does not exist or does not fulfill the requirements of the regulations, the third-party building management company will adhere to USI's Mercury-Containing Lamp Program.

X. REFERENCES

- A.** 20 DCMR Part 48 (incorporated by reference 40 CFR Part 273), Standards for Universal Waste Management
- B.** 20 DCMR Parts 40 through 54 (incorporated by reference 40 CFR Parts 262 – 264, 266), Solid Wastes.
- C.** 29 CFR 1910.133, Eye and Face Protection.
- D.** 29 CFR 1910.138, Hand Protection.

VII. ORDERING SUPPLIES AND SCHEDULING PICKUPS

These boxes come in three sizes, 2 feet by 3 feet long (2'X3'), 4 feet long (4'), and 8 feet long (8'). Departments must order the appropriate size for the used lamps they are managing. High-intensity-discharge lamps and other odd sizes may be placed in any of the above-mentioned boxes. However, U-shaped lamps should be placed in a separate box from the regular tubes and lamps. Used lamps should remain unbroken in order to contain the hazardous mercury found in these lamps.

To order supplies or schedule a pick up, contact the Supervisor, Material, Equipment and Storeroom in Support Services Services Building at 812 465-7098. The Custodial Service Supervisor and employees will fill the recycle containers in the (10) designated buildings and then transport them to Distribution Services for storage and then palletize for shipment to Veolia.

VIII. TRAINING

USI's Office of Risk Management must provide mercury-containing lamp and hazardous waste management training annually to all employees who handle lamps. This training is documented and maintained in the Office of Risk Management. Only employees that have attended the training session will be permitted to handle mercury-containing lamps. All new employees that will be handling these tubes must attend this training within 30 days of their initial employment date. Please contact the Office of Risk Management to schedule a training date. Refer to **APPENDIX F** for the Mercury-Containing Lamp Training Program. **APPENDIX G** will be used to track training attendance.

APPENDIX A Mercury-Containing Lamp
Storage Area Sign

CAUTION

Waste Mercury-Containing
Lamp Storage Area

**APPENDIX B Waste Mercury-Containing
Lamp Stickers**

**Waste
Mercury-Containing
Lamps**

Accumulation Start Date: _____

APPENDIX C Weekly Inspection Checklist

WASTE MERCURY-CONTAINING LAMP STORAGE AREA INSPECTION CHECKLIST Each week inspect the waste mercury-containing lamp storage area, checking off the inspection items. Completed checklists should be sent to the Office of Risk Management (Support Building, 101). Copies of checklist should be retained in the plastic sleeve.																
INSPECTION ITEMS	WEEKLY INSPECTION CHECK															
	WEE K 1	WEE K 2	WEE K 3	WEEK 4	WEE K 5	WEE K 6	WEE K 7	WEEK 8	WEE K 9	WEE K 10	WEE K 11	WEEK 12	WEE K 13	WEE K 14	WEE K 15	WEEK 16
All containers marked as "WASTE MERCURY-CONTAINING LAMPS "																
Accumulation start date recorded on label																
Containers have not been stored longer than one year																
All full boxes are sealed with tape around the box openings																
Boxes and lamps are free from leakage, spillage or damage																
Boxes are not stacked greater than 5 feet high																
All labels visible and legible																
Inspector's Name																
Date of Inspection																
Anyone completing this form and all employees occupationally exposed to waste mercury-containing lamps are required to attend training offered through USI's Office of Risk Management. To inquire about this course, please call 465-7003.																

APPENDIX D Hazardous
Waste Label

HAZARDOUS WASTE

GENERATOR INFORMATION:

CONTACT
PERSON: _____

DEPARTMENT: _____

BUILDING / ROOM: _____

PHONE NUMBER: _____

ACCUMULATION

FILL

START DATE: _____

DATE: _____

HAZARD CLASS:

Flammable

Reactive

Oxidizer

Corrosive

Toxic

Carcinogen

CHEMICAL

% / VOLUME

Please visit the hazardous waste web site at
<http://www.usi.edu/RiskMgt/HazWaste.asp> or call (812) 461-5366 for
evaluation and/or pickup.

**APPENDIX E Hazardous Waste
Storage Area Sign**



HAZARDOUS WASTE STORAGE AREA

UNAUTHORIZED PERSONNEL KEEP OUT

To dispose of hazardous waste submit Removal Request to
<http://www.usi.edu/Riskmgmt/HazMaterials.asp>

In case of emergency call Security (7777 or 812 464-1845) and
Risk Management (812 465-7003)

APPENDIX F

The University of Southern Indiana Hazard Assessment & PPE Selection Form

Job Task Evaluated: Handling Mercury-Containing Lamps Date: October 15, 2005
Evaluator: John Hunt

Eye/Face Hazard	Yes/No	Task/Source	Assessment of Hazard	Personal Protective Equipment
Impact	Yes	Placing lamp into box. Moderate probability of lamp busting as it is being placed into the box for recycling.	Flying glass fragments	Face Shield
Heat	No	N/A	N/A	N/A
Chemical	Yes	Placing lamp into box. Moderate probability of lamp busting as it is being placed into the box for recycling.	Chemical exposure (mercury vapors)	Face Shield
Radiation	No	N/A	N/A	N/A
Light	No	N/A	N/A	N/A
Glare	No	N/A	N/A	N/A

Eye and Face Protection (29 CFR 1910.133)

Head Protection (29 CFR 1910.135)

Head Hazard	Yes/No	Task/Source	Assessment of Hazard	Personal Protective Equipment
Impact	No	N/A	N/A	N/A
Penetration	No	N/A	N/A	N/A
Burn	No	N/A	N/A	N/A
Chemical	No	N/A	N/A	N/A
Electric Shock	No	N/A	N/A	N/A

Foot Protection (29 CFR 1910.136)

Foot Hazard	Yes/No	Task/Source	Assessment of Hazard	Personal Protective Equipment
Impact	No	N/A	N/A	N/A
Chemical	No	N/A	N/A	N/A
Penetration	No	N/A	N/A	N/A

Hand Protection (29 CFR 1910.138)

Hand Hazard	Yes/No	Task/Source	Assessment of Hazard	Personal Protective Equipment
Chemical	Yes	Placing lamp into box. Moderate probability of lamp busting as it is being placed into the box for recycling.	Chemical exposure (mercury vapors)	Leather gloves*
Impact	Yes	Placing lamp into box. Moderate probability of lamp busting as it is being placed into the box for recycling.	Flying glass fragments	Leather gloves*
Penetration	No	N/A	N/A	N/A
Burn	No	N/A	N/A	N/A

* Gloves should not be worn while working on moving machinery such as drills, saws, grinders, or other rotating and moving equipment. Machine parts might catch the glove and pull it and the worker's hand into hazardous areas.

I, _____ John Hunt _____ (Environmental Health & Safety Specialist) _____, certify that the assessment of the job category was conducted on _____ October 15, 2005 _____.

**APPENDIX G Mercury-Containing
Lamp Training**

**Contact The Office of Risk Management
to schedule Mercury-Containing Lamp
Training.**

812 465-7003

APPENDIX H Training Attendance Sheet

Mercury-Containing Lamp / RCRA Training

Name (Please Print)	Department	Job Title	Job Description
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APPENDIX I USI Flowchart for Mercury-Containing Lamps

