

BOWDOIN COLLEGE
Office of Environmental Health and Safety
UNIVERSAL WASTE MANAGEMENT PLAN

This Universal Waste Management Plan (UWMP) outlines how Bowdoin College meets the general requirements outlined in 40 CFR Part 273 (EPA *Standards Applicable to Generators of Hazardous Waste*), and the Maine Department of Environmental Protection (MDEP) Chapter 850-858 (*Maine Hazardous Waste Management Regulations*), for the management of Universal Waste.

Purpose

The purpose of the UWMP is to provide information to the employees of Bowdoin College regarding the identification, handling, storage, and disposal of universal wastes generated in the workplace.

The College also operates under an Integrated Contingency Plan, a 'One Plan' that outlines training, emergency and spill response, and notification procedures for releases of universal wastes.

Scope

The UWMP applies to all employees of Bowdoin College (including part-time employees, student employees, and vendors working onsite) who generate and/or handle universal wastes in the course of their work.

Program Components

The UWMP consists of the following components:

1. **Generator Status.** Bowdoin College is classified both as a Large Quantity Universal Waste Generator (LQUWG) because it generates on the average more than 200 items of universal waste in a given month, and a Central Accumulation Facility (CAF) because it consolidates universal waste from storage areas on campus at a Central Accumulation Area (CAA) prior to shipment for offsite recycling and/or disposal.

2. **Assignment of Responsibility.** Each Department or Group generating universal waste will designate at least one Responsible Person to oversee the implementation of the UWMP for their particular operations, specifically:
 - Managing the collection, containment and labeling of identified wastes;
 - Maintenance of universal waste storage areas (UWSA), including signage and weekly inspection logs;
 - Arranging for container transfers to the central accumulation area; and
 - Participating in the annual Plan review.

A current list of designated Responsible Persons is included in the *UWMP Summary (Attachment A)* and will be updated at least annually during the periodic review of the Plan.

The Director of Environmental Health and Safety (EHS) and/or the Safety Specialist will act as Universal Waste Coordinators (UWC) for the College. The UWCs will be responsible for:

- Monitoring the status of universal waste storage areas;
- Logging waste into the Rhodes Hall central accumulation area (CAA);
- Completing weekly inspection logs for the CAA;
- Arranging offsite disposal/recycling by a licensed vendor;
- Maintaining records of inspections/inventories, training, manifests, shipping documents, certificates of recycling, and annual reports; and
- Providing guidance, materials, and training to affected employees.

3. Universal Waste Types/Definitions. Hazardous wastes within the following categories are considered “universal wastes” and will be managed accordingly:

- Lamps (H), including fluorescent tubes, neon, and high intensity discharge (HID) which includes mercury vapor, high pressure sodium vapor, and metal halides bulbs.
- Cathode Ray Tubes and Television Monitors (CRT).
- PCB Ballasts (PCB), if totally enclosed and non-leaking; otherwise will be disposed as hazardous waste.
- Mercury Devices (MD) such as thermometers, manometers, sphygmometers, and non-automotive switches; automotive Switches (MS); and Thermostats (TH). Mercury spill residues will be disposed as hazardous wastes.
- Batteries (BT) containing lithium, mercury, silver, nickel-cadmium, metallic hydrides, or zinc, and commercial lead-acid batteries (alkaline batteries are exempt, but are included in the College’s recycling program).

To better clarify the requirements for collection and disposal of batteries to the general campus community a “Waste Battery Policy” was developed. This policy is included for reference as Attachment B.

- Electronic Devices (ED) that contain circuit boards such as flat panel displays, computer CPU’s, keyboards, speakers, external hard drives, printers, scanners, cell phones, etc. This material is generally called “electronic waste” or (“E-waste”).

4. Universal Waste Storage Areas. Storage areas will be managed as follows:

- Universal waste can only be stored in designated and approved locations listed in Attachment A. If a storage location is needed and not listed, contact the Office of EHS for approval prior to accumulating universal waste.
- Storage areas will be secured and locked, and demarcated as such with clearly visible generic “Universal Waste Storage Area” or specific “Waste Lamp Storage” signs, as provided in Attachment C and D. The storage areas will be dry, out of the weather, and allow enough room for safe and proper handling of containers.

- Waste containers will be structurally sound, compatible with the waste, packed to prevent breakage, and kept closed. The containers will be stored on an impervious surface in an appropriate location to prevent reaction or physical damage (due to water seepage, impact, etc.), not stacked more than 5-feet high, and so as to allow ready inspection of both the physical condition and of the label. Secondary containment precautions will be provided if necessary.
- Individual containers will be labeled with the type of waste, the date the waste was first added to the container (“start date”), the date when the container became full; labels will be provided by the UWC
- Storage areas will be inspected weekly by trained personnel for physical condition of the container(s), signs of a release, and the presence of full containers. Inspections will be logged on the Universal Waste Storage Area Inspection Log (Attachment E). The form is kept in or immediately adjacent to the storage location. Evidence of a release will be reported to the area Supervisor and UWC immediately, and managed according to the spill cleanup procedures outlined in Section 6.
- Full containers, or those approaching 365-days from the start date, will be transferred to the CAA at Rhodes Hall for disposal on a 90-day schedule (quarterly pick-ups). Containers will be properly handled to prevent breakage and sealed prior to transfer. Upon arrival, the containers will be logged in by the UWC or designee on the Central Accumulation Area Inventory Log (Attachment G).

Special requirements for batteries. **All battery terminals, except disposable alkaline batteries, must be taped before they are added to a waste collection container.*

A list of designated storage areas is included in the *UWMP Summary (Attachment A)*. Sample signs and log forms are attached for copying.

5. Manifesting and Transportation Requirements. Shipments will be managed by the UWC and a MDEP licensed Universal Waste Transporter as follows:

- Wastes will be whole, intact and unbroken (unless residue from a cleanup); segregated by type; and properly packaged and labeled for transport according to DOT 49 CFR 171-180 guidelines.
- Wastes will be documented for transport using a uniform hazardous waste manifest (UHWM), Universal Bill of Lading (UBOL), or other format acceptable to the MDEP.

6. Emergency Procedures. Evidence of a release of universal wastes will be managed as outlined in the College’s Integrated Contingency Plan (ICP) and as indicated in the following general requirements:

- Incidental breakage of ten or fewer lamps or CRTs, releases low levels of mercury into the air, and may still be handled as universal waste, and should be managed according to the following general spill cleanup procedures:
 1. Contact the UWC and report the spill.
 2. If possible, ventilate the area by opening windows and doors to the outside.
 3. Secure area to prevent tracking of mercury outside spill location.
 4. Obtain a universal waste spill kit from Rhodes Hall CAA or one of the approved storage areas, and carefully follow clean-up instructions.
 5. Wear disposable personal protective equipment, including appropriate gloves and safety glasses.
 6. Use tape to clean up small particles, and wash the area thoroughly when all solids have been recovered. If the spill occurred on a carpet or other permeable surface either professional cleaning or removal of the flooring will be conducted.
 7. All items impacted by or used to clean up the spill (broom, sponge, dustpan, etc.) become waste, and will be disposed with the recovered materials.
 8. Place all recovered materials and items in an appropriate container, seal it, label for type of universal waste and spill date, and log and store properly in the CAA.

- Incidental breakage of ten or more lamps or CRTs, or any release from batteries, mercury devices, or PCB ballasts, constitute a reportable condition; the Director of EHS will be notified, and the DEP Spill Hotline (1-800-452-4664) will be contacted. Materials recovered from a reportable spill must be disposed as a hazardous waste.

- The intentional breaking of spent lamps or CRTs prior to disposal is considered a form of on-site treatment, and is prohibited.

7. Recordkeeping and Reporting.

- Original manifests/UBOL documents will be provided by the vendor to the UWC. The vendor will submit the appropriate copies to the MDEP within 7 days of the ship date.
- Universal waste reporting for the previous calendar year will be made to the MDEP by March 1 annually (or when so specified by the MDEP in its annual generator letter) by the UWC, using the manifest summary format provided by the MDEP.
- Records of storage inspections/inventories, employee training, shipping manifests, and certificates of recycling will be maintained at the facility by the UWC for the length of time specified below:
 - a. Inspection logs/inventories must be kept for one (1) year from the date of shipment of universal waste.
 - b. Training Documentation will be kept for at least three (3) years from the date of shipment of the universal waste or length of employment, whichever is longer.

- c. Bill of Lading, manifest and log forms must be kept for at least three (3) years from the date of shipment or receipt of universal waste.

8. Employee Information and Training. Employees who handle or who have responsibility for managing universal wastes shall receive initial and annual training specific to their work areas, including at least the following:

- The provisions of the federal and state regulations;
- The location and availability of the written UWMP;
- Universal waste determination;
- Onsite waste storage and labeling procedures;
- Manifesting, packaging, and shipping;
- Recordkeeping and reporting; and
- Emergency procedures.

Training will be conducted by the UWC, and may include written, video, or web-based materials, so long as it meets the minimum requirements listed and addresses the specific conditions of each workplace. Employees to be trained will include the Responsible Person(s) representing each Department or Group, and other persons so designated by the UWC within that Department or Group (see *UWMP Summary*).

9. Program Review

The UWMP will be reviewed at least annually by UWCs, and updated as needed to maintain regulatory compliance and meet the perceived needs of the College's workplaces.

Attachments:

- Attachment A: UWMP Summary
- Attachment B: Battery Recycling/Disposal Policy
- Attachment C: Waste Lamp Storage Sign
- Attachment D: UWSA Sign
- Attachment E: UWSA Inspection Log
- Attachment F: UW CAA Sign
- Attachment G: UW CAA Inventory Log

Attachment A: UWMP Summary

Department/ Group	Storage Location	Waste stream	Responsible Person	Contact
Campus-wide	Rhodes Hall (CAA)	All Uwastes	Charly Wojtysiak*	798-4132
Sustainable Bowdoin	Rhodes Hall	Alkaline and rechargeable batteries	Charly Wojtysiak*	798-4132
IT Services	Rhodes Hall (annex)	CRTs, e-waste	Mike Roux	725-3463
Electrical Shop	Rhodes Hall & Campus Wide	Mercury devices (thermostats, PCB ballasts, lamps. Lead acid batteries)	Ryan Curran	725-3450
Motor Pool	Rhodes Hall	Automotive switches and batteries	Karl Perkins	725-3447
Housekeeping	Rhodes Hall & Campus Wide	Lamps	Kim Bibber Holly Fitzmaurice Tammy Carter	725-3685 725-3685 725-3685
Set-ups and Moves	Rhodes Hall (annex)	CRTs, e-waste	Joe Anderson	798-4208
Visual Arts	Visual Arts Tech's Office	Lamps, batteries	Colleen Kinsella	725-3075

BUILDINGS AND LOCATIONS APPROVED FOR UNIVERSAL WASTE SAA's

Banister Hall – Room F
 Coles Tower- Basement HSKP Room
 Chamberlain Hall – Room 012
 Cleaveland (Druckenmiller) Hall – Room 054
 Lubin- Electrical 1 (second floor)
 H&L Library – Room 015B
 Osher Hall – Room 502
 Rhodes Hall – “Cage” Adjacent to EHS Offices
 Searles– Room 001

*UWC = Universal Waste Coordinator

Attachment B: Battery Recycling/Disposal Policy

BOWDOIN COLLEGE

Battery Recycling/Disposal Policy

The following are the primary types of batteries generated on campus, their associated waste classification and recycling/disposal process:

- **Regular (disposable) alkalines** (AAA, AA, C, D, 9V) are not regulated as wastes, and can be delivered directly to Sustainable Bowdoin or placed in the appropriate bucket outside of the Universal Waste Central Accumulation Area (CAA) in Rhodes Hall for collection and recycling (please tape the 9V terminals before adding to container).
- **Metal hydride, lithium, ni-cad, silver, mercury, zinc** (i.e., from cell phones and electronics) **and commercial lead-acid batteries** (i.e., from tools and equipment) are regulated as universal hazardous wastes, and must be brought to the CAA for logging and disposal.
- **Automotive and boat batteries** are regulated wastes and will be returned to the retailer by the Motor Pool staff or others when purchasing new ones. If batteries cannot be returned they will be managed as Universal Waste or Hazardous Waste as appropriate.

Battery Collection Requirements:

- The only batteries that can be collected without additional requirements are disposable alkaline (provided all 9 volt terminals are taped/covered).
- Any location on campus where non-alkaline batteries are collected must be designated as a **Universal Waste Storage Area (UWSA)**, and follow all regulations regarding storage containers, signs, labels, weekly inspections, etc. The Office of Environmental Health and Safety must be contacted prior to establishing a UWSA.
- Similarly, any point where multiple battery packs are being recharged must be designated as such with a "Battery Charging Area – No Smoking" sign (EHS can provide this also); any individual charging station (i.e., on a person's desk) is exempt.
- Batteries may be collected informally in the Housekeeping Office, Shops, etc., for up to 72-hours without being a UWSA, so long as they are sent to a UWSA or CAA within that timeframe.
- If your office or work area does not have a designated UWSA, non-alkaline batteries may be placed in an interoffice mailer and sent to Rhodes Hall- EHS. Only one battery per envelope.

Attachment C: Waste Lamp Storage Sign

**WASTE LAMPS
STORAGE AREA**

**WASTE LAMPS
STORAGE AREA**

**WASTE LAMPS
STORAGE AREA**

**WASTE LAMPS
STORAGE AREA**

Attachment D: Universal Waste Storage Area Sign

UNIVERSAL WASTE **STORAGE** **AREA (UWSA)**

LOCATION _____
RESPONSIBLE PERSON _____
CONTACT NUMBER _____

Attachment E: UWSA Inspection Log

BOWDOIN COLLEGE

Weekly Inspection Log Universal Waste Storage Area

Building: _____ *Room:* _____
Responsible Person: _____ *Phone:* _____

Date	Time	The storage area labeled as "Universal Waste Storage Area"	Storage area is secured and protected from weather	Weekly inspections completed?	All containers are securely closed	All containers labeled with the type and amount of Universal Waste	All labels are visible	All containers labeled with Accumulation Start Date and Full Date	All Accumulation Start Dates are less than 365 days	All full dates are less than 90 days old	Containers are adequate to prevent damage and in good condition	Boxes of universal waste are not stacked more than 5 feet	Authorized inspector's initials and printed last name

IF ANY PROBLEMS ARE ENCOUNTERED WITH THIS WASTE OR THERE ARE ANY QUESTIONS CONCERNING THIS INSPECTION SHEET, NOTIFY THE MANAGER OF THE BOWDOIN SCIENCE CENTER OR ASSOCIATE DIRECTOR OF ENVIRONMENTAL HEALTH AND SAFETY IMMEDIATELY

Attachment F: UW CAA Sign

UNIVERSAL WASTE
CENTRAL
ACCUMULATION
AREA (CAA)

ALL MATERIALS MUST BE LOGGED IN UPON DELIVERY

CONTACT:

Environmental Health & Safety

725-3763

Attachment G: UW CAA Inventory Log

**UNIVERSAL WASTE
CENTRAL ACCUMULATION AREA (CAA)
INVENTORY LOG**

Generator Name: **Bowdoin College**
 Generator Address: **3800 College Station, Brunswick, ME 04011**
 CAA Location: **Rhodes Hall**
 EPA ID No.: **MED981062615**

Date Received	Initials of RP	Number of Items	Waste Code	Specify Type*	Container Start Date	Container Full Date	Container Condition

WASTE CODES

- BT** Battery (excludes alkaline) - *specify lithium (Li), mercuric oxide (HgO), nickel cadmium (NiCd), zinc (Zn), nickel metal hydride (NiMH), silver oxide (AgO), or lead acid (LA)
- CR** Cathode Ray Tube (*specify computer or TV)
- H** Lamp (*specify 2-, 4-, 6-, and 8-ft, HID, Circuline, Compact, U-tube, Biaxial, or Other)
- TH** Mercury Thermostat
- MD** Mercury Device (*specify thermometer, manometer, sphygmometer, switch, or Other)
- MS** Mercury Switch (*automotive ONLY)
- PCB** Light Ballast (fully enclosed and non-leaking, otherwise handle as hazardous waste)

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- 1. DATE EACH CONTAINER UPON RECEIPT AND LOGGING**
 - 2. ENTER THE MANIFEST NUMBER FOR EACH SHIPMENT UPON COMPLETION**