

## **Rutgers Environmental Health and Safety (REHS) Guidance Document**

**Title:** Demolition & Renovation Waste Management Guide

**Revision Date:** October 14, 2020

### **BACKGROUND**

Regulated wastes must be properly managed and disposed of when generated during demolition and renovation projects. This includes but is not limited to the following:

- Hazardous Wastes, Oils and Paints
- Mercury Containing Equipment
- Refrigerant Containing Equipment
- Rechargeable Batteries
- Smoke Detectors
- Fluorescent Light Bulbs and Other Electric Lamps
- Light Ballasts
- Consumer Electronics

REHS provides assistance during the initial project planning stage by conducting a site walk-through with the Rutgers Project Manager, contractor representative and/or Facilities Supervisor to identify regulated waste streams.

This guidance document provides specific language to include in bid documents to inform contractors of the Rutgers waste management requirements beyond federal, state and local regulatory requirements.

### **Responsibilities**

The Project Manager has overall responsibility for properly identifying, segregating, containerizing, labeling, securely storing and arranging for proper disposal or recycling of the regulated waste materials indicated above. This responsibility can be delegated to one or more responsible persons at the job site including the General Contractor, Facilities Supervisor or other designee.

### **Hazardous Wastes, Oils and Paints**

Hazardous wastes, used oils and paints (oil-based, spray paints, and latex) must be removed by REHS prior to demolition or renovation. Contact REHS at [hazwaste@rutgers.edu](mailto:hazwaste@rutgers.edu) to make arrangements for a pickup. The request must be made at least two weeks prior to demolition/renovation or disconnection from building utilities. All hazardous wastes should be labeled as shown (Fig. 2)

## **Mercury Containing Equipment**

The most common types of mercury containing equipment at building renovation or demolition sites are mercury switches in thermostats, boilers and other similar equipment. However, if the building has laboratories, medical clinics or large power plants, larger volumes of liquid mercury may be present in instruments such as barometers, manometers, old blood pressure machines, certain appliances and thermometers.

Mercury containing equipment must be segregated, containerized, labeled and set aside in a secure location. Small quantities of intact mercury switches, thermostats and thermometers can be placed in a zip-lock bag labeled with the Rutgers Universal Waste label. Other mercury-containing equipment may require draining of the mercury prior to disposal. Draining of mercury must be performed by REHS or an approved hazardous materials vendor. All mercury-containing equipment and products must be collected and disposed of by REHS. Contact REHS at [hazwaste@rutgers.edu](mailto:hazwaste@rutgers.edu) to request proper storage containers and arranging for a pickup.

## **Refrigerant Containing Equipment**

Refrigerants must be evacuated from air conditioners, refrigerators, freezers and similar equipment by a certified refrigerant technician. The technician can be a sub-contractor or in-house Facilities Maintenance person. If a sub-contractor is used, REHS must receive documentation accounting for the type and quantity of refrigerant removed. Once removed, the equipment can be offered to Material Services or otherwise disposed according to the contract.

## **Rechargeable Batteries**

Rechargeable batteries from emergency lighting and other similar building features must be collected and labeled with the Rutgers Universal Waste Label (see Fig. 1). This includes the following batteries:

- Lead Acid
- Nickel Cadmium (NiCad)
- Nickel Metal Hydride (NiMH)
- Lithium (Ion and Metal)

These types of batteries must be collected in 5 gallon screw top pails and picked up by REHS for proper disposal and/or recycling. Make sure the battery terminals are taped to avoid short circuiting. Storage containers are available from REHS. To complete a request for a pickup of batteries please use the following online link:

<https://halflife.rutgers.edu/forms/hazwaste.php>

NOTE: Alkaline batteries are not Universal Waste and can be disposed of in the general trash.

## **Smoke Detectors & Self-Luminous Exit Signs**

Smoke detectors and self-luminous exit signs may have radioactive materials and must be removed from the building prior to renovation or demolition. Collect these items in 5 gallon plastic pails or other suitable rigid container for disposal through REHS. Contact REHS at [hazwaste@rutgers.edu](mailto:hazwaste@rutgers.edu) to request proper storage containers and arranging for a pickup.

## **Fluorescent Light Bulbs and Other Electric Lamps**

Spent fluorescent light bulbs and the following electric lamps are regulated as Universal Waste:

- High Intensity Discharge
- Neon
- Mercury Vapor
- High-Pressure Sodium
- Metal Halide

The Project Manager or an alternate designated responsible person should take inventory of the types and quantities of bulbs to be removed and request an appropriate number of storage containers (tube boxes) from the approved vendor (Clean Earth) for proper packaging. Each storage container of spent bulbs/lamps must be properly labeled as Universal Waste (see Fig. 1). Once all the spent bulbs are ready for pick up the Project Manager or designee must ensure the following is provided to the approved vendor:

- Purchase Order
- Request for pickup

Alternate vendors are permitted but must be pre-approved by REHS. Alternate vendors are also required to provide REHS with waste shipping documentation for NJDEP regulatory reporting purposes.

## **Light Ballasts**

Light ballasts are divided into two categories, PCB and Non-PCB. Light ballast disposal is dependent on the presence of polychlorinated biphenyls (PCBs) in the ballast potting material. In 1979, the Toxic Substance Control Act prohibited the manufacturing of light ballasts containing PCBs.

Ballasts manufactured after 1979 should have a “Non-PCB” label affixed to the outside of the ballast. Any ballast manufactured prior to 1980 (1979 or earlier) must be classified as PCB regardless of labels. In most cases a manufacturer date can be found date stamped (month/year) on the back of the ballast. If there are no obvious dates or labels on the ballast to indicate the presence or absence of PCBs, it must be considered PCB.

Spent Ballasts must be collected in appropriate containers (e.g. 55-gallon, 30 gallon open-head drums, or 5 gallon screw top pails), properly segregated according to type (PCB vs non-PCB), and labeled with the Spent Ballast label (Fig. 3). In addition, PCB ballast storage containers must have

the PCB label (Fig.4) affixed to the container. Both labels are available from REHS. Light ballasts are disposed of through the approved vendor (Clean Earth).

**Consumer Electronics**

Consumer electronics such as computers, printers, monitors, televisions, VCRs, radios and other electronic equipment that contain circuit boards are regulated as Universal Waste. Other equipment that is destined for disposal must be evaluated for electronic hardware prior to disposal. All consumer electronics need to be disposed of through the Material and Logistical Services Department by using the Surplus Management System. Go to <https://ipo.rutgers.edu/bs/surplus-pickups> for additional information or contact the Material and Logistical Services Department directly at (848) 445-2255.

**Fig. 1. Rutgers Universal Waste Label**

**Universal Waste**

**RUTGERS**  
Rutgers Environmental Health and Safety

74 Street 1603, Building 4116  
Piscataway, NJ 08854  
Phone # 848-445-2550

Waste Type:  
 Batteries  
 Large Bulbs  
 Mercury containing equipment  
 Consumer electronics

Campus \_\_\_\_\_ Bldg \_\_\_\_\_ Rm # \_\_\_\_\_  
 Accumulation Start Date \_\_\_\_\_

These labels should be applied on all containers that store spent batteries, fluorescent lamps/bulbs, mercury containing equipment, consumer electronics.

**Fig. 2. Rutgers Hazardous Waste Label**

**HAZARDOUS WASTE**  
**(For Satellite Accumulation Areas)**  
Rutgers, The State University of New Jersey

Chemical Contents: (% vol. or % weight) circle one

\_\_\_\_\_ %      \_\_\_\_\_ %  
 \_\_\_\_\_ %      \_\_\_\_\_ %  
 \_\_\_\_\_ %      \_\_\_\_\_ %  
 \_\_\_\_\_ %      \_\_\_\_\_ %

Are heavy metals present? Yes No (If yes, add to chemical contents section)

SAA Manager: \_\_\_\_\_ Telephone: \_\_\_\_\_  
 Campus: \_\_\_\_\_ Bldg.: \_\_\_\_\_ Rm#: \_\_\_\_\_

Have Accumulation Limits Been Exceeded: YES NO (Circle One)  
**(55-gallons Hazardous Waste and/or 1-Qt Acutely Hazardous Waste)**  
 If yes, please indicate date excess accumulation began: \_\_\_\_/\_\_\_\_/\_\_\_\_

**IN CASE OF EXCESS ACCUMULATION, CONTACT REHS IMMEDIATELY: 848/445-2550**

Ignitable  Toxic  Corrosive  Compressed Gas  Reactive

Fig. 3. Rutgers Spent Ballast Label

**SPENT LIGHT BALLASTS**

Ballast Type:  
Non-PCB   
\* PCB

\*Note - requires use of PCB label on container

**RUTGERS**  
Rutgers Environmental  
Health and Safety  
**74 Street 1603, Building 4116**  
**Piscataway, NJ 08854**

Campus \_\_\_\_\_ Bldg. \_\_\_\_\_ Rm.# \_\_\_\_\_

Storage Date \_\_\_\_\_

**OUTER CONTAINER LABEL**

These labels should be applied on all containers that store spent light ballasts.

Fig 4. PCB Label

**CAUTION**  
CONTAINS  
**PCBs**  
(Polychlorinated Biphenyls)

A toxic environmental contaminant requiring special handling and disposal in accordance with U.S. Environmental Protection Agency Regulations 40 CFR 761. For Disposal Information contact the nearest U.S. E.P.A. Office.

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In case of accident or spill, call toll free the U.S. Coast Guard National Response Center:  
800-424-8802.

Also Contact \_\_\_\_\_  
Tel. No. \_\_\_\_\_

## **Contract Language**

*The following suggested language can be used in Requests for Proposals (RFPs) related to renovation and demolition projects.*

All lamps/bulbs regulated as Universal Waste by the New Jersey Department of Environmental Protection (NJDEP) and lighting ballasts must be removed from fixtures and properly packaged/ labeled for disposal through the Rutgers approved vendor Clean Earth. An alternate vendor may be used with pre-approval from Rutgers Environmental Health and Safety (REHS). Alternate pre-approved vendors must provide REHS with disposal documentation. Examples of common universal waste lamps include but are not limited to:

- Fluorescent
- High Intensity Discharge
- Neon
- Mercury Vapor
- High Pressure Sodium
- Metal Halide

REHS can provide proper labels for Universal Wastes. Appropriate containers must be obtained from Clean Earth prior to commencement of work. These containers typically include fiber tubes or boxes for bulbs and 55-gallon open-head drums for lighting ballasts. The contact information for Clean Earth is as follows:

Kayla Albino –Customer Service Representative  
2591 Mitchell Avenue  
Allentown, PA 18103  
Tel: 610-797-7608 x7245  
[kalbino@harsco.com](mailto:kalbino@harsco.com)

Call REHS at (848) 445-2550  
[hazwaste@rutgers.edu](mailto:hazwaste@rutgers.edu)