



Universal Waste – Battery Management Practice

1.0 Purpose / Background

On May 11, 1995, US EPA promulgated the final rule (40 CFR 273) for “Universal Waste” that established streamlined collection and management requirements for universal waste batteries, pesticides, mercury-containing lamps, and other mercury - containing devices such as thermostats.

2.0 Scope

This practice or parts of this practice applies to all staff, faculty, and students at Duke University, the Duke University Medical Center, and the Duke University Health Systems who generate and need to dispose of waste batteries as defined in paragraph 9.0 of this practice.

3.0 Procedures

3.1. General Procedures

Individuals who replace or remove batteries covered in this practice shall:

- Tape all terminals and place battery(ies) in a box or container;
- Mark the container with the words “Universal Waste – Batteries”, the date; and
- Submit as waste or call the OESO Environmental Program Division (EP) to schedule a pick-up.

3.1.1 Rechargeable Batteries

- Rechargeable batteries commonly found in electronic equipment, such as computers or cell phones, should have their terminals taped, or be individually placed into a clear bag and submitted to OESO as waste.
- Contact OESO EP for instruction on how to properly handle and package larger batteries.

OESO EP personnel will collect recycled batteries and transport them to the OESO storage facility for preparation for shipment to an approved recycler.



3.2. Requirements for Handlers of Universal Waste Batteries

3.2.1 Waste Management – Universal waste batteries must be managed in a way that prevents releases of any universal waste or component of a universal waste to the environment in the following manner:

(1) **Damaged Batteries** - Universal waste batteries that show evidence of leakage, spillage, or damage that could lead to leakage under reasonably foreseeable conditions must be placed into a **closed, structurally sound, compatible container** that lacks any evidence of leakage, spillage, or damage that could cause leakage.

(2) **Battery Handling** – Universal waste batteries may be sorted by type; mixed in a single container; discharged to remove the electric charge; regenerated; disassembled for packs into individual batteries or cells; removed from consumer products; or have the electrolyte removed as long as the casing of each individual battery cell is not breached and remains intact and closed.

3.2.2 Labeling and Marking – Universal waste batteries or the container holding such batteries must be labeled and clearly marked with the following:

“Universal Waste – Battery(ies)” and the earliest date.

3.2.3 Accumulation Time Limits – Universal waste batteries may be accumulated for no longer than one year from the date that they are generated or received by OESO. The length of time that the universal waste battery has been accumulated may be demonstrated by:

- (1) Placing the universal waste in a container and marking or labeling the container with the earliest date than any individual waste in the container became a waste or was received;
- (2) Marking or labeling the individual item with the date it became a waste or was received; or
- (3) Maintaining an inventory system that identifies the date the universal batteries being accumulated became a waste or was received.



- 3.2.4 Employee Training - All employees who handle universal wastes must be thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal operations and during emergencies.
- 3.2.5 Response to Releases - A handler of universal waste must immediately contain all releases of universal wastes and other residues from universal wastes. The handler must determine whether the material resulting from a release is a hazardous waste, and if so, must manage the hazardous waste in compliance with applicable requirements.
- 3.2.6 Off-site Shipment - Universal waste can be sent to or transported only to another universal waste handler or a destination facility.

Note: If the universal waste offered for shipment meets the definition of hazardous materials under 49 CFR 171 - 180, it must be packaged, labeled, marked, placarded, and shipped with proper shipping papers in accordance with applicable Department Of Transportation regulations (49 CFR parts 172 - 180).

3.2.7 Tracking Universal Waste Shipments -

- (1) **Shipments Off-site** - The handler of universal waste must keep a record of each shipment sent to other facilities. The record may be in the form of a log, invoice, manifest, bill of lading or other shipping documents. The record must include the following:
 - a. The name and address of the universal waste handler and the destination facility;
 - b. The quantity of each type of universal waste sent; and
 - c. The date the shipment left the facility.
- (2). **Record Retention** - The handler of universal waste must retain shipping records for a least three years from the date the shipment left the facility.

4.0 Roles & Responsibilities

The following personnel will participate in the implementation of this practice:

Individuals who generate batteries covered by this practice will:

- Remove spent batteries from devices;



- Collect spent batteries and **tape all terminals**;
- Pack batteries into structurally sound containers;
- Mark each container with the words “Universal Waste – Batteries”, the date, and the number of batteries;
- Request a pick-up of batteries from OESO Environmental Programs

OESO Environmental Programs Personnel will:

- Collect and manage spent batteries;
- Sort and containerize batteries by type;
- Arrange for shipment and recycling of the spent batteries with an approved recycling contractor;
- Ensure that all containers of spent batteries are sent for recycling within one year from the date a container(s) was started;
- Maintain disposal documents in accordance with state and federal regulations; and
- Respond to releases of universal wastes.

5.0 Training

Employees with universal waste responsibilities shall receive training appropriate to their specified duties. Training records shall be maintained by the employee’s supervisor or designated individual.

6.0 Performance Monitoring

OESO will conduct periodic audits to assess compliance with the local, state, and federal regulations. Any deficiencies will be noted in writing and a plan will be prepared to bring the program into compliance.

7.0 Recordkeeping

The following records will be maintained by OESO;

- a) Bills of Lading will be stored at OESO for at least 3 years;
- b) Any inspection and corrective action reports prepared by OESO following performance audits or a regulatory inspection; and
- c) Training records.

8.0 References

40 CFR 273 - Standards for Universal Waste Management



9.0 Definitions

Container = structurally sound box or container that is capable of preventing leaks/releases from the batteries from occurring.

Universal Waste Battery = a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. The term battery also includes any intact, unbroken battery from which the electrolyte has been removed.

Universal Waste Handler = a generator of universal waste or the owner or operator of a facility that accumulates universal waste and sends universal waste to another universal waste handler, or to a destination facility.